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Thrilled or Chilled: Exploring Factors Of Horror Movie Enjoyment

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Thrilled or Chilled: Exploring Factors Of Horror Movie Enjoyment

Senior Project submitted to

The Division of Science, Mathematics and Computing

of Bard College

by

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Annandale-on-Hudson, NY

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Abstract

Horror movies have become more popular than ever in recent years and with media becoming an all-consuming part of our daily lives, this study proposes to examine some of the factors that contribute to so many people choosing to attend films that aim to scare them. Five variables were chosen, based on previous studies on horror movie viewership, that would contribute to filling gaps in the existing literature. The Dark Triad traits of psychopathy, narcissism, and Machiavellianism were hypothesized as having a positive correlation with horror movie enjoyment and a lower physiological response during the viewing of a horror movie because of past research showing that low empathy and high sensation seeking are consistently correlated with horror movie enjoyment — two traits present in all Dark Triad personality types. Disgust sensitivity was hypothesized to have a negative relationship with horror movie enjoyment and a positive relationship with physiological arousal during the viewing of horror films because of the presence of two common disgust triggers — envelope violation and death — common in horror movies. The relatively new identified trait of “everyday sadism” was predicted to have a positive relationship with horror movie enjoyment because everyday sadists enjoy seeing others in pain and distress — another common feature of horror movies. Gender, a common variable in past horror movie studies, was suggested to be re-examined and was predicted to have a negative relationship with horror movie enjoyment but positive correlation with physiological arousal. A questionnaire was developed for this study to assess the variables in question and whether they correlate with horror movie enjoyment and physiological arousal during the viewing of a horror movie clip.

2017 was the biggest box office year for horror films of all time (Murphy, 2017). Yet fear is one of the most aversive emotions we can experience. Nobody wants to have to actually fear for their life; but when it comes to the controlled fear experienced when watching television, Netflix, or a film in the cinema, some people actually *like* to feel shivers up their spine and nearly jump out of their skin. A negative review for a horror movie would be to say it wasn't terrifying *enough*. Seemingly, people who watch horror movies like to be scared — or at least they like to be scared within a specific context.

But not everyone enjoys horror films. While they leave some people thrilled, other people run screaming. This begs the question of what distinguishes these two types of people. Are some people just less easily scared than others when it comes to a scary movie? And are some people attracted to a frightening film, while it does nothing for others?

It would make sense for there to be some traits that make certain individuals more likely to enjoy a horror movie than others.

The purpose of this proposed study is to explore this possibility of certain traits — for example, in personality, gender, or sensitivity — that would have a relationship with horror movie enjoyment and the arousal people experience while watching horror films.

In our modern era we are very preoccupied with screens; whether it is looking at our phones or going to the movies, we are constantly indulging in mediated forms of reality. While horror films have been around as long as films have, exploring the psychological roots of our preferences for the type of media we choose to consume has become more relevant in recent years as media has become such a ubiquitous part of our

world. Horror in particular is of interest because there is such a clear dividing line between those who like it and those who don't; while people who enjoy horror are eager to watch it, those who don't like horror often can't even be in the same room with it because they find it too upsetting and terrifying. Unlike genres such as comedy or romance, horror has a very particular goal of fear throughout its narratives and elicits a strong reaction. And because horror films are more popular than ever, this seems to be a moment where the viewership of them warrants study.

Horror films come in many different forms and use different tactics to get the audience's reaction, but they all have the same goal: to leave the viewer scared. Early silent horror films such as *The Cabinet of Dr. Caligari* (Wiene, 1919) or *Nosferatu* (Murnau, 1922) employ the supernatural, gothic settings, and suspenseful moments draped in shadows to create chills up people's spines.

While suspense is still valued, modern horror films have the power of special effects at their disposal and are often more graphic. *It* (Muschiatti, 2017), which had one of the highest box office grosses of the year, opens with a scene of a 7-year-old boy's arm being ripped off by an evil clown. Most horror films have a combination of techniques they use to spook their audience: nail biting suspense (seeing the hero wandering through a graveyard at night and knowing a zombie is on the loose), gore (seeing a hapless victim being decapitated by a chainsaw), "psychological" twists (finding out that the main character has been dead the entire time), and "jump scares" (moments where a threat suddenly jumps out, intended to make the viewer leap out of their seat).

Some horror movies use supernatural threats such as ghosts or zombies while others are relatively more based in realism. However, many horror films follow similar conventions and have the heroes and victims fall into similar situations — for instance, a hero being followed by a killer or a monster close behind a character who never stops to look over his or her shoulder (a trope mocked in *Scream* [Craven, 1998]).

“Slasher” horror refers to a subgenre within horror films first popularized in the 1970s that usually follows a specific set of conventions. Most slashers involve a group of teens being hunted down by a serial killer. These films often are seen to have a moralistic tone: Teenagers engaging in sex or doing drugs are usually offed right afterward (if not in the middle of the act itself) and the “final girl”— the character who survives to the end — is usually the most pure and virginal of the characters (Sapolsky & Molitor, 1996).

Although horror movies have a specific goal of scaring people, all films have the power to elicit strong emotions from their audience. Films have been used in psychology as a way to study emotion in a laboratory setting as they have relatively high ecological validity: When a person watches a film, their emotions are being evoked by the presentation of dynamic visual and auditory stimuli external to themselves, the same way a real-life stimulus would evoke emotions (Gross & Levenson, 1995; Hubert & Jong-Meyer, 1990; Kreibig et al., 2007; Werner et al., 2015).

Unlike other methods for causing emotion in a laboratory setting, a film always stays the same and is therefore a static stimulus. There is also no need for deception when trying to make someone experience emotion with a film; regardless of whether they know it is a sad film or a funny film, the way they feel about it is likely to stay the same.

Monitoring people's physical arousal in the sympathetic nervous system as an operationalizing of emotional arousal when exposed to different films has been done in laboratory settings with a number of different measures. For example, brief heart rate deceleration has been associated with increased attention to pleasant and neutral stimuli, and extended decrease of heart rate is associated with aversive or upsetting stimuli (Rooney, Benson, & Hennessy, 2012).

In particular, electrodermal activity has been shown to be a straightforward method of measuring emotional arousal during film viewings, as will be discussed later (Rooney, Benson, & Hennessy, 2012; Silveira et al., 2013; Werner et al., 2015; Kreibig et al., 2007).

However, films are also a mediated form of reality. Especially with fictional films, the viewer knows that the scenes being shown are not real, yet they can still be made to feel emotions by them. One reason for why this may be comes from a stimulus generalization theory sometimes referred to as "the media equation" (Reeves & Nass, 1996). This theory suggests that if experiencing a stimulus in real life evokes a certain response, then viewing media depicting the same stimulus will evoke a similar but less intense response (Reeves & Nass, 1996; Harrison, 1994). This theory can be applied to why people experience fear when watching horror movies. The audience at a horror movie has a similar but less intense reaction to fearful stimuli presented on the screen than they would in real life — but they still experience fear. For example, being stalked by a serial killer in real life would probably produce more fright than witnessing someone being stalked by one in a movie that you know isn't real — but you would probably still be scared.

Stimulus generalization also applies to physiological reactions. Physiologic symptoms reported from watching horror movies are comparable to those experienced by people having a panic attack. Sometimes alone or sometimes in combination (though rarely all together), people have reported crying, increased heart rate, chills, faintness, a feeling of paralysis, and shaking in response to watching a horror film (Harrison, 1999). Because fear has such dramatic physical symptoms, it makes horror movies a particularly interesting psychological study as the body can be monitored for signs of the emotional reaction being experienced.

Horror movies also have profound and lasting emotional effects. In a three-year study of lingering effects of fear from media, participants were asked to write about any type of exposure to media (fiction or nonfiction) that made them afraid (Cantor, 2004). Out of 530 responses, the most frequently cited pieces of media were *Jaws*, *Poltergeist*, *The Blair Witch Project*, and *Scream* — all fictional horror films. Some of the lingering effects described were avoiding situations depicted in the film (like not going in the ocean after seeing *Jaws*), not being able to get the images of the film out of their mind, and continued anxiety. More than half the respondents had trouble sleeping and more than a third said the symptoms they experienced lasted more than a year (Cantor, 2004).

Past horror movie research has found some consistent findings in the demographics of horror films — specifically in the fields of sensation seeking and empathy.

Several horror movie studies have found that people who score high on sensation seeking enjoy horror movies more (Harris et al., 2000; Johnston, 1995). Sensation

seeking is defined as seeking of varied, novel, and intense sensations and experiences even when they may be high risk (Zuckerman, 1994).

There are a few reasons why high sensation seekers might like horror more.

Zuckerman's sensation seeking theory posits an optimal level of arousal for high sensation seekers and low sensation seekers. Optimal level in this case means the level at which an individual feels best. According to this theory, high and low sensation seekers respond to the same amount of stimulation but in different ways. The high sensation seeker experiences high arousal as their optimal level and they find it enjoyable, while the low sensation seeker can experience that same amount of arousal as unpleasant and far above their optimal level (Zuckerman, 1996). Even though horror movies may be fear inducing, there is no real danger from watching them. The difference in viewer experience is, then, that some interpret the thrill, excitement, and sense of danger they get from watching them as enjoyable (if they are high sensation seekers) while others become uncomfortable with it (low sensation seekers). Even though the horror film may be scary, sensation seekers would rather feel negative but arousing feelings than be bored (Zuckerman, 1996).

Another reason sensation seekers may be able to enjoy horror movies is that they feel impervious to the harm being inflicted on the characters in the film. When given questionnaires about how dangerous they perceive the world to be and how likely they are to engage in risky behavior, sensation seekers' scores showed that they did not perceive the world to be threatening, that they did not associate risk with many dangerous activities or feel fear in response to them (Franken et al., 1992).

A trait consistently found to have a *negative* correlation with enjoyment is high empathy (Tamborini et al, 1990; Johnston, 1995; Lynch & Martins, 2015). Empathy here can be broadly defined as identifying with another person and their experiences. People who report through self questionnaire higher empathy tend to sympathize more with characters they see on screen who are in danger than people with lower empathy (Davis et al., 1987). Tamborini theorized that when watching horror movies, people tend to empathize most with characters who have the same reaction to the events happening on screen that they do (Tamborini, 1996). For instance, when an audience member feels scared as the killer appears on screen, they will empathize with the protagonist who is also scared. Tamborini contended that the more an audience member empathizes with the character, the more negative effect they will experience when that character is killed or put in harm's way. Therefore, viewers who are very empathetic should have the most negative effects when watching horror movies and would be expected not to enjoy them. Consistent with this, a meta analysis of experiments using horror movies showed that empathetic concern was negatively correlated with enjoyment of frightening and violent media (Hoffner & Levine, 2005).

These robust findings of high sensation seeking and low empathy predicting horror movie enjoyment have led to my hypothesis that scoring high on Dark Triad traits can also be used as a predictor for horror movie enjoyment.

The Dark Triad

Low empathy and high sensation seeking are both tendencies found among the personality types of the Dark Triad. The Dark Triad was identified as such in 2002 by

Paulhus and Williams as three personality variables that are distinct but have some overlap and are all considered anti-social. These three traits are psychopathy, Machiavellianism, and narcissism. While narcissism and psychopathy were both originally identified as clinical personality disorders and identified as such in the DSM-IV, they also exist at the subclinical level.

Psychopathy is usually considered the most dangerous of the Dark Triad traits (Rauthman, 2012). The psychopathic personality factors are lack of empathy, glib charm, grandiose self worth, irresponsibility, impulsivity, sensation seeking, and lack of remorse (Cima et al., 2010). Psychopathy is associated with social deviance including criminal behavior and recidivism (Hemphill & Hare, 1998), making it an important topic of research as it seems to offer insight into why some people become criminals and furthermore become repeat offenders.

Psychopaths by definition have low empathy (Del Gaizo & Falkenbach, 2008; Mahmut, Homewood & Stevenson, 2008) and would therefore be less likely to empathize with victims in horror films. Psychopathy is of particular interest to the study of horror movies because of their noteworthy relationship with fear. Psychopaths are often characterized as having no fear (Hosker-Field, Gauthier & Book, 2016). One early study (Hare, 1965) found that they exhibited lower and delayed skin conductance reaction when anticipating getting an electric shock— a finding interpreted as a lack of anticipation fear. There is also a Fear Enjoyment hypothesis that suggests that psychopaths experience more positive emotions and less negative emotions in response to fear-inducing stimuli (Hosker-Field, Gauthier & Book, 2016). This theory was tested by exposing people who score high on psychopathic traits to a scene from a horror movie —

The Vanishing, (Sluizer, 1993) — that involved witnessing a person being buried alive. Those who had high psychopathic traits reported higher positive effect after watching this fear-inducing horror movie clip and less negative emotions in response to it (Hosker-Field, Gauthier & Book, 2016).

The same study found that when those scoring higher on psychopathy described what the emotion of fear felt like to them, their descriptions had a higher number of positive descriptor words in them. For example, they were more likely to describe fear as “exciting” or “thrilling.” There has never been a study that measured psychopathic traits and then asked about enjoyment of the films or the genre itself, though. It also hasn’t been measured whether psychopaths experience more or less skin conductance response to horror films. However, from these previous findings and theories I would predict that they are more likely to enjoy horror movies if they find fear thrilling and that they would have less of an uncomfortable physiological arousal from the films. Studying these things could potentially contribute to the Fear Enjoyment hypothesis whether psychopaths enjoy the horror genre.

Machiavellianism was first treated as a measurable psychological trait in a 1970 study that created a questionnaire based on cynical, manipulative, and unprincipled behavior, similar to the political guide posited by Machiavelli’s *The Prince* (Christie & Geis, 1970). Machiavellians are the most strategic of those with Dark Triad traits (Furnham, Richards & Paulhus, 2013). They are willing to lie and deceive others to get what they want.

Machiavellianism has already been found to have a link to horror movie enjoyment. Tamborini & Stiff in 1984 found that higher Machiavellianism had an even more robust correlation with horror movie enjoyment than sensation seeking. It was suggested that Machiavellianism may have an association with horror enjoyment because of a previous study that found that many respondents, when asked about why they chose to see horror movies, said they were attracted to the power and destruction they got to witness in horror. Machiavellians believe that power and force should be used to achieve goals, so witnessing the power and ability to strike fear into victims displayed by the villains of horror movies may be what is appealing to them.

Another theory behind why such a strong correlation exists between high Machiavellian traits and horror movie enjoyment was that Machiavellians are in essence anti-social and that they enjoy the violation of social norms. While Machiavellians are less likely to be physically violent than psychopaths, they often harbour hostile feelings toward others and look down upon them, even if they do not act upon these feelings for fear that there will be negative repercussions (Jones, 2015). Therefore, in watching horror movies they may get vicarious pleasure in seeing violence enacted on others without having to fear reprisal for their enjoyment (Tamborini, 1987). This proposed study could confirm or go against this previous finding of horror movie enjoyment among Machiavellians and could add understanding to it. If Machiavellians experience less physiological arousal from being exposed to a horror movie clip it may indicate they are more comfortable or less shocked witnessing such fear-inducing stimuli.

Narcissists are those who have a grandiose sense of self worth, are entitled, and act superior and dominant toward others (Furnham, Richards & Paulhus, 2013).

Narcissists, like the other members of the Dark Triad, also have been found to have reduced empathy (Wai & Tiliopoulos, 2011; Watson & Morris, 1991) as well as high sensation seeking (Crysel, Crosier & Webster, 2013). Narcissism in particular has no logical or previously tested link to horror movie enjoyment other than the association with high sensation seeking and low empathy. If narcissistic individuals were found to dislike horror movies more than psychopaths or Machiavellians, it would indicate that the other two groups may have some underlying trait in common that narcissists do not share.

The Dark Triad is also associated with *schadenfreude* — the experience of enjoying other people’s suffering (James et al., 2014). Since horror movies most often follow characters in great distress and fear, *schadenfreude* may be a logical predictor of enjoyment, though this link has never been examined. In the same study, Dark Triad participants were tested on their “sensational interests” through a questionnaire that covered topics including paranormal interests and death symbolism. Those higher on Dark Triad traits indicated greater sensational interests (James et al., 2014) and while horror movies was not a specific topic, most horror movies contain dark and sensational themes including death and the paranormal.

Sadism

It’s been suggested that the Dark Triad should actually be a Dark Tetrad, with the fourth trait being sadism (Plouffe, Saklofske & Smith, 2017). People with sadistic personality types are considered to have some of the uniting factors involved in the Dark Triad such as emotional callousness and social deviance. Sadism is defined as the derivation of pleasure from the distress or harm of others (Baumeister & Campbell,

1999). While sadism is most frequently studied in criminal sex offenders, it also exists in non-sexual forms and at a subclinical level (Meere & Egan, 2017). The subclinical form of sadism has been given the name “everyday sadism” (Buckels et al, 2013).

Everyday sadism has been shown behaviorally in people scoring high on its measures through a white-noise-aggression paradigm. In this procedure developed by Bushman and Baumeister (1998), participants play a computer game against an unseen opponent in another room that they can’t see; the participant has to press a button faster than their opponents. When they win a match, they are allowed to blast their opponent with white noise and can choose the sound level from 0 (no blast) to 10. Their “opponent” in the other room would always choose to blast the participant with 0, giving the participant no reason to retaliate against them.

While many people scoring high on Dark Triad personality traits opted to punish their opponent, what distinguished them from the everyday sadists was the condition of the task in which the participant would have to do an additional tedious and monotonous letter-counting mini-game in order to deliver punishment. In this task, Buckels et al. found that while the rest of the Dark Triad wouldn’t bother putting in effort to punish, those scoring high on sadistic traits would go out of their way to complete the mini-game in order to punish their opponent (Buckels et al., 2013). Therefore people who are sadists can be distinguished from other dark personalities as being willing to do harm to others even at personal cost.

Some of the proof commonly offered for the existence of everyday sadism is the mainstream popularity of violent sports as well as violent movies (Meere & Egan, 2017;

Buckels et al, 2013). Yet it has never actually been tested whether everyday sadists enjoy violent movies or sports more. It would seem logical that those with sadistic traits would enjoy the gore and horror and subjugation of victims (who are put into an intense state of fear) that occurs in horror films.

Violent videogame play is a different experience than simply watching a horror film; it is a mediated form of violence that involves participating in the violence, not just witnessing it through the screen. When tested, both physical and verbal sadism were found to be positively correlated with hours spent playing violent videogames (Greitemeyer, 2015). In video games, the player has a somewhat active role in inflicting harm on the characters on the screen; watching a horror movie is a more passive and voyeuristic experience. The fact that everyday sadists enjoy videogame play with violence may suggest that they would also enjoy horror movies, which offer exposure to vicarious sadism.

Disgust Sensitivity

It has been found that when people are exposed to horrifying stimuli such as tarantulas or a video of surgery (Olatunji & Deacon, 2008), what people experience is not only fear but also disgust. Disgust can be defined as a response to any stimulus that could contaminate or that could communicate filth or disease (Olatunji & Deacon, 2008). Disgust is thought to have an evolutionary root in that it protects us from ingesting or touching things that could potentially make us sick; however, people can also feel disgust from just looking at disgusting stimuli.

Disgust can also be a moral or emotional reaction. Certain crimes have been found to elicit disgust if they are particularly immoral, especially if there is a sexual component; there has been found to be a link between people with high disgust sensitivity and people with moral hypervigilance (Jones & Fitness, 2008). People have also described feeling disgust as an emotional response to people that they want to avoid or find reprehensible or unclean (Meere & Egan, 2017).

While there are many different types of stimuli that elicit disgust, it has been suggested that they fall into three main categories: core disgust, animal reminder disgust, and contamination-based disgust (Olatunji et al., 2007).

Core disgust refers to stimuli that are disgusting because they carry the threat of disease, such as spiders or rats (Haidt, McCauley & Rozin, 1994). Contamination-based disgust is a response to uncleanliness and possibly arises from fear of infection. An example of contamination-based disgust would be using a dirty public bathroom.

Of the most interest to the current proposed study is animal reminder disgust. Animal reminder disgust encapsulates stimuli that remind people that they have a body like other animals, with blood and viscera, and whose bodies are mortal and fragile (Haidt, McCauley & Rozin, 1994). One of the subcategories of animal reminder disgust is death — including seeing or being near dead bodies (animal or human). In fact, in an initial study of breaking disgust stimuli into categories, Haidt found that death and death-related stimuli elicited some of the most common disgust reactions (Haidt, McCauley & Rozin, 1994). Another subcategory is envelope violation, which refers to witnessing what's underneath a body's skin or seeing the skin cut open and punctured.

Horror movies are full of scenes of gore and death. Whether it's zombies or killers who axe people, the climactic scenes of horror films almost always involve death and frequently involve gushing blood or people being torn apart limb from limb. Since death and seeing the inside of the human body is such an essential part of the horror genre, I predict that people who experience disgust in response to these things will dislike horror films and possibly have a stronger reaction to them.

People vary on their sensitivity to disgust: some people are more easily grossed out than others. I would expect that people with higher disgust sensitivity on 'animal reminder disgust' categories such as death and envelope violation would dislike horror movies and have a more negative reaction to them.

Support for this also comes from disgust sensitivity's relationship to other relevant characteristics for this study. Disgust has been found to be inversely related to sensation seeking (Haidt, McCauley & Rozin, 1994). Since high sensation seeking is correlated with horror movie enjoyment, this would predict that those low on sensation seeking who dislike horror movies would also be high on disgust sensitivity.

People who score high on sadism personality traits have also been found to have lower sensitivity to animal reminder disgust (Meere & Egan, 2017). This may be because sadists enjoy seeing others harmed, and so being exposed to images of blood or skin being punctured is pleasurable for them rather than aversive; or it may be that part of what allows a person to be sadistic is not having a natural disgust reaction to those types of stimuli that would bother most people.

Gender and Horror Movies

One of the main factors that divide horror movie audiences is gender. Across almost all studies it has been found that men report watching more horror movies than women, and they report enjoying them more than women do (for a meta analysis see Hoffner & Levine, 2005).

Horror movies have been criticized for using women as victims in eroticized scenes of gore and torture (Zillmann et al., 1986; Cantor & Reilly, 1982; Wuhr, Lange & Schwarz, 2017). To test whether this is actually true, a number of content analyses have been conducted using samples of horror movies and recording how frequently men or women become victims of violence.

Most of these analyses found that men become victims of violence in horror movies as frequently as women (Weaver, 1991; Monitor and Sapolsky, 1993). But more detailed content analyses found that the difference in male and female victimization in horror movies is not in the number of victims but rather other qualities of the scenes. Content analyses by Weaver (1991), Monitor and Sapolsky (1993), and Welsh (2009) all concluded that while there weren't more scenes of violence against women, the scenes with a female victim were much longer than the scenes with male victims. While men in horror movies most often meet a quick, grisly demise, women in horror movies are more often shown in prolonged states of terror (Welsh, 2009). Another difference is that scenes with violence aimed at women were found to have the most sexual content either during or directly before (Welsh, 2009).

These may be factors for why women are less likely to enjoy seeing horror movies, but more importantly it may also be a reason why men enjoy them so much.

A strong correlational relationship has been found between men who frequently choose to watch horror films with female victims and who also watch pornography (Tamborini, Stiff & Zillman, 1987). It should also be noted that this correlation wasn't found to be significant with men who watched and enjoyed horror films with more male victims. Because of this it has been speculated that some of the enjoyment men get from horror movies may be that the pain and humiliation women go through during them is appealing to men who have hostile, sexually motivated feelings toward women (Tamborini, Stiff & Zillman, 1987).

In line with this, while women and men are both victims in horror movies, men are overwhelmingly more often the attacker. In another content analysis of horror movie violence, it was found that the vast majority of onscreen violence had a male perpetrator and fewer than 10% had a female perpetrator (Welsh, 2009). If some of the enjoyment of watching a horror film comes from identifying with the perpetrator rather than the victims, then it may make sense that women enjoy horror less because the perpetrator is most often male.

There is reason to believe that this is the case, as Tamborini, Stiff and Zillman in 1987 found that the greatest predictor for enjoying horror movies among a number of motivators and personality traits was a tendency to enjoy seeing power and destruction in films. The correlation between Machiavellianism, low empathy, and horror movie enjoyment may also suggest that what horror fans enjoy is the fantasy of enacting

violence or having power that (because it is only being viewed in a fictional film) has no risk of punishment or reprisal (Tamborini, Stiff & Zillman 1987).

In the past there have been other theories about gender and horror movie enjoyment put forward. Zillmann proposed in 1986 a theory that adolescents use seeing horror movies in the cinema with friends as a modern sort of “test of courage” and chance to exhibit appropriate gender roles to themselves and to their peers. This theory speculated that there is a societal expectation for men to be brave and stoic while for women there is an expectation to act helpless and frightened when faced with a frightening situation. While there are not as many chances to show courage in the face of true danger as there were in hunter-gatherer times, horror movies provide a safe situation to enact these roles (Zillmann, 1986). Therefore, young men like to go to horror movies so they can act brave in the face of the scares while women appropriately act terrified and in need of comforting.

This theory was given support by results showing that in an experimental condition where participants viewed a horror movie with a confederate of the opposite gender, their reported enjoyment of the horror film changed depending on the confederate’s behavior. Men reported enjoying the horror movie most when they watched it with a female who acted frightened and disturbed during the viewing. They reported enjoying it the least when the female they watched it with was fearless. Female participants reported the most enjoyment of the film when they were seated with a male who was not afraid of the movie and enjoyed the film the least when they were seated with a male who seemed frightened by it (Zillmann, 1986).

This theory is not without its problems. It only seems to account for why people would want to go see movies in a group. While it may account for why people like to go see horror movies in theaters, there is a wealth of horror film fans who watch them alone in the privacy of their home.

However, Zillman's theory and most of the other studies showing a gender divide in horror movie appreciation were conducted as long as 30 years ago. That is why it is relevant to re-test if there is still such a steep division across gender lines. Gender roles in our society have changed over the last 30 years — including an increase of women being involved in male-dominated fields. Also, in 1997 a sample of men's and women's self descriptions on the Bem Sex Role inventory showed an increase in androgynous results from previous years (Twenge, 1997). Despite this, a study analyzing changes in gender role perception and attitudes between the 1980s and 2016 found there were not significant changes in stereotypes people carried (Haines, Deaux & Lofaro, 2016).

That being said, possibly the most recent psychology study on horror media done in 2015 on frightening video games found that men enjoyed the games more than women but that there was no significant difference in reported fright from the games between men and women; women were not more frightened of the games than men were (Lynch & Martins, 2015). This means that there need to be further modern studies that continue to examine the relationship between gender and horror enjoyment, especially since gender roles can change over time.

Skin Conductance Response

The psychophysiological measurement proposed for this study is skin conductance response. Skin conductance uses the skin, which is constantly receiving signals from the brain that can be seen through electric changes called electrodermal activity (EDA). These electrodermal changes can be monitored through sweat gland activity. Sweat rises in the glands depending on the degree of activation in the sympathetic nervous system; as sweat fills the glands, the skin becomes more conductive.

EDA is mediated by the sympathetic nervous system, with the neurotransmitter acetylcholine being involved in producing this activity in the sweat gland. There are many neural mechanisms and pathways associated with control of EDA including contralateral cortical and basal ganglion as well as the hypothalamus on a secondary level. Studies recording overlap between patterns of brain activation and simultaneous EDA recording have shown that, when exposed to an emotional stimulus, the amygdala and orbitofrontal cortex may also be involved in EDA control (Cacioppo, Tassinary & Berntson, 2007).

The procedure of taking skin conductance recordings is done through the use of two electrodes attached to the participant's hand, most commonly on the palm side of the second phalanx of the first and second fingers of the participant's nonpreferred hand. By applying a low but constant voltage through the electrodes, one can measure the changes in the skin's conductance (Benedek & Kaernbach, 2010).

Skin conductance measurements yield tonic and phasic data. The tonic data is the skin conductance level (SCL) and is a long-term average of base levels. It varies between different subjects as well as within the same subject in different psychological states.

The phasic data is the skin conductance response (SCR), which makes up a small fraction of the tonic SCL. A SCR manifests in a steep incline peak and slow decline to baseline.

If the SCR occurs at the same time as the presentation of a novel or significant stimulus, it is called a specific or event-related SCR. These SCRs are attributed to the stimuli.

Media studies commonly use skin conductance as a psychophysiological method to measure arousal and emotional reaction, most often paired with self report. EDA is also commonly used to assess fear and anxiety (Stemmler, 1989).

There has also been past work done with skin conductance specifically in the genre of horror. Hubert and de Jong-Meyer found in 1990 that showing a 10-minute clip of a suspenseful scene from an Indiana Jones movie that involved snakes induced an increase in SCL as well as SCRs, paired with self reports of reductions in relaxation and increase in arousal. This was compared to a 10-minute relaxing cartoon clip that caused reported amusement and pleasant feelings and a rapid decrease in SCL.

Most relevant to the current proposed study is Litle's 1986 EDA test on high-sensation seeking participants and low-sensation seeking participants watching a 20-minute scene from *Friday the 13th*. High sensation seekers started at a slightly lower level of SCL compared to the low sensation seekers, but throughout most of the scene,

both groups followed a similar path of arousal in SCL and SCR. This was until the climactic moment at the end of the scene when there is an onscreen decapitation including spurting blood. At this moment during the viewing, low sensation seekers' EDA spiked while there was a much less dramatic reaction in the EDA of high sensation seekers. This seems to show that in the biggest scares of a scene, high sensation seekers may be different than low sensation seekers in that they experience less of a spike of arousal and consequently horror movies may be less upsetting to them.

Because narcissists and psychopaths have high-sensation seeking traits, I predict those scoring high on Dark Triad traits would also have SCRs with less amplitude than those with low scores. Psychopaths in particular historically have lower ratings on psychophysiological measures, including skin conductance, to aversive stimuli (Benning, Patrick & Iacono, 2005). Machiavellianism has also been shown to have less of an electrodermal response while watching video clips supposed to arouse an empathetic response (Massey-Abernathy & Byrd-Craven, 2016). While this may not be directly related to the current proposed study, low empathy is correlated with horror movie enjoyment. This could theoretically be due to people feeling more fear when they see people onscreen that they empathize with being put through terrible ordeals. If this were the case, then people scoring high on Machiavellianism having a low EDA response to empathy-inducing videos could predict a low EDA from watching horror movie clips as well.

Naming and measuring the trait "everyday sadism" is fairly recent and there has not been work done on the relationship between everyday sadism and skin conductance. Since sadists would be more likely to enjoy horror movies than to be scared of them, they

may have a lower electrodermal response to watching a horror movie, or it may be the case that they have a high arousal from the film but that they just rate it as more enjoyable than someone who does not enjoy that form of arousal.

Since women more often report being scared by horror movies than men do, it would follow that they are more likely to have a higher arousal measurable in a higher skin conductance response to a horror film and that they find this arousal unenjoyable. However, if men and women experience similarly high arousal to a horror movie scene but only women label this feeling as unpleasant, this would also be enlightening as to their differences in experience and enjoyment.

Hypotheses

The goal of this proposed study is to provide an answer for some of the variability in those who enjoy horror movies and those who do not. Past research has found that sensation seeking, low empathy, and gender are traits that are predictive of dividing the audience of those who like or dislike horror. This study proposes that subclinical psychopathy, Machiavellianism, narcissism, everyday sadism, gender, and disgust sensitivity are all individual differences that may predict if someone will hate horror movies or love them.

In addition to enjoyment, this study intends to measure the electrodermal response participants will experience from watching horror. Electrodermal response is one way of measuring a participant's physiological arousal to an emotion-inducing stimulus. Certain people are more comfortable with this type of physiological arousal than others, as shown by past research on sensation seeking. While some people find the arousal provided by

horror movies to be optimal, others feel that horror movies are stimulating in a bad way and do not enjoy that level of arousal (Zuckerman, 1996). Given that this is likely a deciding factor in whether people rate their experience of horror as enjoyable or not, this variable is important to my study and will be measured against reported enjoyment as well as the other personality variables and gender. It may be the case that traits other than sensation seeking predict how much physiological arousal people experience from a horror movie or how much they enjoy said arousal.

I hypothesize that people showing high scores on all three Dark Triad traits will also report enjoying horror movies more. This hypothesis comes from the fact that all of the Dark Triad traits are associated with high sensation seeking and low empathy — two traits already found to be predictive of horror movie enjoyment. Machiavellians have also already been found to enjoy horror films in a previous study, and psychopaths may be predisposed to enjoy horror films more as they are theorized to enjoy fear.

I also hypothesize that people scoring high on psychopathy will show an especially low skin conductance response during the viewing of horror movies as they have been shown to have lower physiological reactions to fear. Because Machiavellians and narcissists are also high on sensation-seeking scales and sensation seekers have in the past been found to have a lower electrodermal response to horror movies during key climactic scenes, I hypothesize that Machiavellians and narcissists will have lower electrodermal response than non-Dark Triad participants to climactic scenes in the horror movie viewing procedure.

I hypothesize that people scoring high on the trait of “everyday sadism” will also report horror movie enjoyment because of the logical connection between enjoying inflicting or voyeuristically viewing the infliction of pain and the content in horror movies, which usually shows victims being hurt or terrorized. Sadists enjoy the infliction of pain; horror movies always display people either in a state of intense fear and terror or being harmed, tortured, or killed. It would follow that sadists would particularly enjoy this genre. There is no literature examining “everyday sadism” and physiological responses so I hypothesize that everyday sadists’ physiological reactions would not be more or less than people scoring lower on everyday sadism traits.

Because of previous robust findings across studies that there is a gender divide in horror movie enjoyment between males and females, I hypothesize that this finding will hold true in this study and that in keeping with previous results, women will report less horror movie enjoyment than men. However, women and men have yet to be compared on their electrodermal response during the viewing of a horror film. Because women report liking horror movies less, I hypothesize that they will experience a higher arousal during the film viewing and that they would experience it as uncomfortable, and that would lead them to like the movies less.

I hypothesize that people who score higher on disgust sensitivity in the subscales of envelope violation and death will report less horror movie enjoyment. Horror movies frequently showcase gore and have death-related themes, so people highly sensitive to these types of images would dislike the genre. Because seeing gore and death is more upsetting to people who have high disgust sensitivity to them, I also hypothesize that they will have higher skin conductance response during scenes that show gore or death,

because of past research showing that exposing disgust sensitive people to films that include the trigger for their disgust caused an increase in skin conductance response (de Jong, Overveld & Peters, 2011).

Method

Participants

Participants will be recruited from the college campus through advertisements on bulletin boards and the opportunity to win one of four \$50 Amazon gift cards. A college campus is an ideal place to recruit participants for a study on horror movies as, according to *Variety* magazine, in 2016 the audience of that year's horror movies were 60% made up of people between the ages of 15 and 30. Since the average college student is between 18 and 25, this fits into the demographic. I will attempt to have a roughly equal number of male and female participants, as gender is one of the variables in question. While a random sample is desired, if more of one gender than another volunteers to participate, a second round of advertisements may be posted asking for only males or only females, to reach an equal number.

Materials

The main materials required for this study are the BioSemi ActiveTwo system available at Bard and passive Nihon Kohden electrodes to measure skin conductance, printed versions of the questionnaire developed for this study, a television set that can be used to view the film stimulus, and a DVD of said stimulus. There will also need to be printed fliers for recruiting participants, printed forms of consent and debriefing forms

(see Appendices), and compensation in the form of amazon gift cards. Data will be analyzed using SPSS available on Bard computers and the free program Autonomate.

Questionnaire

The questionnaire given to participants will measure horror movie enjoyment as well as several personality variables of interest borrowing already tested, reliable measures.

The variable “enjoyment of horror movies” will be measured using three simple questions at the beginning of the questionnaire that ask participants to rate on a scale of 1-5 simply how much they like horror movies, how often they see horror movies, and whether they find the experience of seeing horror movies enjoyable (the questions reflect those used in previous studies on horror movie enjoyment). The answers to these questions will be averaged together to form a mean result that will be used as the comparison for general horror movie enjoyment.

To assess Dark Triad personality traits, the Short Dark Triad (SD3) will be used, developed by Jones and Paulhus (2014). While it is possible to test Dark Triad traits separately with their own individual questionnaires, the SD3 combines the most crucial elements of longer tests into one 27-item questionnaire. Of the 27 questions, each Dark Triad personality type is represented by 9 questions each. It was conceived of to eliminate redundancy and cause less participant fatigue. Items for each construct represent not only the key elements of each Dark Triad personality but what distinguishes them from each other as well; for instance, the section on Machiavellianism highlights

the ability to plan ahead and bide time waiting for revenge while the psychopathy section has questions that assess impulsivity and the need for immediate gratification.

In SD3 questionnaires, the key aspects of Machiavellianism assessed are cynicism, ability to plan and build coalitions, and interest in their reputation. The traits of narcissism tested are exhibitionism, grandiosity, and entitlement. Questions for psychopathy assess antisocial behavior, erratic lifestyle, callous affect, and short-term manipulation.

The SD3 was chosen for this study instead of another, shorter Dark Triad personality measure like the Dirty Dozen because the SD3 has been found, when tested against other tests like the Dirty Dozen, to capture more of the nuance of the constructs it tests and to assess the participants more accurately (Lee et al., 2014).

The SD3 was also found to have validity when compared to the original, longer, individual questionnaires measuring psychopathy, machiavellianism, and narcissism that inspired it and of which it is a shorter version (Jones & Paulhus, 2014).

The SD3 intercorrelations were measured on individual traits with alpha levels of $\alpha = .76$ for Machiavellianism, $\alpha = 0.73$ for psychopathy, and $\alpha = 0.78$ for narcissism (Jones & Paulhus, 2014).

In 1994 Haidt, McCauley, and Rozin developed a Disgust Sensitivity Scale that sampled seven different domains of disgust elicitors: food, animals, body products, sex, envelope violation, death, and hygiene. These were found to be the main domains that disgust-evoking stimuli fell into throughout the literature on disgust. However, for the

purpose of this study the types of disgust of most interest are envelope violation and death.

Envelope violation refers to reminders that the human body has viscera and blood inside it beneath the skin. It is tested through questions about rating situations such as, “You see a man with his intestines exposed after an accident.”

The “death” category refers to disgust in responses to corpses, and is measured by ratings on situations such as, “Your friend’s pet cat dies, and you have to pick up the dead body with your bare hands.” Since these are the two types of disgust stimuli that are most commonly found in horror movies, with frequent gore and dead bodies, they are the two sections that will be incorporated into this questionnaire. Each of these categories contains four questions, meaning eight questions in total will be used from the Haidt (1994) disgust scale in our questionnaire. The reliability for the scale on death was $\alpha = 0.57$ and $\alpha = 0.41$ for envelope violation (Haidt et al., 1994).

To assess participants on their everyday sadism, I will use the Assessment of Sadistic Personality by Plouffe, Saklofske, and Smith (2016) which is a concise nine-item scale for subclinical sadism. While there are several sadism scales available, questionnaires such as the 10-item Short Sadistic Impulse Scale (SSIS) by O’Meara, Davies, and Hammond from 2011 have been criticized as having homogenous questions too focused on just hurting and not on the intricacies of sadism, such as the desire to humiliate and subjugate (Plouffe, Saklofske & Smith, 2016). The Assessment of Sadistic Personality better reflects these complexities and includes subscales of sadism, such as verbal (“When I mock someone it is funny to see them get upset”), physical (“I would

hurt somebody if it meant that I would be in control”) and vicarious (“Watching people get into fights excites me”). The cronbach alpha for this assessment is $\alpha = 0.83$.

In total, the questionnaire will have 48 questions. The questionnaire takes about 5 to 10 minutes to complete. The entire questionnaire can be found in Appendix A.

Electrodermal Activity / Skin Conductance Response

In this proposed study, as in most others, the measure of interest is the amplitude of the specific skin conductance reactions (SCRs) and the overall skin conductance levels (SCL) of participants while watching a video clip (Ravaja, 2004). Conductance is expressed in units of microSiemens (μS).

The time of day and temperature of the room must be controlled, as skin conductance levels are modified by the heat of the room and diurnal effects. Participants should all begin the study at the same time and have the psychophysiological portion of the study carried out in a room with a consistent temperature.

Electrodermal activity will be recorded with a constant voltage of 0.5 V. Two flat Ag-AgCl electrodes will be prepared with an isotonic paste and placed at the second phalanx of the first and second fingers on the palmar side of the participant’s non-dominant hand.

Participants will be instructed to keep their non-dominant hand as still as possible and rested face up on the table so as not to interfere with the readings.

To establish a baseline, participants will first have their skin conductance assessed during a 5-minute period of rest where they will not be watching the screen and will be instructed to sit quietly.

After taking baseline readings, the researcher will perform the participant that they will be watching a 20-minute horror movie clip. Then the lights will be turned off and the video clip started. The researcher will leave the room for this portion.

SCRs which occur 1-5 seconds after a particular moment in the film scene will be considered a reaction to the scene, and only SCRs with a minimum amplitude of 0.05 μ S will be considered relevant.

Because certain key scenes are being observed for a reaction, the free Matlab toolbox program Autonomate will be used to identify and measure peaks coinciding with the film scenes of interest (Green et al., 2014).

Film Choice

The horror film I've chosen as the stimulus is *Urban Legend*, released in 1998 and directed by Jamie Blanks. The film follows a group of friends at a college where murders that all relate to famous urban legends begin to occur. The film is considered a "slasher" and there are no supernatural elements. This film was chosen for several reasons. One is that while it was fairly successful, it is not a film that everyone will have seen already, such as *Friday the 13th*. Therefore it is less likely that I would have to exclude participants for having already seen the film (and not being surprised by anything that happens in it).

The film, and the 20-minute clip selected from it, have aspects of suspense, minor gore, and death with some “jump scare” tactics, so it incorporates several different scaring styles found in the horror genre.

The antagonist of the film is also an androgynous figure (who later ends up being revealed to be a woman) throughout most of the story. I felt this was an important detail to be aware of when choosing the film because gender is one of the variables being examined. I thought it might skew the results one way or another if the attacking antagonist was male or female; female participants may be more scared of a male antagonist and male participants may be more scared of female antagonists or some other effect of gender of the attacker on participant fear. While this would be an interesting variable to study, it was not one of the goals of this particular study, so to avoid a confounding variable, a film was chosen with an androgynous attacker.

In line with this, the film and the 20-minute clip chosen depict both male and female victims. The selection chosen from the film to be shown to participants begins 1 hour and 4 minutes in and ends at 1 hour and 24 minutes in.

Litle (1986) found that when high sensation seekers and low sensation seekers watched a 20-minute horror clip, the most significant difference in electrodermal activity was during a climactic moment such as when a character was decapitated. At this point, low sensation seekers' electrodermal activity spiked while high sensation seekers did not go up as much.

Based on that experiment, I hypothesize that there will be differences in reaction at certain specific points of the 20-minute clip. I plan to average the skin conductance

reaction at these moments over the 30 seconds when they occur and analyze them separately from the overall skin conductance average. The key scenes of interest for this study can be seen in Table 1.

Table 1: Key scenes of interest from 20 minute clip to average skin conductance reaction over.

Time location in the film (hour: minute: second).	Events of scene.
1:07:26	A character finds the remains of a dog killed using a microwave.
1:09:09	The killer attacks a female character at the radio station with an axe.
1:23:12	The female protagonist finds the dead bodies of her friends.

All three of these scenes are climactic moments that have more intense music and are meant to shock the audience. Two of them also contain significant gore, which may be particularly arousing to participants with high disgust sensitivity.

A manipulation check will be conducted on the efficacy of the film stimulus by having participants rate on a scale of 1-10 after the viewing and before their debriefing, how scary they found the 20 minute clip.

Procedure

All participants will come to the laboratory to answer the questionnaire and for the movie viewing session for a total of approximately 40 minutes spent. Participants should all carry out this experiment at around 3 P.M. as skin conductance response is sensitive to diurnal effects and can be affected by the time of day at which it is recorded.

Upon arriving, participants will be given a consent form (see Appendix B) and the chance to read it over carefully and ask questions they may have about the experiment.

The consent form also informs the participants that the 20-minute movie clip they will be watching is from a horror movie and will depict possibly disturbing and gorey fictional scenes. Forewarning about the nature of a horror movie clip has been shown to actually increase reported anxiety in viewers (Cantor, 1984). Forewarning also has not been shown to affect the physiological reaction to horror movies significantly except to intensify it during climactic scenes when the climactic scene was described to the participant explicitly beforehand (Cantor, 1984); therefore, warning participants beforehand should not decrease the experienced arousal.

There is no deception involved in this study but in order to minimize response bias, if the participant asks what the personality questionnaire measures, a simple answer of “various personality factors that may be related to horror movie enjoyment” should be the response. This is because people may answer more honestly if they don’t know exactly what the questions are cataloguing.

After reading and signing the consent form, participants will be given a questionnaire designed for this study composed of questions from the Short Dark Triad test as well as questions about horror movie enjoyment (see Appendix B).

After completion of the questionnaire, participants will be shown into a private room and have electrodes attached for the measurement of electrodermal activity. Participants will sit in a chair 6 feet away from a television screen. After a baseline recording of their electrodermal activity is taken, the researcher will turn on the movie on the screen, dim the lights, and leave the room.

After the 20-minute movie clip is finished, the participant will be able to remove the electrodes from his or her skin and be given a paper with debriefing information (see Appendix C) on it and again given the chance to ask questions of the experimenter.

Predicted Results

Correlations will be run between mean scores on each subscale of the questionnaire and physiological measures, as well as reported horror movie enjoyment. After data is collected it will be analyzed using SPSS with a p set at $<.05$.

A strong correlation is predicted to be found between all the Dark Triad traits when run in association with reported horror movie enjoyment as measured on the enjoyment subscale of the questionnaire. Scores on narcissism and psychopathy are predicted to have a positive correlation with enjoyment; past studies that have measured correlation between enjoyment of horror and traits that are components of narcissism and psychopathy (like low empathy and high sensation seeking) have found correlations

ranging between $r=0.51$ to $r=0.19$ (Edwards, 1984; Tamborini & Stiff, 1987; Harris et al., 2000; Neuendorf & Sparks, 1988).

Machiavellianism in the past has been found to have a significant correlation with horror movie enjoyment with $r=0.39$ (Tamborini & Stiff, 1987) so it is expected to have a similarly strong positive correlation in this study.

Gender is another variable that has been correlated in past studies with horror movie enjoyment, so I predict the results of this study will be similar. In a meta analysis on horror movie enjoyment, sex of the respondent was coded in a correlation with 0 for male and 1 for female and found an $r= -0.22$ (Hoffner & Levine, 2005).

While sadism has never been correlated with horror movie enjoyment, I predict a correlation of approximately $r=0.35$ based on a correlation between everyday sadism and enjoyment of violent video games in Greitmeyer, 2015. I predict a higher correlation than the $r=0.25$ found by Greitmeyer in this study as fear, pain, and suffering are lingered on more in a cinematic format than they usually are in video game violence.

Disgust has also never been used as a variable when exploring horror movie enjoyment before but past research has shown that there were significant effects of disgust sensitivity in subjective ratings of a film that participants were shown if it included possibly disgust-triggering scenes. I predict there to be a significant negative correlation between disgust sensitivity and horror movie enjoyment.

Correlations will also be run between all subscales on the questionnaire and participants' skin conductance reaction — both averaged across the full 20 minutes and then averaged across key climactic scenes (as done in the research by Litle, 1986). This

will give an opportunity to compare participants' subjective reported enjoyment of horror in general with their physiological arousal when actually viewing horror. It would make sense for people who are more aroused during a film viewing to find that arousal uncomfortable if in this genre's case that arousal translates to feelings of fear. Horror movie enjoyment and physiological arousal during viewing was negatively correlated in one study by Tamborini, Stiff, and Heidel in 1990 (with $r = -0.26$) but has shown weaker or non-significant correlations in other studies (Sparks & Spirek, 1988; Hoffner & Cantor, 1991).

I predict that in this study there will be a small or nonsignificant negative correlation when horror movie enjoyment is correlated with an overall average of skin conductance over the full 20 minutes.

However, I predict that there will be a significant negative correlation when horror movie enjoyment is correlated with skin conductance reactions averaged over the three key scenes of interest. I believe this because Litle (1986) found that while there was minimally significant difference between high sensation seekers (who report more enjoyment) and low sensation seekers (who report less enjoyment) across the full 20-minute clip that there was significant difference in skin conductance reaction during a key climactic scene of the clip. I predict that this will be true with most of the questionnaire variables when their skin conductance reactions are measured and that the correlation between the average over the 20 minutes will be a weaker correlation or nonsignificant — but that correlations averaged over the key chosen scenes will be significant.

Narcissism and Machiavellianism are both predicted to have a significant negative correlation with skin conductance reaction during key scenes; I believe they will have fewer high peaks of arousal than lower-scoring Dark Triad participants when viewing particularly scary moments, in the same way that high sensation seekers have been shown to react.

Gender will once again be correlated by using 0 to equal male and 1 to equal female when comparing the continuous variable of skin conductance reaction. Although there have been a myriad of studies that have explored gender and horror movie enjoyment, gender and physiological arousal during horror movie viewing has not been examined. Because women more often *report* feeling intense fear during horror movies (Zillmann, Weaver, Mundorf & Aust, 1986), I expect them to have higher skin conductance responses to viewing the key scenes.

Skin conductance reactions have been shown to be higher in particularly disgust-sensitive people when watching disgust-inducing film clips (de Jong & Peters, 2011). Because of this I predict a strong positive correlation between participants' scores on disgust sensitivity to gore/death and their skin conductance reaction to the chosen film scenes. All three of the scenes picked out for analysis contain gore and death and will likely trigger disgust in those sensitive to those themes.

Everyday sadism is the variable of interest that has the least pre-existing research (there is more research in sadism as a sexual fetish), and how sadists differ on electrodermal activity is something that has yet to be studied. While sadists may experience less fear than others while watching a horror movie, they may experience

arousal from enjoyment of seeing others in distress. However, it has been shown that fear in particular as compared to other emotions may cause a stronger electrodermal reaction (Ravaja, 2004). So for the purpose of this study, I predict that those scoring higher on sadism will — like higher Dark Triad participants — have a significantly lower skin conductance reaction.

High scores on the psychopathy subscale are predicted to show the most significant negative correlation with skin conductance. Psychopaths have already through past research been characterized to have less arousal to fear-inducing stimuli and lower physiological arousal. As opposed to the other variables, I expect psychopaths to have a significantly lower skin conductance average over the full 20 minutes in addition to during the key scenes.

A correlation matrix that displays possible results has been created from these predictions in Appendix E.

As with any study, results may be unexpected or even the complete opposite of what was hypothesized. For example, historically women have been shown to dislike horror movies when compared to men but a recent study showed that women did not report more fear or dislike of horror video games than men. It may be that studies in the past were reflecting a gender difference that has not carried over to modern horror audiences. However, changes like this are part of why this study is proposed: to update information that may have been true in the past but hasn't been studied in recent years as many horror movie psychology studies are from the 1980s.

If one Dark Triad trait shows less of a correlation between horror movie enjoyment or physiological arousal it may be cause for examination of further differences between Dark Triad members and their media consumption differences.

If disgust or sadism do not show the expected correlations it would indicate that perhaps viewing stimuli that usually causes a significant reaction (disgust or pleasure) when it is only in a fictional film blunts the response. This would have interesting implications for what makes real-life disgust stimuli so aversive for those who are disgust sensitive if seeing it fictionalized does not cause as much distress. In the same way, if sadists do not get pleasure from seeing others in distress when it is only fictional or only on a screen it may give hints as to the specificities of what *does* garner the pleasurable reaction for them.

Discussion

The media landscape of our world and the types of films we use to stimulate ourselves are changing all the time. Looking at screens — whether it is through a phone, a tv, laptop, or in the cinema — has become more and more a ubiquitous part of our daily lives. In the fast-paced, technologically advanced and further mediated world we live in, psychology studies about the media we consume, how it affects us, and the type of people who are drawn to different types of experiences within media are increasingly important.

Watching movies from home can be done instantly now with Netflix, just one of many streaming sites, boasting 99 million users (Fiegerman, 2017), and even so people are also still willing to drive to the cinema, with box office worldwide grosses reaching some of their highest levels of all time in the past few years (Boxofficemojo.com, 2018).

Studying the types of people who enjoy different types of film experiences not only has implications for how to aim advertising and content creation toward them (Silveira, 2013) but in an age that is so mediated by technology and film consumption also gives a glimpse of what their daily world is like, how they spend their time, and what brings them enjoyment.

Furthermore, if we enjoy films that give us a mediated, less-intense version of an emotional experience (Cantor,) then discovering what types of films different people enjoy also may provide insight into the real-life stimuli that appeal to them.

On the other hand, when there are discrepancies between the types of films people like and the things they want to experience in their real life, that tells us something interesting about the nature of film viewing and the experience of vicariously viewing certain situations.

For this reason horror presents particularly interesting questions, as the events depicted in horror films are so aversive and presumably no one would want to experience them in real life.

Yet, despite this, horror films are more popular than ever.

This proposed study seeks to answer this question from one angle: examining the types of people who enjoy or hate horror movies based on certain personality traits. In this proposed study the personality variables of interest were subclinical levels of psychopathy, narcissism, and Machiavellianism — the so-called Dark Triad — which all have been associated with high sensation seeking and low empathy, two traits found in past literature to be predictive of horror movie enjoyment.

Sadism also has a logical association with horror film enjoyment. Sadists enjoy seeing others in pain and distress, a feature concurrent in all horror films.

Other indicators of who might or might not enjoy horror films include disgust sensitivity, which is also predicted to have a logical negative association with horror enjoyment, as people with high disgust sensitivity are particularly disturbed by the images of death and gore that are ubiquitous in horror films; and gender, which in past studies has been found to be divisive in enjoyment of horror, with males reporting more enjoyment than females.

These personality variables, measured through a self report questionnaire, will be compared to the dependent variables of horror movie enjoyment (also measured through self report) and physiological arousal during the viewing of a horror film.

The physiological arousal will be operationalized in the form of electrodermal activity measured throughout the viewing of a 20-minute horror film scene. The film scene will be from *Urban Legend*, a slasher-style horror film directed by Jamie Blanks and released in 1998 that contains various moments of suspense, gore, and death.

The goal of this proposed study is to examine some of the types of people to whom the horror genre appeals, and some of the types of people who are particularly averse to it. The hope is to be able to predict some of the variability in who enjoys horror movies and who loathes them. The differences in these types of people not only help predict who will be more likely to buy tickets to a horror movie but also illuminates why people like or dislike them. It would follow logically that people who are particularly sensitive to images of gore and death would not be the right audience for a film that

displays such things. However, people who are more emotionally callous and less likely to be overwhelmed with empathy for the victims being killed or terrorized on screen may find horror movies more bearable.

The people who actually get enjoyment from horror films are predicted to be those who may seek thrills and enjoy highly stimulating media or who get particular joy from seeing scenes of violence.

Because of this I hypothesized that people rating high on disgust sensitivity would experience higher physiological arousal to a horror clip and report less enjoyment, while those rating high on Dark Triad traits and sadism would have less physiological arousal and report more enjoyment.

While I predict that these hypotheses would be supported if data collection were carried out, data that did not support these hypotheses would offer its own implications.

This proposed study is not without its limitations. Because of its correlational nature, the results would indicate a relationship between the variables in question but could not show causality. As previous studies on media preferences have pointed out, the relationship between personality variables and the type of media they choose to consume is likely bidirectional. For instance, the uses-and-gratification perspective of media (Katz, Blumler & Gurevitch, 1974) states that people's personality dimensions create needs in them that influence the type of media they seek out. However, the preferences people have in one type of media may in turn be affected by how much they are exposed to certain media types (Greitmeyer, 2015). In this case, people higher on Dark Triad traits or sadism may seek out horror movies, but continual exposure to horror movies may also

increase sadistic or dark personality tendencies. There is a wide body of literature on violent media having an effect on people's trait aggressiveness (for review see Paik & Comstock, 1994). This may also be the case in horror movies, since they involve violence and dark themes. An experiment that may be able to determine more causal effects of horror film viewing could explore the directionality of this relationship.

Another limitation of this study is that it only uses one film as a stimulus. While I chose the film that I did because I believe it incorporates many themes and tropes representative of the horror genre as a whole, it still may be the case that the choice of another film or using a variety of films would have a greater chance of affecting participants. Hypothetically, people may respond differently to different types of horror films, with some people may be more frightened of supernatural scares while others may only find intense gore terrifying. This could be a future direction of research to examine more closely the specific aspects of horror movies that different people find scary and why.

While this proposed study suggests a number of personality variables, there are many other directions available for exploration on the topic of horror movie enjoyment. One possible direction is not only measuring the fear experienced during horror films but also trying to manipulate that fear. There could be ways to change people's experiences while watching so that they would enjoy a horror movie more or less. Forewarning has already been found to have an effect on people's fear when watching horror movies (Cantor, Ziemke & Sparks, 1984) with those who were explicitly given descriptions of the scene they were going to watch having more fearful reactions. There could also be

things done *during* the viewing that would change the experience for a participant. During scary or sad films, participants were found to use different types of coping strategies, namely suppression, reappraisal, distraction, and rumination, to moderate their feelings (Hofer, Burkhard & Allemand, 2015). It's possible that different strategies yield different changes in attitude toward a film and instruction to use one or another could manipulate the viewers' response. It has also been discovered that people find horror movies more or less scary depending on who they are watching with and what type of reaction the person they are watching with exhibits (Zillman & Weaver, 1996).

An area my proposed study does not investigate is the social psychology behind horror movie enjoyment. This proposed study focuses on individual differences in enjoyment; the variability comes from person-to-person differences in personality factors. It does not account for any of the differences of horror movie popularity or enjoyment over time among our society as a whole and what the contributing factors to that fluctuation might be.

Horror movies' content and popularity have been theorized to be markers of larger cultural anxieties in society at any given time. The types of threats presented in horror movies have changed over the decades, with zombies being the most popular in the last 10 years but slashers being most popular in the 1980s and "creatures" (like the one from the Black Lagoon) being most popular in the 1950s. This may just be a natural result of trends — the public getting sick of one type of monster, or another type becoming more popular at a different time after one successful hit.

However, it has also been suggested that the types of horror movie monsters people want to see are a reflection of our society's nonfictional fears of the moment. An L.A. Times article titled, "Has Horror Become the Movie Genre of the Trump Era?" (Chang, 2017), explores this as an explanation for the rise in horror's popularity in the last year, comparing the evil clown Pennywise from Stephen King's *It* (2017) to President Donald Trump: "What better stand-in for this most openly antagonistic of presidents than Pennywise, a once-amusing popular entertainer warped beyond recognition, who now feeds on human fear and terrorizes the most vulnerable among us?"

The article goes on to suggest that maybe our need to go see horror movies comes from a cathartic need to see our symbolic demons get vanquished onscreen — in the way Pennywise is destroyed at the end of *It* (2017) and how many horror films end with a large victim body count but usually at least one survivor and often with the defeat of the threat.

Many of the horror movies to be released in the last two years have had more overt political subtext, such as *Get Out*, the Academy Award winner that finds its main point of horror in racial tension; or *Mother!* which is an allegory about global warming.

Perhaps the most explicit example is the most recent season of *American Horror Story* — a fictional horror television show; the latest season was specifically about horrors related to Trump's election and featured opening credits with images of people in plastic Trump and Hillary Clinton masks, references to chem trails, and a blood-soaked American flag.

This is not only a recent trend. The late George Romero's films were notorious for having hidden political meanings. *Night of The Living Dead* was supposed to represent the cultural anxieties of 1968 America, with fears of nuclear war, the Vietnam War, and the assassination of Martin Luther King Jr. all contributing to imagery and themes throughout the zombie story.

I think an interesting future direction for horror movie study would be to examine it from this social lens and see why horror movies are more or less popular generationally and what themes come up in horror stories during different political climates. This could contribute to how we as a society seek catharsis through entertainment and provide not only useful demographic information but a deeper understanding of how we symbolically find outlets for our stress through fiction that reflects greater worldly problems.

The proposed study offers one way of analyzing horror movie demographics and in turn chips away at the questions of psychology and media that are so pertinent in today's mediated reality. While horror movies is a very specific type of media it still is able to evoke powerful emotions of fear in an audience and is therefore worth studying. Results from this study could answer questions about both the demographics of these films but also the media choices of different personality types.

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Appendix A: Questionnaire

Please indicate what gender you identify with:

Male

Female

Indicate on a scale of 1-5 how true each statement is about you:

Horror Movie Enjoyment

I like horror movies

1 2 3 4 5

I frequently choose to watch horror movies

1 2 3 4 5

When I watch horror movies I enjoy the experience

1 2 3 4 5

For the rest of the questionnaire indicate if the following is true or untrue about you:

Machiavellianism

It's not wise to tell your secrets.

I like to use clever manipulation to get my way.

Whatever it takes, you must get the important people on your side.

Avoid direct conflict with others because they may be useful in the future.

It's wise to keep track of information that you can use against people later.

You should wait for the right time to get back at people.

There are things you should hide from other people to preserve your reputation.

Make sure your plans benefit yourself, not others.

Most people can be manipulated.

Narcissism

People see me as a natural leader.

I hate being the center of attention. (R)

Many group activities tend to be dull without me.

I know that I am special because everyone keeps telling me so.

I like to get acquainted with important people.

I feel embarrassed if someone compliments me. (R)

I have been compared to famous people.

I am an average person. (R)

I insist on getting the respect I deserve.

Psychopathy

I like to get revenge on authorities.

I avoid dangerous situations. (R)

Payback needs to be quick and nasty.

People often say I'm out of control.

It's true that I can be mean to others.

People who mess with me always regret it.

I have never gotten into trouble with the law. (R)

I enjoy having sex with people I hardly know

I'll say anything to get what I want.

Disgust Sensitivity - Envelope Sensitivity and Death

It would bother me to be in a science class, and to see a human hand preserved in a jar.

It would not upset me at all to watch a person with a glass eye take the eye out of the socket. (R)

It would bother me to see someone accidentally stick a fishing hook through his finger.

It would bother me to see a man with his intestines exposed after an accident.

It would bother me tremendously to touch a dead body.

I would go out of my way to avoid walking through a graveyard.

I would be uncomfortable if my friend's pet cat died and I had to pick up the dead body with my bare hands.

It would bother me to accidentally touch the ashes of a person who has been cremated.

Everyday Sadism

I have made fun of people so that they know I am in control.

I never get tired of pushing people around.

I would hurt somebody if it meant that I would be in control.

When I mock someone, it is funny to see them get upset.

Being mean to others can be exciting.

I get pleasure from mocking people in front of their friends.

Watching people get into fights excites me.

I think about hurting people who irritate me.

I would not purposely hurt anybody, even if I didn't like them. (R)

Appendix B: Consent form

BARD

A College of the Liberal Arts and Sciences Division of Science, Mathematics & Computing

CONSENT FORM

Background: You are participating in a study designed to understand why certain people enjoy horror movies more than others. No deception is involved. Please carefully read over this form and ask any questions about the study you may have before you agree to participate.

What you will do in this study: For the first part of this procedure, you will simply be asked to fill out a questionnaire.

This questionnaire will take approximately 15 minutes to complete.

If any of the questions cause you any discomfort, you are welcome to stop at any time.

During this study your skin conductance — a reflection of the electricity of your skin through your sweat — will be measured. Two sterilized electrodes will be attached to your left hand using a small amount of paste, and a non-harmful electric current will pass over the skin.

There should be no discomfort experienced and it is safe; also, this procedure can be stopped at any time.

A reading to establish a baseline will first be taken for 5 minutes.

After this, you will be asked to watch a 20-minute clip from a horror film.

The horror film will depict scenes of suspense, some fictional gore, and violence. If you experience a level of anxiety or fear from it that makes you too uncomfortable, you may stop without penalty.

Risks & Benefits: By participating in this study you will be entered in a raffle to win one of four \$50 Amazon gift cards.

There are no serious health risks associated with this study. There is a small risk that the electrodes will cause mild skin irritation that will disappear within a few minutes and cause no long-term damage.

As you will be shown scenes from a horror movie, you are expected to feel some level of fear or anxiety — but if it becomes overwhelming, you are allowed to leave at any time. If you experience continued emotional distress after the experiment you are encouraged to contact:

Bard Counseling Center, 845-758-7433

Compensation: Everyone who participates in this study will be entered into a raffle and given the opportunity to win one of four \$50 Amazon gift cards.

Confidentiality: You are guaranteed anonymity; none of your answers will be identified as yours. The only information that will be kept that can link you to this study is your e-mail address for the purpose of entering you for the raffle to win an Amazon gift card.

Your rights as a participant: Your participation in this study is voluntary and you are free to quit at any time with no penalty and still be eligible for compensation.

After the experiment has ended, you will be given more information through a debriefing. You may ask questions of your experimenter at any time except for during the viewing of the movie clip.

If you have any questions about this study or the direction of the research please direct them toward the experimenter; e-mail the experimenter at kh1295@bard.edu. If you have questions about your rights as a participant you may visit the International Review Board's website at <http://www.bard.edu/irb/> or contact the members at rb@bard.edu.

PARTICIPATING IN RESEARCH IS VOLUNTARY

____ I understand that I have the right to decline to be in this study, that I may withdraw from it at any point without penalty, and I have acknowledged and understood the information written above.

Participant Name (Print): _____ Date: _____

Signature: _____ Date: _____

Experimenter Signature: _____ Date: _____

Appendix C: Debriefing

BARD

A College of the Liberal Arts and Sciences Division of Science, Mathematics & Computing

DEBRIEFING FORM.

This study is meant to investigate the demographics of horror films and what their appeal is to people who enjoy them. It measured you on several different personal characteristics thought to be linked to enjoyment and tolerance of scary films.

How was this tested?

The questionnaire you completed measured several personality variables hypothesized to be related to the enjoyment of horror movies and the experience of arousal while watching them.

Your baseline electrodermal activity was measured first, and then continuously measured while you viewed the 20-minute horror movie scene. This was done to measure your arousal during a horror film. You were predicted to experience more or less arousal based on your responses to the personality questionnaire.

What if I want to know more?

Please contact the experimenter, Katharine Hochswender, at kh1295@bard.edu, if you have any further questions regarding this study.

Please contact the Bard Counseling Center at 1-845-758-7433 or BRAVE at 1-845-758-7777 and ask for a BRAVE counselor if this study has caused you any psychological distress.

You will be contacted via e-mail if you are one of the winners of the Amazon gift cards.

If you have concerns about your rights as a research participant, please contact the Bard College IRB at irb@bard.edu

Appendix D: Institutional Review Board proposal

Title: Thrilled or Chilled: Exploring Factors Of Horror Movie Enjoyment

Research Question (250 words or less): I am exploring the traits that influence horror movie enjoyment and physiological arousal in response to watching horror. The variables of interest are psychopathy, narcissism, Machiavellianism, everyday sadism, disgust sensitivity, and gender. These factors will be correlated against reported horror movie enjoyment as well as measured physiological arousal during the viewing of a horror movie.

Briefly describe how you will recruit participants. (e.g., Who will approach participants? What is the source of the participants?): Participants will be recruited through fliers posted around campus as well as on Facebook. The only qualifications of participants will be that they identify as either male or female, have normal or corrected-to-normal vision, and are fluent in English. Since a somewhat equal number of male and female participants is preferred, if there is at first an uneven distribution, a second round of fliers or Facebook notifications may be sent out looking for only male or only female participants until there is an approximately even amount.

Procedures: After reading the consent form found in Appendix B, participants will be asked to fill out a questionnaire created for the purpose of this study. The first questions are straight forward and ask the participants to indicate their gender and how much they enjoy horror movies. The next parts of the questionnaire have been borrowed from other questionnaires and studies to measure the traits of interest. Psychopathy, narcissism, and Machiavellianism will be measured with questions from the SD3 Short Dark Triad questionnaire (Jones & Paulhus, 2014). Everyday sadism will be measured with the Assessment of Sadistic Personality by Plouffe, Saklofske, and Smith (2016). Disgust sensitivity to the particular triggers of envelope violation and death were taken from the Haidt, McCauley and Rozin Disgust Sensitivity Scale formulated in 1994.

After completing the questionnaire, participants will be brought to a room to watch a 20-minute clip from a horror film on a television set. While they are viewing, their electrodermal activity will be measured using the BioSemi ActiveTwo system available at Bard.

Please describe any risks and benefits your research may have.

While there should not be any health risks from this study, it does involve watching a clip from a horror film and horror has been found to sometimes cause enduring fright reactions (Cantor, 2004). Because of this, the number for the Bard counselling center is included in the debriefing form. It is also made very clear in the consent form that the study can be stopped at any time and that even though the participant

will watch the film scene in a room by themselves, they can call for the experimenter at any time and stop watching or leave the room.

Compensation for the study comes in the form of being entered in a raffle to win one of four \$50 Amazon gift cards.

Please include here the verbal description of the consent process (how you will explain the consent form and the consent process to your participants):

Participants will be greeted and given a consent form explaining that the study is going to examine personality variables relevant to horror movie. Participants will be informed of the procedure — including being told that they will be watching a potentially frightening horror movie. They will also be informed about the skin conductance measurement and that it is perfectly safe and there is no risk of electric shock. The consent form also explains that they can leave at any point and will not lose their chance at compensation (a raffle to win an Amazon gift card).

What procedures will you use to ensure that the information our participants provide will remain confidential?

Participants will be assigned an ID number and their ID number will be an identifier for their data, not a name or e-mail. The only place participants' names will be matched with their data is in a file saved on a password-protected computer kept in

a safe place. Participant names will never be mentioned in any publication or presentation on this study.

For projects not using deception, please include your debriefing statement:

At the end of the procedure, participants will be thanked for their participation and given a debriefing statement that once again explains that the study was to examine personality variables and their relation to horror movie enjoyment (although they will not be told what the variables were). An e-mail address is included to contact me for questions, and the number for the Bard counselling center is also included in case of psychological distress caused by the study.

Appendix E: Correlation matrix displaying predicted results

Table 2: Predicted correlations based on hypotheses.

	Psychopathy	Narcissism	Machiavellianism	Everyday sadism	Disgust sensitivity	Male/female	Horror enjoyment	SCR averages	SCR in key scenes
Horror enjoyment	0.4*	0.4*	0.39*	0.35*	-0.45*	-0.22*	-	-0.19*	-0.4*
SCR average	-0.4*	-0.1	-0.1	0.1	0.1	0.1	-0.19*	-	-
SCR in key scenes	-0.6*	-0.4*	-0.4*	0.2	0.5*	0.4*	-0.4*	-	-

□