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Social Supers: A Content Analysis of Non-Physical Aggressions in Popular Superhero Movies

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Social Supers: A Content Analysis of Non-Physical Aggressions
in Popular Superhero Movies

Ian Trent Gillespie

A thesis submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of
Master of Arts

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ABSTRACT

Social Supers: A Content Analysis of Non-Physical Aggressions in Popular Superhero Movies

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In recent years superhero movies have skyrocketed in popularity, bringing with them plots and characters that tend to exhibit high levels of aggression. As social learners, humans often learn from what they observe, and especially emulate characters they admire – including fictional superheroes and villains. Consequently, this study content analyzed non-physical aggressions (verbal aggression, relational aggression, and violent ideation) in the top 25 highest grossing superhero movies between 2005 and 2015. Results found an average of 171.8 acts of non-physical aggression per movie. Females in these movies were also significantly more likely to engage in verbal and relational aggressions, which contributes to gender stereotypes about aggression. Unfortunately, due to a failure in intercoder reliability testing, these results are unreliable.

Keywords: verbal aggression, relational aggression, violent ideation, superheroes, movies

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Introduction

Superhero movies have become one of the most lucrative genres for movie producers in the past 15 years. Of the top 10 highest grossing movies of all time, three are unarguably superhero features: *The Avengers*, *Iron Man 3*, and *Avengers: Age of Ultron*; and another five can arguably be classified as superhero movies because the protagonists possess superhuman abilities: *Avatar*, *Star Wars: The Force Awakens*, *Furious 7*, *Harry Potter and the Deathly Hallows Part 2*, and *Frozen* (All Time Box Office: Worldwide Grosses, January 28, 2016). So a conservative estimate makes superhero movies account for three of the world's 10 top grossing movies; and liberally they account for eight of the 10 most lucrative movies of all time. The big producers have noticed, too – a glut of movie releases is planned to continue, with another 27 titles announced for release between 2016-2020 (List of American superhero films, 2015). Some of these titles include *Captain America: Civil War*, *Doctor Strange*, a third *Avengers* movie, *Batman versus Superman*, and *Wonder Woman* (Rosen, 2014; Locket, 2014).

Superhero protagonists are typically attractive, charismatic and powerful characters, whose unusual appeal makes them more likely to be imitated by audiences. Alternatively, compelling villains have increasingly gained fan bases in recent years, which likewise increases their potential influence on admirers (Bonneville, Kozar, Hussey, & Patrick, 2006; Anderson & Bushman, 2002). Knowing this, some parents and scholars have raised concerned voices about the potential influence of these hyper-aggressive characters on society in general and children in particular (Coyne, 2016; Young, 2016). Consequently, this thesis sought to answer questions regarding how often and in what manner non-physical aggressions are used by movie superheroes and their villainous counterparts.

Literature Review

Fingeroth (2004) argued that superheroes and supervillains are fascinating because everything about them is larger than life. They embody the good and evil as well as the struggles in society and ourselves and parade them in entertaining stories. “A hero embodies what we believe is best in ourselves. A hero is a standard to aspire to as well as an individual to be admired” (p. 14). For Fingeroth, the defining attribute of a hero is “selfless bravery,” and he distinguishes between a true hero who fights against overwhelming odds and danger, and sports heroes or music heroes who simply entertain. A superhero, he argues, possesses strength of character, a system of morals, a determination to live up to those values, and of course some sort of superhuman ability.

Fingeroth’s assessment underscores how people are drawn to the idea of benevolent, powerful guardians who are driven to right the world’s wrongs and fight for the “little guy.” In a way, they are the Greek gods in our secular world (Wright, 2013). Superhero stories are especially appealing during socially troubled times: They were enormously popular during the Great Depression, and the movies regained popularity after the terrorist attacks on the World Trade Center on September 11, 2001, as well as during the worldwide recession beginning in 2007 (Free, 2016; Wright, 2013). Over the years superhero values have shifted with society’s changing principles, but generally speaking superheroes always represented the fight to preserve moral values of justice, peace, and freedom in society. Villains, on the other hand, have signified the pursuit of egocentric, baser paths of power and corruption (Fingeroth, 2004).

Interestingly, villains have gained popularity alongside their heroic counterparts. To diehard superhero fans this is unsurprising, because supervillains are made to be just as interesting as superheroes (Fingeroth, 2004). Audiences were fascinated with Heath Ledger’s

portrayal of the Joker in *The Dark Knight* (De La Noy & Nolan, 2008), and still discussed his villainous role years later (Cooper, 2016). Some fans of superhero movies cheerfully root for the bad guys, so much so that movies with antihero protagonists such as *Deadpool* (2016) and *Suicide Squad* (2016)¹ experienced tremendous box office successes. Langley (2012) suggested this trend could be due to the audiences' curiosity or desire to allow expression of their darker desires, explore the forbidden, or mentally join onscreen villains in plots for revenge. Another, darker view suggests that a more cynical, younger generation finds villains are easier to connect with, since they are more flawed and their selfish desires coincide more closely with reality (Martin, 2013). Among those who study media, this fascination with villains – especially among younger, more vulnerable viewers – raises questions as to the possible effects of such a connection. People (especially children) tend to identify with characters that possess traits they value (Hoffner, 1996), which makes them more likely to adopt behaviors and attitudes exhibited by beloved onscreen personalities.

Strength of Media Effects on Audiences

Meta-analyses are how scholars most often determine media effect strengths (Perse, 2008). These reveal that the strength of effects for consuming media are low to moderate, with the effects of media violence considered moderate. On the other hand, the pro-social message effects of media on children also tend to have moderate influence. The strength of media effects is generally considered to be proportionate to the amount of time spent consuming media – the more media consumed, the stronger its effects (Perse, 2008).

One study (French, 1991) reviewed and compared data on children's heroes from about 1900-1980. Although no noteworthy changes in hero play were found for kids in the middle

¹ These movies were not included in this study because they were not released when coding occurred.

childhood years, children in their early developmental years were found to play significantly different when compared with their peers growing in the pre-television era. People who grew up with television in their early years were found to engage in significantly more hero play, choose and mimic a favorite hero from fantasy, and choose less attributes about the qualities of that hero. Once television was introduced, it also replaced parents, siblings, and friends as the go-to source for heroes and play topics. These findings agreed with Gerber that television is the dominant storyteller and shaper of American society (Morgan, Shanahan, & Signorielli, 2009).

As with any academic pursuits, there are disagreements as to how much media affects audiences. In particular, there are grounds to believe that studies underestimate the strength of media effects. Among these reasons are the restriction of dependent variables. Because researchers are ethically bound to do no harm, studies are heavily limited to observing subjects' responses, understandings, and attitudes, rather than actual behaviors acted out by potential media impact. Additionally, most theories presume a linear rise in effects – more viewing time equals increased likelihood of effects. While this approach is logical, it leaves the nonlinear approaches – such as curvilinear effects where consumption time does not necessarily equal a steady rise – mostly unstudied (Perse, 2008). Greenberg's drench hypothesis (Bahk, 2013) was proposed as a way of explaining that media effects may influence individuals more or less based on how interesting messages are presented (message involvement), and individual viewer criteria including how likely an event might occur in reality (perceived realism), a viewer's connection with a character, and the novelty of the message (subject novelty). The biggest struggle with measuring media effects comes with media saturation – it is perhaps impossible for researchers in developed countries to find subjects without exposure to mass media (Perse, 2008).

Accurately measuring the duration and amount of media effects is a complicated venture

(Zillmann, 2008), beset with snares inherent in accurate self-report measurements and sifting through external factors of the study that may influence subjects. Substantial quantitative evidence has demonstrated that viewing violent media increases both long- and short-term aggression and violence in children and adults (Huesmann, Moise-Titus, Pdolski, & Eron, 2003; Bushman & Anderson, 2001), although a “smoking gun” link has never been conclusively shown between media consumption and acts of individual violence.

Short-term effects of viewing violent media

Short-term media effects are measured in hours and minutes, whereas long-term effects are measured in months and years (Zillmann, 2008). The primary contributing factors to short-term aggressive media effects appear to be priming, excitation transfer, and imitation (Huesmann et al., 2003), although Zillmann (2008, 1983) argued that excitation transfer studies show longer-term effects. Studies have repeatedly shown media’s ability to prime and arouse audiences, with the effects wearing off relatively quickly (Huesmann et al., 2003; Anderson & Bushman, 2002; Zillmann, 2008, Berkowitz, 1984).

Longitudinal effects of viewing violent media

The seriousness of understanding long-term media effects was highlighted by one study which found that the levels and frequency of aggression viewed in childhood media predict aggression in adulthood (Huesmann et al., 2003). Currently it is believed that long-term exposure to violence and aggression and additional beliefs and attitudes reinforcing aggression (coming from a child’s surroundings) are the two primary factors contributing to longitudinal aggressive behavior (Huesmann et al., 2003). This makes sense, since both of these variables deal directly with the development of biases, scripts, and beliefs. Research also strongly supports the conclusion that long-term consumption of aggressive and violent media contribute to one’s

beliefs and attitudes toward violence (see Coyne et al., 2014; Huesmann et al., 2003; Bushman & Anderson, 2001).

Types of Non-Physical Aggression

Scholars have identified numerous forms of non-physical aggression, which are hostilities expressed through communication as opposed to physically harming another individual. These include relational aggression, verbal aggression, and violent ideation.

Aggression

Anderson and Bushman (2002) defined aggression as “any behavior directed toward another individual that is carried out with the *proximate* (immediate) intent to cause harm” (p. 28). Aggression takes a number of forms, including physical, verbal, relational, and violent ideation. There is considerable overlap and debate concerning the definitions of relational, social, and indirect aggression (Archer, 2001); however, the operational definitions for this study are outlined in the method section. The general aggression model, or GAM (Anderson & Bushman, 2002) is a theory that provides a framework to understand all forms of human aggression. It asserts that viewing non-physical aggressions may have similar effects to viewing physical aggression (compare Coyne, Robinson, & Nelson, 2010). This thesis focuses on all forms of aggression that do not include direct physical injury of another individual.

Verbal Aggression

Verbal aggression involves a direct confrontation, meant to cause psychological or emotional harm, but its purpose is not to harm a relationship (Coyne, Robinson, & Nelson, 2010; Leach, 2012). It may be expressed orally or nonverbally. In superhero movies it is often communicated as threats of violence, yelling, name calling, belittling, etc. Jonah Jameson, editor of *The Daily Bugle* in *Spider-Man 3* (Caracciolo & Raimi, 2007), provided many examples of

this. In one instance he entered the scene by throwing an employee from his office and yelling, “Get out! That is the dumbest idea you’ve ever had, and you have had some doosies!”

Relational Aggression

Relational aggression consists of direct or indirect aggressive acts specifically intended to harm a relationship (Coyne, Robinson, & Nelson, 2010; Coyne, Archer, & Eslea, 2004), and exhibits itself in three main ways: Direct, indirect, and nonverbal. Direct relational aggression involves remarks made openly to an individual, such as cruel comments to ostracize him or her from a group, or controlling through threats to end a relationship. Harry Osborne employed direct relational aggression against Peter Parker at the beginning of *Spider-Man 3* (Caracciolo & Raimi, 2007). Hoping to repair their friendship after being wrongly blamed for the death of Harry’s father, Peter ran up Harry. “I need to talk to you, explain things,” he said. To which Harry replied, “Tell that to my father. Raise him from the dead.”

Indirect relational aggression involves attempts to injure social status or relationships behind a person’s back by gossiping, covertly attempting to make others dislike the victim, stealing a boyfriend, etc. Jonah Jameson is well known for his attempts to villainize Spider-Man using *The Daily Bugle*. In one rant to Edward Brock and Peter Parker he said, “I want the public to see Spider-Man for the two bit criminal that he really is. He’s a fake. He’s full of stick ‘em” (Caracciolo & Raimi, 2007).

Nonverbal relational aggression is done in front the victim and may employ attempts to alienate, ostracize, or embarrass. Examples may include rolling eyes, giving someone the “silent treatment,” or withholding physical affection. Peter Parker employed this against his ex-girlfriend by showing up at her work and upstaging Mary Jane during her solo by dancing provocatively with his date (Caracciolo & Raimi, 2007).

Violent Ideation

Violent ideation involves expressing, thinking, wishing or plotting ways to harm another (Coyne, Callister, & Robinson, 2010). Violent ideation may be spoken verbally, such as expressing a wish for the person to be killed or plotting to destroy a reputation; or nonverbally, such as drawing a finger across one's throat. Shortly before becoming the supervillain Venom, Edward Brock employed violent ideation in a church as he prayed for God to kill Peter Parker .

Prevalence of Non-Physical Aggression in Media

Numerous studies have analyzed the high frequency of non-physical aggressions in media, with all discovering frequent incidences of hostility. In children's media, for instance, Glascock (2013) examined verbal aggression in 256 episodes of children's television. Around 18 acts of verbal aggression hourly were coded hourly, with actions rewarded more often than punished. Other mediums with high frequencies of non-physical aggressions have included bestselling adolescent novels (Coyne, Callister, Pruett, Nelson, Stockdale, & Wells, 2011; averaging 139.1 per book), reality and non-reality television (Coyne, Robinson, & Nelson, 2010; Wilson, Robinson, & Callister, 2012) and teen movies (Stout, 2011).

Effects of Viewing Non-Physically Aggressive Media

The vast majority of studies have focused on the effects of viewing physical violence in the media. However, research has observed that consuming physical or relational aggression has a short-term crossover effect that increases relational aggression in viewers (Coyne, Nelson, Lawton, Haslam, Rooney, Titterington, et al., 2008; Coyne, Archer, & Eslea, 2004). Viewing media filled with high levels of social aggression can also affect beliefs and attitudes concerning non-physical aggressions, such as an increased likelihood of using verbal aggression, relational aggression, and violent ideations – all of which have negative repercussions for initiators and

victims. Consumption of media with high levels of non-physical aggression can also affect the adoption of stereotypical beliefs about one gender being more likely to initiate these types of aggressions. Each of these effects is discussed more in-depth below.

Victims of Verbal and Relational Aggression

In American society, verbal and relational aggressions are not usually seen as serious enough to warrant police intervention. However, these aggressions are far from benign. One study (Craig, 1998) surveyed 546 school children between grades five and eight to investigate correlations between bullying perpetrators, victims, aggression, anxiety and depression. It found that verbal and relational aggression were more stressful for the victims than physical aggressions. The study also found that verbal and physical bullying were positive predictors of anxiety in victims and greater symptoms of depression. Another study of school children found that victims of relational aggression tend to have poor self-esteem, suffer academically, and are more likely to experience peer rejection (Young, Nelson, Hottle, Warburton, & Young, 2011).

Interestingly, victims are not the only ones who suffer from verbal and relational aggression. Childhood perpetrators of relational aggression tend to be consistent in their aggression over time, making them more at risk for future aggressions, and thus more likely to experience social rejection by their peers (Crick, 1996). Young et al. (2011) found that students who engage in relational aggression are more likely to be less satisfied with life, have more troubled relationships, are more likely to have impulse control problems, trouble controlling their tempers, and tend to be self-destructive. Crick & Grotpeter (1995) also found that teens who use relational aggression have harder times adjusting to changes in life and are more prone to depression. In these ways, verbally and relationally aggressive people may suffer as much as their victims.

Depiction of Consequences for Non-Physical Aggressions in Media

The display of consequences – whether rewarded or punished – for non-physical aggressions in media can contribute to an audience’s expectations of repercussions in real life. Likewise, a *lack* of apparent consequences for bad behaviors (i.e. social aggressions) can also have detrimental effects (Anderson & Bushman, 2002). Donnerstein, Slaby, and Eron (1994) also found that when media aggression is depicted as rewarded it is more likely to be imitated.

Unfortunately, most content analyses investigating this topic have reported that non-physical aggressions most commonly have no consequence. For instance, one master’s thesis (Leach, 2014) did a content analysis of physical and non-physical aggressions in 301 best-selling picture books for children. Of those acts, 88 percent (n = 364) revealed no consequences for the actions. Analyses of adolescent media have found similar results. A master’s thesis (Stout, 2011) coded relational aggressions in teen movies from 1980-2009. Of the 90 movies, five (6.6 percent) included no acts of relational aggression. However, 783 incidences of relational aggression were recorded in the remaining 85 movies, averaging 8.7 acts per movie of the total sample. In 2011, a different study looked at aggressive behaviors in 40 novels from the June-July 2008 *New York Times* Best-Sellers for adolescents (Coyne et al., 2011). Their study found that adolescents’ novels contain significant amounts of verbal and physical aggressions – approximately 30.2 acts per hour, with 74 percent having no direct consequences.

Justification of Non-Physical Aggressions

People’s ability to justify non-physically aggressive (or violent) acts is significant because it influences what is considered acceptable social behavior. Anderson and Bushman (2002) identified two important means of justification: Moral justification and victim dehumanization. Common moral justifications include, “it is for the person’s own good,” or the

good of the society, or that personal honor demands the violent action” (pp. 43-44). Victim dehumanization simply removes the need for moral justification by mentally placing victims in an “other” group that does not possess human qualities. This assessment is supported by other studies, which showed that when media aggression is portrayed as justified, realistic, or rewarded, it is more likely to be imitated (Donnerstein, Slaby, & Eron, 1994), and it is also more likely to contribute to viewers’ scripts and belief systems concerning aggressive actions (Coyne et al., 2011).

Role Models and Heroes

Although this paper does not focus specifically on children, they are nonetheless fascinated with superheroes. So a brief consideration of superhero movies’ potential effects on children will be considered. Imitation is a significant factor among children, as research has demonstrated that the way violence is often portrayed makes kids more likely to imitate what they see (Thompson & Yokota, 2000). Children revere superheroes and want to be like them (Bonneville, Kozar, Hussey, & Patrick, 2006; Fingerroth, 2004). Young children in particular tend to incorporate superhero aggressiveness in their play. For instance, one longitudinal study found that boys and girls who regularly watched superhero television shows were significantly more likely to use weapons in their play (Coyne, Linder, Rasmussen, Nelson, & Collier, 2014). Doctors have reported increased injuries of costumed boys ages three to eight years old: Some boys have imitated their super role models by donning Superman or Spiderman costumes and attempting to fly from high heights or climb out windows (Davies, SurrIDGE, Hole, & Munro-Davies, 2007). This behavior is not entirely surprising, given that young children are less likely to understand the difference between reality and fictional depictions in the media, especially when watching live actors (Li, Boguszewski, & Lillard, 2015). This suggests that live-action

superhero movies may have unforeseen effects upon how small viewers perceive the world.

Children tend to identify and have parasocial relations with characters who possess traits that the children value. For instance, when questioned about traits of strength, interpersonal relations, humor, intelligence, and attractiveness, Hoffner (1996) found that attractiveness and intelligence were predictors of parasocial interactions for girls, and attractiveness, intelligence and strength were predictors of parasocial interactions for boys. Hoffner also found that wishful identification (defined as “the desire to be like or behave in ways similar to the character” (p. 390) could be predicted by a character’s attractiveness for girls and intelligence for boys. Understanding children’s forms of hero worship, it is likely that superheroes could influence children to imitate positive and negative behaviors, including non-physical aggressions.

Media Influence on Gender Roles

According to the general aggression model (GAM; Anderson & Bushman, 2002), media influence perceptions and behaviors by contributing to learning scripts and attitudes toward all types of aggression. Parents sometimes allow children to be exposed to movies despite PG-13 or R ratings, which can be problematic because children’s experiences are limited, they are particularly prone to obtain cues about gender roles from media (Coyne, Linder, Rasmussen, Nelson, & Collier, 2014; Pope, Phillips, & Olivardia, 2000). For instance, in one longitudinal study tracking the effects of superhero exposure on children, Coyne et al. (2014) found that boys who watched more superhero shows on TV had higher levels of male-stereotyped play than the control group.

Other research has focused on adults. One study examined female subjects’ relationships with female action heroes and found that the desire to be like a female television or movie action hero led to increased aggressive feelings and behaviors, including relational aggression

(Greenwood, 2007). Viewing socially aggressive media characters can lead to long-term effects as well. Huesmann et al. (2003) demonstrated this by linking perceived similarities with aggressive television characters during childhood to increased relational aggression in adult women.

These studies highlight that media can contribute to attitudes towards non-physical aggressions in children and adults, for better or for worse. Because media sometimes portray females as more verbally aggressive (Glascock, 2013) and more relationally aggressive than males (Coyne, Robinson, & Nelson, 2010; Coyne & Archer, 2004), this study looked for gender stereotypes by comparing the amount of verbal and relational aggressions carried out among superhero men and women.

The General Aggression Model (GAM)

Aggression in media has received increased attention by scholars during the past decade, with nearly all studies agreeing that viewing violence and other aggressive behaviors on television and movies lead to short- and long-term aggression in viewers. What scholars do not agree on are the underlying reasons for why this happens, although explanations often overlap or build upon one another (Huesmann et al., 2003).

The concepts of this thesis are based upon and supported by the GAM (Anderson & Bushman, 2002). The GAM is an overarching theory that attempts to account for all factors leading to aggression and violence. It combines aspects of several psychological and communication learning theories – all of which have been used extensively to study aggression and violence – into one unified model. These theories include cognitive neoassociation theory, Bandura's social cognitive theory, Huesmann's script theory, Zillmann's excitation transfer theory, and social interaction theory (Anderson & Bushman, 2002).

Cognitive Neoassociation Theory

The original frustration-aggression hypothesis (Dollard, Doob, Miller, Mowrer, & Sears, 1939) stated that hostility is always a result of frustration. The authors defined frustration as the temporary or permanent interference of a goal-oriented task and eliminated the broader meaning of feeling emotional frustration. The frustration-aggression hypothesis posited that the degree of hostility generated could be measured by the strength of an individual's desire to accomplish a task, how much the task was being frustrated, and the number of times objectives are thwarted (Dollard et al., 1939). Fifty years later, Berkowitz (1989; 1990) adjusted the theory to state that frustration is one of many factors contributing to hostility, and that factors may work individually or collectively in creating an aggressive outburst. These components may include anything creating a "negative affect" (p. 68) such as physical discomfort or pain, the expression of opinions that are expressly different, existing feelings of sadness or depression, or even neutral stimuli that are present during an unpleasant experience.

The updated frustration-aggression hypothesis also agrees with social cognitive theory (Bandura, 2001a) that people have the ability to control aggressive reactions due to social backlash or personal restraints. However, personal restraint may weaken when a sequence of frustrating events (related or unrelated to a specific goal) occurs.

Social Cognitive Theory

At the core of social cognitive theory – and the GAM by extension – is the consideration of human agentic factors (Bandura, 2001b; Bandura, 2001a; Anderson & Bushman, 2002). The human abilities to be self-aware, self-regulate and make conscious choices comprise many factors such as intention, foresight, planning, self-reflection, social and environmental influences, personal standards and objectives, and the quality of cognitive function. These

personal influences interact with behavioral patterns and environmental aspects to influence people's learning and decision making (Bandura, 2001a; Bandura, 2001b).

The tendency for people to learn about the world – intentionally or unintentionally – through media consumption was emphasized by Kort-Butler (2012). After content analyzing three superhero cartoons she noted that, like other common depictions of criminals on TV, criminals were portrayed in ways that made them responsible for their actions, greedy, and different from regular, law-abiding people; as opposed to depictions of criminals as constructs of a flawed society. The author agreed with and quoted Gregg Barak (1994; quoted in Kort-Butler, 2012), who said, “Media representations are the primary way in which most Americans learn about and make sense of crime and justice.” Social cognitive theory posits that people are tremendous observational learners, and beliefs and thinking can be adopted on individual and societal scales. Mediums such as television and movies have the added ability to communicate through symbols, which may increase a message's value and influence. These learning and decision making variables are significant in understanding why and when people might act aggressively (Bandura, 2001a; Bandura, 2001b).

This is why Bandura also stated that personal and social desensitization occurs when damaging behaviors are portrayed as worthy moral causes. They displace responsibility for actions, ignore or minimize the outcome of harmful deeds, dehumanize victims or make the victims appear to be deserving of their suffering (2001a).

Script Development: Learning Aggression through Imitation

The General Aggression Model (Anderson & Bushman, 2002), incorporates Huesmann's script theory (Huesmann & Eron, 1989), which states that individuals develop cognitive scripts that tell them how to act in particular instances. Media contribute to the formation of short- and

long-term scripts by providing behaviors to observe. Thus the more an aggressive behavior is observed, the more it may be interpreted as a normal and acceptable in most situations. The GAM states that these observations mix with other factors such as personality, emotional arousal, experiences, and situational context, to make viewers more likely to act out aggressively.

Numerous studies have confirmed the veracity of developing cognitive scripts through imitation in general and media consumption in particular. In their seminal study on learning aggression through imitation, Bandura, Ross and Ross (1961) introduced 36 boys and 36 girls ages 37 to 69 months to different adult role models. One of the models displayed aggressive behavior by beating on a Bobo doll, while the other displayed no hostile behavior. The children's play was then observed and all but two of those exposed to the aggressive adult were found to imitate his physical and verbal hostilities, as well as nonaggressive speech. On the other hand, those not exposed to an aggressive model rarely enacted such behavior. Of course, script theory – and the GAM, which incorporates script theory – state that the more experience an individual has, the less likely he is to be influenced by observing a single act of aggression (Huesmann & Eron, 1989). Thus children are the most vulnerable observers of hostilities.

Individual Factors within the GAM

The GAM assesses aggression and violence by looking at individual factors including personality, genetic predispositions, gender, beliefs and attitudes, values, long-term goals, scripts, priming, and cognitive ability. Tracking and linking these factors can be tricky for researchers. One study that fit within the GAM's framework was Eyal and Rubin (2003), who found that more aggressive personalities tend to seek out and watch violent media. Their study also concluded that media violence is more likely to educate aggressive personalities about

hostile attitudes than non-aggressive personalities.

Among psychologists who study human temperament, some have identified what is known as the Big Five personality traits: Agreeableness, conscientiousness, neuroticism, openness, and extraversion. One study (Bartlett & Anderson, 2012) correlated subjects' personalities with aggressive and violent behavior. They found that some traits can contribute directly to physical aggression or indirectly through aggressive emotions or attitudes. Bartlett and Anderson found direct but small positive correlations between physical aggression (such as hitting) and extraversion and openness, and a larger, indirect link between physical aggression and neuroticism. On the other hand, for violent behavior (such as attacking with a weapon), only neuroticism contributed positively (though indirectly).

Personal as well as external factors such as unpleasant experiences or environments can combine with a hostile situation (perceived or real) to create a heightened internal state, which affects a person's immediate appraisal of the situation. An appraisal of the situation (also affected by cognitive ability and time) will lead to a thoughtful (non-aggressive) or impulsive (aggressive) action (see Figure 1).

Excitation Transfer

Excitement is a state of arousal (which includes physical responses such as increased heart rate and heavy breathing) that encompasses all strong emotions – exultation, pleasure, hate, grief, frustration, rage, sexual arousal, etc. Excitement leads to increased activity in individuals, especially pleasure seeking (Zillmann, 2000). Excitation transfer theory essentially states that excitement may be caused by an event or medium, which may then be transferred to another unrelated event (Zillmann, 1983). The theory focuses on an individual's disposition, the excitatory reaction, and an experiential factor which combine to create a person's emotional state.

The experiential factor includes the possibility that people may become aware of their response to stimulus, then monitor and consciously alter their emotional states. In fact, when a person becomes aware of a link between an event and their emotions they are more likely to control those emotions (Zillmann, 1983). In terms of violent media, excitation transfer theory essentially states that, provided audiences consider the circumstances safe and rewarding, they experience excitement from watching violence (Zillmann, 2000). The GAM incorporates excitation transfer's insights, especially to explain media's potential effects on aggression.

Social Interaction Theory

Social interactionist theory (Tedeschi & Felson, 1994) focuses on individuals in coercive (hence social) situations. It operationally defines coercion as “an action taken with the intent to impose harm on another person or to force compliance” (p. 176) and violence as “redressing grievances and as a form of social control” (p. 175). (These definitions are not used by the GAM, but they are useful in understanding social interactionist theory.) Actors are seen as goal-oriented decision makers, with many factors contributing to choices – learned scripts, the extant relationship between actors, motivation, emotions, and conversations.

Social interactionist theory states that the act of coercion itself has many motivations, including excitement or amusement, the acquisition of commodities, services, money, information, or security. It can even be used to form reputations, or exact revenge or justice. Whatever the motivation, the theory assumes that many actors believe their actions to be justified.

The GAM in Summary

As mentioned earlier, the GAM incorporates the social and coercive principles of social interactionist theory, as well as the insights and assumptions from the other theories, in an effort

to provide a comprehensive understanding of the variables of human aggression. As outlined in Figure One, biological, environmental, and personality factors all combine when individuals are confronted with potentially anger-inducing episodes. According to the GAM, these individual factors and the situation combine to create a current internal state, which may lead to thoughtful actions (acting without aggression or violence) or impulsive actions (acting with aggression or violence). The thoughtful or impulsive response affects the social encounter, at which point the episode may be escalated or abated.

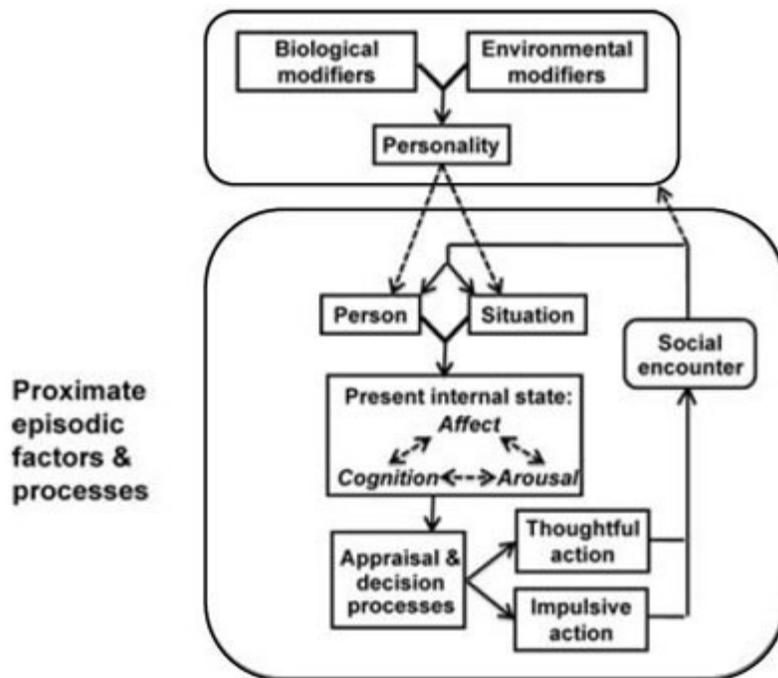


Fig. 1. Anderson and Bushman's GAM: How episodes are processed (from DeWall, Anderson, & Bushman, 2011).

Research Questions & Hypotheses

In order to better understand what viewers are consuming, this study's questions and hypotheses are directed toward quantifying the amount and types of non-physical aggression consumed by audiences.

RQ1: How frequently do non-physical aggressions occur in superhero movies? How many are initiated by superheroes and villains? Is there a significant difference between the number of non-physical aggressions initiated by superheroes and villains?

RQ2: How frequently does verbal aggression occur in superhero movies? How many are initiated by superheroes and villains? Is there a significant difference between the number of verbal aggressions initiated by superheroes and villains?

RQ3: How frequently does relational aggression occur in superhero movies? How many are initiated by superheroes and villains? Is there a significant difference between the number of relational aggressions initiated by superheroes and villains?

RQ4: How frequently does violent ideation occur in superhero movies? How many are initiated by superheroes and villains? Is there a significant difference between the number of violent ideations initiated by superheroes and villains?

RQ5: When superheroes and villains engage in non-physical aggressions, how often does it result in punishment, reward or no consequences?

H1: Superheroes' non-physical aggressions will be portrayed as justified significantly more often than villains.

H2: Females will be significantly more likely to initiate verbal aggressions than males.

H3: Females will be significantly more likely than males to initiate relational aggressions.

Method

Sample

A list of films was obtained by selecting all movies from Box Office Mojo's list of superhero movies (Superhero: 1978-Present; see Appendix A). In order to obtain the most relevant sample, the top 25 grossing superhero movies produced from 2005 through 2015 were selected.

Methodology

A content analysis was used to answer research questions and test hypotheses. Content analysis is a good way to measure recorded media because it systematically, objectively, and quantitatively measures communications. It is especially well suited to describing and comparing message content to real-world events (Wimmer & Dominick, 2011), such as comparing media aggression to real-life aggression. As with any empirical method, content analysis has its limitations. It is often time-consuming, expensive, and can be filled with coder inconsistencies. Although they provide a useful beginning point for media effects studies, they do not measure the actual effects or the degree of effects upon audiences. Moreover, researchers occasionally use conflicting and arbitrary definitions for samples, genre, and variables, which can lead to differing results and conclusions (Wimmer & Dominick, 2011). As mentioned earlier, this very issue has caused problems among scholars who have investigated social, indirect, and relational aggression (see Archer, 2001).

Coding Variables

Superhero. A superhero was operationally defined as a self-aware being possessing and using superhuman abilities to fight villains or otherwise rescue people, where *superhuman* used the Merriam-Webster definition of "exceeding normal human power, size, or capability"

(“superhuman,” n.d.). Superhuman abilities could be biological (such as Captain America) or supplied through magical or technological means (such as Dr. Strange or Iron Man, respectively).

Villain. A villain was operationally defined as a self-aware being who engaged in criminal behavior, or served willingly under a villain. Criminal behavior involved infringement upon another’s inalienable rights, such as kidnapping, stealing, terrorizing, or physically harming. Criminal behavior did not need to involve specific societal laws being broken, since laws often differ greatly from one place to another and are not always based on universal “human rights.” The Joker from *The Dark Knight* (De La Noy & Nolan, 2008) was a prime example of a villain, as were the terrorists in *Iron Man* (Arad & Favreau, 2008).

Aggression. Anderson and Bushman’s (2002) definition of aggression was used: “Any behavior directed toward another individual that is carried out with the *proximate* (immediate) intent to cause harm” (p. 28). This definition did not include aggressions against plants or objects that had no emotions, such as robots and computers. For instance, in *The Dark Knight* the Joker (De La Noy & Nolan, 2008) goaded a police guardsman into verbally and then physically attacking him so that the Joker could escape. Because the Joker *wanted* to be aggressed, the incident was not counted.

Three types of non-physical aggression were identified: Verbal aggression, relational aggression, and violent ideation. When different aggression types were acted out together, they were counted as two acts. For example, brandishing a knife while speaking threats would be coded as two counts of verbal aggression, one spoken and one nonverbal.

Verbal aggression was operationally defined as a verbal confrontation that attempted to harm psychologically or emotionally, but was not meant to injure a relationship. Verbal

aggression always involved direct confrontation with the victim. It was recorded as one of two types: Spoken (such as ridicule, sarcasm, or yelling) or nonverbal (such as giving an angry look or ignoring someone when they spoke). An example of a spoken verbal aggression occurred when the terrorist Raza kidnapped Tony Stark and threatened Stark with death if he does not build a rocket (Arad, Feige, & Favreau, 2008).

Similarly, a nonverbal aggression occurred in *Hancock* (Bryce & Berg, 2008) when the unhappy hero coerced Mary (Hancock's former wife, unbeknownst to him) to his trailer to discuss where she obtained her superpowers. After some uncomfortable silence Mary said, "Do you want to do it?" and Hancock's obtuse, "Do what?" was met with an eye roll.

Relational aggression was operationally defined as a communication that attempted to harm someone's relationship or social status. The relationship could be between the aggressor and victim or between the victim and someone else. Relational aggression consisted of three subcategories: Direct, indirect, and nonverbal. Direct relational aggression included overt attempts to harm others by damaging relationships or social status (e.g. threatening to destroy a relationship, inflicting emotional harm through the abuse of a loved one, ostracism, blackmail, or emotional abuse), or by using a relationship to cause harm. For example, in *X-Men Origins: Wolverine* (Donner & Hood, 2009), Stryker kidnapped and threatened to hurt Silverfox's sister in order to get her to seduce Wolverine. In another example, the Joker also used direct relational aggression against Batman when he kidnapped two people important to the Dark Knight – Harvey Dent and Rachel – and tried to force the hero to choose which one he would save from death (De La Noy & Nolan, 2008).

Indirect relational aggression sought to harm a relationship or social status through covert means such as gossiping, underhanded ostracism, secretly destroying relationships, etc. *Spider-*

Man 3 (Caracciolo & Raimi, 2007) included an instance of this when Peter Parker brought a date – whom he had not real romantic interest in – to his ex-girlfriend’s workplace in an attempt to hurt his former partner.

Nonverbal relational aggression attempted to harm relationships and social status using nonverbal means such as dirty looks, rolling eyes, or giving someone the silent treatment. In *The Avengers* (Alonso & Whedon, 2012) Nick Fury used this against the World Security Council when he subordinately refused an order to launch a nuclear missile at New York City, then terminated the video conference connection before the council could object further.

Violent ideation involved someone thinking, plotting, wishing or discussing harm upon another. Violent ideation was subdivided into verbal and relational ideation. Verbal ideation involved thinking, plotting, discussing or wishing for verbal aggressions, such as expressing threats when the victim was not present or dreaming of telling someone off. An instance of this was seen in *Guardians of the Galaxy*, when Star Lord managed to save Gamora from the murderous Drax by persuading him that she could help Drax get the vengeance he really wanted: “She betrayed Ronan. He’s coming back for her. And when he does, that’s when you...” (Star Lord draws a finger across his throat).

Initiator. This was defined as any individual initiating a non-physical aggression. The character’s name was recorded, and the website www.imdb.com was used to discover the names of unfamiliar initiators. When a name could not be found a simple description was used such as “Officer 1” or “Guard 1.” If the aggression occurred from a group, a description of the group was recorded such as “angry mob” to describe the people trying to kill Reese in *The Dark Knight* (De La Noy & Nolan, 2008).

Victim. The victim was defined as the character that the initiator attempted to harm. The

character's name was recorded, and where the victim was unfamiliar the website www.imdb.com was used to find the name. When a name could not be found a simple description was used such as "Thug 1" or "Bystander 1." If an aggression was aimed at a group, a description of the group was recorded, such as "bank patrons" for bystanders in *The Dark Knight's* (De La Noy & Nolan, 2008) opening scenes.

Gender. The gender of initiators and victims was recorded as male, female, or unknown. When aggressions came from a group of people, the gender was identified as "both."

Relationship. Because portrayals of relationships in media can contribute to learning scripts, the relationship between of the initiator and victim was coded. The relationships consisted of hero, villain, non-hero friend or family of a superhero, bystander, and other. Occasionally a character's relationship would change during the plot, perhaps from villain to hero or vice-versa. In all cases the character's *true* relationship was always coded – i.e., if a character began as a regular person but later became a superhero, his relationship was marked as "other" (or other applicable relation) until the time he had a change of heart and decided to be a superhero. If, however, a character was plotting all along to betray a superhero, they were coded as a villain and not the pretended relation.

Justification. Acts were coded as unjustified when committed to merely achieve a self-serving objective, such as when members of the Foot Clan (Crown & Liebesman, 2014) terrified captives with threats to gain their compliance, or Tony Stark's response to a boy who just explained that his father abandoned had abandoned him and his mother: "Which happens. Dad's leave; no need to be a pussy about it" (Alonso & Black, 2013). Alternately, acts were coded as justified when the perpetrator appeared to have a valid reason for the act, such as upholding morality or justice (e.g. threatening a villain committing a crime) or responding to another

initiator's non-physical aggression. To be considered justified, acts also needed to be proportionate to the hostility or crime committed; for example, a superhero threatening to kill a villain because the villain spoke ill of the superhero's dead friend would be considered unjustified.

Consequences. Like context, the GAM states that the portrayal of consequences can influence learning scripts and behaviors (Anderson & Bushman, 2002). Non-physical acts of aggression were coded as rewarded, punished and having no consequences. Rewarded consequences meant that the aggressive act succeeded in its attempt to harm, or led to immediate or long-term positive results such as peer approval, increased control over the victim, reduction of annoyance because the victim stops talking, etc. Punished consequences led to short- or long-term negative results for the aggressor, such as when Captain America's team fell apart in *The Avengers* after arguing amongst themselves, which allowed the prisoner Loki to escape (Alonso & Whedon, 2012).

Coding

The unit of analysis was an individual act of non-physical aggression. This study sought to minimize limitations by adapting the coding guidelines and sheets from Leach (2014), whose codebook was borrowed and adapted from Coyne et al (2011). Leach's master's thesis used a content analysis to measure physical and non-physical aggressions in children's story books. Her codebook was used to obtain detailed information on the same types of non-physical aggressions, with similar research questions and hypotheses for children's books. Additionally, the coding quantified various aspects of non-physical aggressions emphasized by the GAM, such as the frequency of behaviors, behavioral rewards and justifications.

In the beginning the schedules of the two coders did not line up, so coder one spent three

one-hour sessions individually reviewing the coding guidelines, variables, and definitions. Two movies outside the sample were then coded for practice. When it was found that coder two was still unavailable for training, coder one began coding the movies in an effort to meet deadlines, eventually coding the entire sample.

The training of coder two then commenced, occurring during three sessions, two hours each. The two coders reviewed the coding guidelines, definitions, units of analysis, and variables, then practiced identifying aggressions in two superhero movies not included in the sample.

In order to obtain intercoder agreement, a simple random sample of three movies was selected from the overall movie sample by placing all movie names in a hat and drawing out three. Coder two independently then coded the three movies.

Krippendorff's *alpha* was used to obtain reliabilities by entering data into Geertzen's (2012) online calculator. Unfortunately, when coding results were compared, it was discovered that critical errors were made in the gathering of data, and all of the agreement levels fell far below an acceptable level of .7 agreement. Rater agreement was measured for the following variables: Aggression type ($\alpha = -0.258$), which included verbal aggression, relational aggression, and violent ideation; aggression subtype (-0.195), which included verbal aggression (verbal/nonverbal), relational aggression (direct/indirect/nonverbal), and violent ideation (relational/verbal); initiator gender (-0.325); victim gender (-0.335); initiator relationship (-0.223); victim relationship (-0.226); justification (-0.314); and consequences (-0.24). When combined, an overall intercoder reliability of $\alpha = -0.2$ was obtained. These lack of agreements indicated a serious validity problem, which is discussed at length in the limitations section.

Results

This study coded the frequency of non-physical aggressions in the top 25 grossing superhero movies from 2005-2015, totaling 54 hours and 21 minutes of viewing time. The five research questions examined frequencies of non-physical aggressions and aggression types (verbal aggression, relational aggression, and violent ideation). Hypothesis one looked at justification of non-physical aggressions, and hypotheses two and three investigated the portrayal of stereotypical non-physical aggressions committed by females.

The Use of *Chi Square*

In addition to observing frequencies, a *chi square* goodness of fit sample test was run for each research question and hypothesis. In statistics a null hypothesis is the expected frequency for each category, which means that no relationship exists between two variables. However, Pearson's *chi square* is a formula that can be used to verify the probability that nominal-level variables are correlated, significantly likely to be more frequent than another variable, representative of the population (rejecting the null hypothesis), or if they are due to chance (confirming a hypothesis). The standard measure of acceptable probability is $p \leq .05$, meaning there is a five percent chance or less that the results are random. The p value is supported by the *chi square* value – the larger the value, the more likely the null hypothesis can be rejected (Agresti, 2007).

RQ1: How frequently do non-physical aggressions occur in superhero movies? How many are initiated by superheroes and villains? Is there a significant difference between the number of non-physical aggressions initiated by superheroes and villains?

A total of 4,296 aggressions were identified, averaging 171.8 per movie, or 1.3 per minute (see Tables 1 and 2). 1,354 superhero-initiated non-physical aggressions were recorded,

which accounted for 31.5 percent of all hostilities. Villains initiated only slightly more, totaling 1,408, or 32.8 percent of hostilities. 773 aggressions (34.5 percent) were instigated by people other than superheroes and villains.

A *chi* square goodness of fit test was used to see if there was a significant difference between superheroes and villains initiating non-physical aggressions, $X^2(2, N = 4,296) = 19.842$, $p < .000$. Results indicated that villains were significantly more likely to engage in non-physical aggressions than superheroes.

RQ2: How frequently does verbal aggression occur in superhero movies? How many are initiated by superheroes and villains? Is there a significant difference between the number of verbal aggressions initiated by superheroes and villains?

A total of 2,242 verbal aggressions were coded, making verbal aggressions by far the most common form of antagonism (see Table 1). Superheroes instigated 728 (32.5 percent) of these, whereas villains initiated 741 (33.1 percent).

A *chi* square test was used to see if there was a significant difference between superheroes and villains initiating verbal aggressions, $X^2(1, N = 2,242) = 1.665$, $p > .197$. Results indicated that neither superheroes nor villains were significantly more likely to initiate verbal aggressions.

RQ3: How frequently does relational aggression occur in superhero movies? How many are initiated by superheroes and villains? Is there a significant difference between the number of relational aggressions initiated by superheroes and villains?

Relational aggression frequencies were the second most common type of non-physical aggression (see Table 1). 1,582 instances were recorded, with 489 (30.9 percent) initiated by superheroes and 446 (28.2 percent) by villains.

A *chi* square test was used to see if there was a significant difference between superheroes and villains initiating relational aggressions, $X^2(1, N = 1,589) = 19.494, p < .000$. Results indicated that superheroes were significantly more likely to initiate relational aggressions.

RQ4: How frequently does violent ideation occur in superhero movies? How many are initiated by superheroes and villains? Is there a significant difference between the number of violent ideations initiated by superheroes and villains?

Of the three types of non-violent aggressions, violent ideation occurred with the least frequency but was more common among villains. In answer to research question four, a total of 472 instances of violent ideation were recorded. Of these, 29 percent (137) originated from superheroes, and 46.6 percent (220) from villains (see Table 3).

A *chi* square test was used to see if there was a significant difference between superheroes and villains initiating violent ideations, $X^2(1, N = 464) = 14.002, p < .000$. This indicated that villains were significantly more likely to initiate violent ideations.

Table 1

Non-violent aggression frequencies in top 25 grossing superhero movies, 2005-2015

Aggression Type, Subtype	n	%
Verbal	2,242	52%
<i>Verbal</i>	1,753	78%
<i>Nonverbal</i>	489	22%
Relational	1,582	37%
<i>Direct</i>	789	50%
<i>Indirect</i>	518	33%
<i>Nonverbal</i>	275	17%
Violent Ideation	472	11%
<i>Relational</i>	19	4%
<i>Verbal</i>	453	96%
Total	4,296	

Note. Subtype percentages are of their respective aggression type.

Table 2

Non-violent aggression averages in top 25 grossing superhero movies, 2005-2015

Aggression Type	Average Per Movie
Verbal Aggression	90
Relational Aggression	63
Violent Ideation	19
Total per movie	171.8
Total per minute	1.3

Note. Total viewing time was 3261 minutes, or 54 hours 21 minutes.

Table 3

Initiators of non-violent aggressions

Aggression	Superhero		Villain		Other		Total	
	n	%	n	%	n	%	n	%
Verbal	728	32%	741	33%	773	34.5%	2,242	52%
Relational	489	31%	446	28%	654	41.2%	1,589	37%
Ideation	137	30%	220	47%	107	23.1%	464	11%
Total	1,354	31.5%	1,407	32.8%	1,534	35.7%	4,296	100%

RQ5: When superheroes and villains engage in non-physical aggressions, how often does it result in punishment, reward or no consequences?

Because the portrayal of consequences for aggression may influence viewers' learning scripts and attitudes (Anderson & Bushman, 2002), research question five looked into the frequency of depicted consequences. When superheroes engaged in non-violent aggressions, their actions were rewarded 37.4 percent of the time, punished 21.9 percent, and experienced no consequences 40.7 percent of the time. Villain non-physical aggressions resulted in similar ramifications, experiencing rewards, punishments, and no consequences 41.8, 19.4, and 38.8 percent of the time, respectively. The combined non-physical aggressions (for all initiating character types) were remarkably similar, with 38 percent rewarded, 20 punished, and 42 percent experiencing no consequences (see Table 4).

A *chi* square test was used to compare the frequency of superheroes and villains experiencing consequences for initiating non-physical aggressions, $X^2(2, N = 2,761) = 6.164, p < .046$, indicating a significant relationship. When broken down for each consequence, villains were significantly more likely ($p < .023$) to be rewarded for using non-physical aggressions; neither superheroes nor villains were significantly more likely to be punished ($p > .467$); and neither was significantly more likely ($p > .063$) to experience no consequences for initiating non-physical aggressions.

Table 4

Consequences of superhero and villain non-physical aggressions

	Superhero		Villain	
	n	%	n	%
Rewarded	506	37.4%	588	41.8%
Punished	297	21.9%	273	19.4%
No consequences	551	40.7%	546	38.8%
Total	1,354	100%	1,407	100%

Table 5

Consequences for all non-violent aggressions

Consequence	n	%
Rewarded	1,647	38%
Punished	865	20%
No consequences	1,784	42%
Total	4,296	100%

H1: Superheroes' non-physical aggressions will be portrayed as justified significantly more often than villains.

A *chi* square test was run to determine the probability of superheroes engaging in justifiable non-physical aggressions, $X^2(1, N = 2,761) = 947.022, p < .000$, supporting hypothesis one. A simple count of justified and unjustified superhero aggressions also revealed that superheroes were justified 67 percent of the time, while villain aggressions were justified only 10

percent of the time (see Table 6).

<i>Justification of non-physical aggressions</i>				
	Superhero		Villain	
	n	%	n	%
Justified	901	67%	138	10%
Unjustified	453	33%	1,270	90%
Total	1,354	100%	1,408	100%

H2: Females will be significantly more likely than males to initiate verbal aggressions.

A *chi* square was used to determine if females were significantly more likely to initiate verbal aggressions, $X^2(1, N = 2,096) = 54.65, p < .000$. The results indicated that females were significantly more likely to initiate verbal aggressions.

H3: Females will be significantly more likely than males to initiate relational aggressions.

A *chi* square was used to determine if females were significantly more likely to initiate relational aggressions, $X^2(1, N = 1,512) = 40.673, p < .000$. The results confirmed that females were significantly more likely to initiate relational aggressions in superhero movies.

Conclusion of Results

This study found high frequencies of all non-physical aggressions among superheroes and villains. Initiators most of experienced no consequences for their actions 40.7 percent of the time. When consequences occurred, villains' actions were significantly more likely to be rewarded, while superheroes' acts were significantly more likely than villains to be punished. Superheroes were also found to be significantly more likely to initiate justifiable non-physical aggressions. Finally, women in superhero movies were significantly more likely than men to engage in verbal and relational aggressions. The significance of these results are considered in the discussion section.

Discussion

This section will discuss the individual and collective implications of the results. Individually they provide insights into the values and morals of society. As a whole, they are significant because of the potential ability of superhero movies to influence beliefs surrounding non-physical aggressions, with their accompanying consequences for individuals and people.

Overall, villains were significantly more likely than superheroes to engage in non-physical aggressions, although the numbers were close. These frequencies underscored – and questioned – the moral distinction between the “good” superheroes and “bad” villains. The fact that superheroes initiated non-physical aggressions almost on par with villains raises questions about the quality of superhero role models the movies. People have argued that superhero movies, which usually carry a PG-13 or R rating, are not intended for younger children. While that may be true, the film studios are simultaneously marketing superhero toys based on these movies that are “made for more mature audiences” directly to children (Young, 2016). This is a concern because children are generally more vulnerable to media effects due to limited experience, cognitive abilities, and the tendency to imitate their favorite superheroes (Davies, 2007; Coyne, 2016).

The high frequency of non-physical aggressions (averaging 171.8 per movie) also means that an avid moviegoer who attended all of these films would have spent about 54.5 hours in the theaters. According to the GAM (Anderson & Bushman, 2002), this long-term exposure to high levels of non-physical aggressions means a viewer is more likely to experience an increase in hostile attitudes and behaviors. Aggressive people in particular are more likely to seek out media that portray high amounts of aggression. This suggests – hypothetically, as it is unknown if this topic has been researched – that superhero movies would be attractive to such individuals, and

could be a source of reinforcing attitudes and behaviors about non-physical aggressions through long-term exposure.

The number of verbal aggression were almost identical for superheroes and villains, with no significant difference found between the two. The employment of verbal aggressions by villains was expected, as the very concept of a villain is someone who preys on others in order to gain something. However, superheroes' high instigation of verbal aggressions may have several explanations. For one, initiating verbal aggressions is consistent with the superhero persona of someone who does not back down from a confrontation. In addition, superheroes do not represent black-and-white morals as they once did (Young, 2016). They are often portrayed as flawed and vulnerable, and use of verbal aggressions may be one way directors demonstrate those imperfections.

One unexpected discovery was that superheroes were significantly more likely than villains to initiate relational aggressions. This could be explained by the overcharged machismo of many characters desiring to be in charge and using more than just their brawn to do so. Another explanation is that relational aggression, which typically involved explaining a bad guy's misdeeds or evil plot, provided an effective tool in uniting allies against a villain. Although such actions may have been necessary or justified in the films, they displayed a common "us versus them" mentality, which is a contributing factor in the rationalization of aggression behaviors (Anderson & Bushman, 2002).

Superheroes' chronic use of verbal and relational aggressions also suggests some things about audiences: First, society is willing to forgive aggressive characters and behaviors as long as they are used to fight perceived injustices (this sentiment was also observed in the U.S. 2016 presidential election). Second, audiences like to cheer for sharp-tongued heroes who give as

good as they get. It is exciting to watch protagonists who do not bow down (verbally or physically) even when they are outmatched, and audiences often find it satisfying to see superheroes dealing out punishment verbally and physically (Fingerroth, 2004; Wright, 2013).

Violent ideations were common among superheroes and typically consisted of discussing a plan of attack. Villains, however, excelled in violent ideations, and were often shown delighting in the prospect of maiming or killing others as they carried out their schemes. These villainous ideations firmly established them as the bad guys and demonstrated to audiences that remorse was a path for others. In spite of this, a trend of cheering for the villain has become more mainstream in recent years (Toto, 2014; Martin, 2013; Langley, 2012). This raises the question of society's trends toward desensitization and dehumanization. Bandura (2001a) indicated that media can contribute to social desensitization and dehumanization; and Hoffner (1996) found that identification with onscreen characters made children more likely to adopt attitudes depicted by those characters. If true, supervillains in the movies are likely contributing to the desensitization of some viewers.

Another factor with the potential to affect desensitization is the justification of aggressive behaviors (Bandura, 2001a), including non-physical aggressions. This study hypothesized that superheroes' non-physical aggressions would be significantly more likely than villains' to be justified. Results showed this to be true, which is a positive find because moral justification for non-physical aggressions is an indicator that superheroes are morally justified overall.

In contrast, villains in superhero movies were justified only 10 percent of the time, demonstrating their one-dimensional natures as selfish predators. This supports the claim of Kort-Butler (2012) that media often contribute to the stereotype of criminals as different (irresponsible and greedy) from the rest of the law-abiding citizens. On the other hand,

superheroes were portrayed as more conflicted and struggling with concepts of morality (Young, 2016), including initiating unjustified non-physical aggressions about a third of the time.

Interestingly, this mirrors much of America's approach to defense today – obey the rules when needed, but break them as long as it means people are protected and bad guys are stopped.

When consequences were examined for superheroes and villains, few penalties were depicted for initiating non-physical aggressions. When they did occur, rewards were common and punishments were relatively few. Research has shown that media's failure to portray consequences trivializes the seriousness of aggressions, and sends the message that few if any negative consequences result from hostile behaviors (Anderson et al., 2003).

A moral division did seem to exist on a statistical level, as superheroes were significantly more likely than villains to be punished for initiating non-physical aggressions. However, this consequence was offset by the discovery that villains were significantly more likely to be rewarded for their non-physical aggressions. This mixed message implied that good guys get punished for social aggressions but bad guys get rewarded.

Finally, this study found that superhero movies tend to contribute to the stereotype of verbally and relationally aggressive women, also known as the "mean girl syndrome." This depiction of unusually hostile females matches the findings of other studies that examined female aggressions in various media genres (Glascock, 2013; Coyne, Robinson, & Nelson, 2010; Coyne & Archer, 2004), although it is possible that the portrayal of socially aggressive women is intentional and meant to reinforce the idea that women can be as great warriors as the men. Intentional or not, the perpetuation of these stereotypes in superhero films can contribute to negative gender expectations for females and males (Anderson & Bushman, 2002).

Where other studies are concerned, superhero movies share some similarities with other

media genres, particularly in the numbers of non-physical aggression. In sheer number of socially aggressive behaviors, it is comparable to other adult and adolescent media, such as adolescent literature (Coyne et al., 2011), reality and non-reality television (Coyne, Robinson, & Nelson, 2010; Wilson, Robinson, & Callister, 2012); whereas children's television (Glascock, 2013) and literature (Leach, 2014) depicted much lower levels. These consistently high levels of non-physical aggressions likely indicates that media writers and producers are far more interested in providing entertainment than wholesome, family-friendly stories. With the glut of media available today on all types of personal devices, it is also likely that audience expectations for entertainment are at all-time highs; therefore the slower moving, more wholesome stories tend to be reserved for children who typically have more restricted access to personal devices.

The justification of non-physical aggressions among all of these genres and mediums – including superheroes – matched remarkably. These studies reported no consequences as the most common outcome, rewards for social aggressions between one quarter and one third of the time, and few punishments (except Wilson, Robinson, & Callister, 2012, who reported rewards only 8.6 percent of the time). Similarly, unjustified non-physical aggressions were the norm among all of these studies and their genres. These results further indicate a scarcity of family-friendly media now available. While this may mean greater entertainment value, it also means more moral complexity and more social aggressions for all audiences.

Limitations

Some limiting factors influenced the results of this study. First, the sample was by no means comprehensive of the available superhero movies. Numerous studios such as Mirage Comics, Pacific Comics, Grosset and Dunlap, and Dark Horse Comics were not included because their movies were not among the top 25 grossing shows. Second, no content analysis can

predict the potential effects on audiences of viewing non-physical aggressions. This study's purpose was to report the amount of aggressions in superhero movies, not to quantify the potential effects on viewers.

There were several limitations specific to this study that caused critical errors in validity, which made the results unsound. In a content analysis intercoder reliability is paramount. It helps demonstrate that the measures used to gather the data actually measure what they say they are measuring, which substantiates that accuracy of the collected data. It also lends credence to the study's empirical status, because it demonstrates that the process can be replicated. Neuendorf (2002) summed this up when she said, "Given that a goal of content analysis is to identify and record relatively objective (or at least intersubjective) characteristics of messages, reliability is paramount. Without the establishment of reliability, content analysis measures are useless" (p. 141). It is unlikely that the codebook's framework and measures led to the lack of coder agreement, because these were used successfully in two previous studies (Coyne et al., 2011; and Leach, 2014). A more likely contributing factor to understanding would have involved the lack of experience of coder two, who had never participated in a content analysis or been trained in graduate research. Coder two also spoke English fluently; nevertheless English was a second language, which may or may not have been a contributing factor in communication.

In this study two things could have prevented errors during the data gather process: Better training (including an intercoder reliability test during training) and employing safekeeping measures to ensure coder entries could be matched.

Better training

Three training sessions were held, lasting two hours each. The coding protocols and definitions were reviewed during each session and coding was practiced on two superhero

movies not included in the sample. The weaknesses of the training were twofold. First, not enough time was spent learning the coding guidelines. Six hours were spent training, which was considerably less than other published studies. For instance, Coyne et al (2011) had five coders and spent 12 hours in training; and Glascock's (2013) three coders training included coding six to seven episodes of television shows.

Second, an initial intercoder reliability was not established during training. This is because the second coder was unavailable for several weeks; and since deadlines were approaching, coder one commenced coding and all movie data in the sample was collected before coder two was trained. This should have been prevented by waiting to code until the second coder was available, moving the deadline goals back, or by acquiring a different coder who could begin immediately. Then an initial reliability check ensuring $p > .80$ (or Krippendorff's $\alpha > .80$) would have been the best indicator that coders were in agreement and ready to proceed with the rest of the coding. This approach would have been aligned with other studies such as Wilson, Robinson and Callister (2012), who reported that after each episode during practice, "coders would watch the episode again to align the data for comparison" (p. 9). Similarly, Glascock (2013) trained until a reliability of .70 or more was achieved.

Safekeeping measures

Once coding commenced, the coders were not able to consistently identify the unit of analysis (defined as a single act of non-physical aggression), and unit entries varied so significantly that it was impossible to line up entries for the same act of aggression. Because of this it was difficult to know just how accurately other variables would have agreed, if an understanding of the unit of analysis was recognized. Although Krippendorff's alpha is able to account for accidental agreements, it is unlikely that it could compensate for so many

mismatched units. Even with the initial reliability tests not being run, the situation may have been repaired somewhat by recording a “time stamp” or short description with each recorded aggression. Unfortunately, none of these safekeeping measures were used.

Future Research

An obvious candidate for future studies on superhero media is a content analysis of physical violence in superhero movies. A content analysis of the portrayal, prosecution and treatment of villains could also provide insight into what superhero movies teach about criminals. Other avenues for research may include the prominence and effects of children and teens viewing superhero films and television, perhaps comparing beliefs about acceptable uses of violence of those who watch superhero movies as opposed to those who do not.

Conclusion

The popularity of superhero movies is salient because the heroes that a society promotes reflect its aspirations and values (Anderson & Cavallaro, 2012); and those heroic stories help teach and preserve those ideals, for better or worse. Put on a pedestal, heroes – super or not – can also become kindling for people’s fire of ambition. “To have no heroes is to have no aspiration, to live on the momentum of the past, to be thrown back upon routine, sensuality, and the narrow self” (Cooley, 1902, p. 280). The question this study addressed, then, is what type of heroes (or compelling villains) are being promoted in movies?

When examined for social behaviors during the past decade, this paper found superheroes on the big screen proved nearly as aggressive as their villain counterparts, although hero hostilities were justified more often. Their movies also contributed to aggressive stereotypes about women. While these elements may make good entertainment, the effects of viewing so much aggression has been shown to increase hostility in viewers and contribute negatively to

their views of human interaction. With this understanding, audiences and studios may be inclined to support future superheroes that inspire a kinder society.

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Appendix A: List of Coded Superhero Movies

Obtained 11/27/2015 from Superhero: 1978-Present

<http://www.boxofficemojo.com/genres/chart/?id=superhero.htm>

Ant-Man	Superman Returns
Avengers: Age of Ultron	Teenage Mutant Ninja Turtles (2014)
Batman Begins	The Avengers
Captain America: The First Avenger	The Dark Knight
Captain America: The Winter Soldier	The Dark Knight Rises
Guardians of the Galaxy	Thor
Fantastic Four (2005)	Thor: The Dark World
Hancock	The Amazing Spider-Man
Iron Man	The Amazing Spider-Man 2
Iron Man 2	X-Men: Days of Future Past
Iron Man 3	X-Men: The Last Stand
Man of Steel	X-Men Origins: Wolverine
Spider-Man 3	

Appendix B: Coding Guidelines

GENERAL

THE GUIDELINES BELOW ARE THE SAME FOR INITIATOR AND VICTIM

Superhero: A self-aware being possessing and using superhuman abilities to fight villains or otherwise rescue people, where *superhuman* used the Merriam-Webster definition of “exceeding normal human power, size, or capability” (superhuman, n.d.). A superhero’s abilities may be biological, magical, or technologically provided.

Villain: A self-aware being who engages in criminal behavior. Criminal behavior will involve infringement upon another’s inalienable rights, such as kidnapping, stealing, threatening, terrorizing, or physically harming. It does not need to break a specific societal law, since laws can differ significantly from one region to another and are not always based on human rights.

Initiator: Write down the name of the character that began the act of aggression. If the initiator for an act of aggression was not an individual but a group, write down a description of the group.

Victim: Write down the name of the person who received the aggression. Do not code aggressions against plants or non-living objects that do not possess emotions (e.g. robots, computers).

**A great way to identify character names is to use www.imdb.com. In cases where a character’s name is not available, give them a descriptor and then use it throughout the movie (including the character sheet). For example, “thug 1,” “bystander in plaza,” etc.*

Gender

[1] *Male*

[2] *Female*

[3] *Unknown*

[4] *Both*: Used when the initiator or receiver is composed of a group of people with men and/or women.

Relationship: Code both the initiator’s relationship to the victim and the victim’s relationship to the aggressor. Be sure to always code a person’s true relationship at the time of the aggression. This means that if a villain is pretending to be a superhero’s friend while planning to betray him all along, the villain is marked as “villain,” not “non-hero friend or family.” Coding the true relation also means that a person’s relation may change: Especially in origin stories, a character may begin being coded as an ordinary person and later be coded as a superhero, or a non-hero friend may later be coded as a villain.

A simple way to do determine relations is to say, “The initiator is a…” or “The victim is the initiator’s…”

**When in doubt, write down more information than is needed and we can check it later!!*

- [1] *Hero*
- [2] *Enemy or villain*
- [3] *Non-hero friend or family (of a hero)*
- [4] *Bystander*
- [5] *Other*

AGGRESSION TYPE

Aggression is defined as actions taken with the intent to hurt or harm another individual who does not wish to be harmed. This definition excludes aggressions carried out against plants and objects that have no emotions (e.g. robots, computers).

Note: When different aggression types are acted out together, count them as separate acts of aggression. For example, brandishing a knife while speaking threats would be both coded as two counts of verbal aggression, one spoken and one nonverbal; or speaking aggressively while walking in an obviously threatening manner toward someone would also be counted as separate acts.

[1] Verbal Aggression

This is a verbal confrontation that attempts to psychologically hurt, but is not aimed to harm a relationship. It may be solely between the aggressor and victim or in front of others (public humiliation).

Verbal aggression always involves direct confrontation – it is never indirect!

Behaviors (direct, nonverbal)

[1] Direct

Examples:

- Ridicule
- Sarcasm
- Threats
- Yelling / Arguing

[2] Nonverbal

Examples:

- Walking aggressively toward someone
- Sharpening a knife in a threatening manner
- Hateful looks

[2] Relational Aggression

This is operationally defined as a verbal confrontation that attempts to harm someone's social

status or relationship. The relationship can be between the aggressor and victim, or between the victim and someone else. The key for identifying relational aggression is to remember that it must aim to harm social status or a relationship. See examples below.

Behaviors (direct, indirect, and nonverbal)

[3] Direct Relational Aggression: Obvious and/or confrontational behaviors which directly harm others through damage (or threat of damage) to relationships, or feelings of acceptance or friendship. It may involve group exclusion. DRA is usually verbal in nature, may be reactive or proactive.

Examples:

Threaten to destroy friendship/relationship

Direct social exclusion

Blackmail

Make friends under false pretenses

Emotional abuse

Using somebody (developing a relationship) for personal gain and then ending the relationship

[4] Indirect Relational Aggression: Consistent with indirect aggression, covert and/or non-confrontational behaviors harm others through damage to relationships or feelings of acceptance, friendship, or group inclusion. It may be verbal or nonverbal, reactive or proactive.

Examples:

Covert social exclusion

Covertly destroying a relationship

Gossiping

Covertly shifting alliances (treasonous conduct, backstabbing)

Being friendly with a friend's enemies (loyalty issues)

Sharing an ally's negative thoughts about a particular person with that person

[5] Nonverbal Relational Aggression: Nonverbal and gestural behaviors intended to exclude, alienate or embarrass others.

Examples:

Silent Treatment (ignoring, avoiding)

Rolling eyes (showing derision, ridicule, mockery)

Dirty or disgusted looks

Destroying or stealing property to cause harm

[3] Violent Ideation: Involves thinking, plotting, planning, or discussing aggressive behaviors.

It may be as detailed as a formulated plan, without the act itself. For example: A traitor that trained an army to battle against the king.

Behaviors (relational, verbal/nonverbal)

[6] Relational (direct, indirect, nonverbal)

Examples:

Dreaming about stealing his girl
Wishing to humiliate her in front of her peers

[7] Spoken/Nonverbal

Examples:

Planning or discussing violence
Dreaming of telling someone off

JUSTIFICATION

Justification is the *reason* for initiating a NPA against a victim.

[1] Justified: The act should be coded as “justified” should the perpetrator be seen to have a valid (usually moral) reason for the aggression. These might include:

1. The aggression is necessary to achieve a moral or greater good.
2. Acts that are a reaction to another’s aggression should also be coded as justified, provided the act is proportionate and not excessive (e.g. someone flips off the superhero so he retaliates by turning all his friends against him or setting his car on fire).

Examples:

Superheroes threaten a person to let hostages go... or else
Innocent people are being victimized by villains
Villains are stealing

[2] Unjustified: Aggression is “unjustified” if it is acted to simply achieve a selfish goal.

Examples:

A superhero feels insecure so he verbally lashes out at a friend
A police officer puts a criminal in jail and is verbally abused by the criminal’s relative for doing so
A villain terrifies his captives with physical or verbal threats

CONSEQUENCES

Consequences are the effects or outcomes of the aggressive act.

Note: When there are both short- and long-term consequences, code the one that is most prominent (most of the time, the immediate consequence will outweigh a harder-to-decipher long-term consequences). For instance:

If a villain terrifies victims so they cower and obey (short-term rewarded consequence), and the villain is soon beat up by a superhero (could be seen as a long-term consequence), the consequence should be coded as *rewarded*. Why? The reward of hostage compliance is more immediately prominent, and the superhero's violence may be attributed more to the taking of hostages than to their harassment. In other words, you need to be sure the consequence is tied to the specific act of aggression, and short-term (or immediate) consequences are much easier to tie to an act.

Note: list a specific reward or punishment if there is one.

[1] **Rewarded:** When the aggressive action results in short- or long-term positive consequences to the initiator.

Examples:

1. Tangible (something physical, e.g., money)
2. Reduction of annoyance (e.g. someone stops complaining when shouted at)
3. Peer approval (e.g. laughs from others at an insult)
4. Increase in self-esteem (e.g. feeling better for verbally abusing someone else)
5. Increase in control or power (e.g., the aggressor gets more control over the victim)
6. Victim suffers (e.g. experiences social or emotional discomfort)
7. Apology (e.g. the victim apologizes for something)

[2] **Punished:** When the aggressive act results in short- or long-term negative consequences to the initiator or to the victim. (See above for examples, but opposite.)

[3] **No Consequences:** When the initiator does not experience either a positive or a negative consequence as a result of his/her aggressive action.

Movie Name:**List of Characters****Coder:**

List of Characters

	Name
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	

LABELS

Type of Aggression

1. Verbal aggression
2. Relational aggression
3. Violent ideation

Behavior

Verbal aggression

1. Direct
2. Nonverbal

Relational aggression

3. Direct relational aggression
4. Indirect relational aggression
5. Nonverbal relational aggression

Violent ideation

6. Relational
(direct/indirect/nonverbal)
7. Verbal (verbal/nonverbal)

Examples

Verbal aggression

1. Ridicule
2. Sarcasm
3. Yelling / arguing

Direct relational aggression

4. Threatening to destroy relationship
5. Direct social exclusion
6. Blackmail
7. Make friends under false pretenses
8. Emotional abuse
9. Using somebody
10. Setting up for a fall
11. Other direct relational aggression

Indirect relational aggression

12. Covert social exclusion
13. Covertly destroying relationship
14. Other indirect relational aggression

Nonverbal relational aggression

15. Silent treatment
16. Rolling eyes
17. Dirty looks
18. Destroying or stealing property
19. Other nonverbal aggression

Initiator / Victim Gender

1. Male
2. Female
3. Unknown
4. Both (group)

Initiator / Victim Relationship

Initiator is a...

Victim is a...

1. Hero
2. Enemy or villain
3. Non-hero friend or family
4. Bystander
5. Other

Context

1. Justified
2. Unjustified

Consequences

1. Rewarded
2. Punished
3. No consequences

Appendix C: Content Analysis

All forms of media have a common underlying purpose: To convey a message to an audience (Coyne et al., 2011). At its core, content analysis takes a “snapshot” of messages from a specific time, sources, and mediums, and then analyzes these communications for pertinent information. It does so by using quantitative measures, which means it is objective, systematic, and with steps and results that are replicable (Wimmer & Dominick, 2011). Below is a review of content analysis as a method of research, including a highlight of its history and important steps in its use.

Milestones in Content Analysis History

Perhaps the earliest form of qualitative, written textual analysis was performed in large concordances in the late seventeenth century. These concordances or indexes allowed users to group words or themes within religious texts in order to find and compare passages (Neuendorf, 2002; Krippendorff, 1980). Closer to modern times, content analysis took off with what was coined the *quantitative newspaper analysis* (Krippendorff, 1980). Although these studies lacked the empirical standards of today’s analyses, they provided a strong beginning to what would become one of the most widely used methods in the social sciences (Michaelson & Stacks, 2014; Neuendorf, 2002).

The earliest newspaper analysis was most likely an article concerned with whether or not New York City newspapers reported actual news or filled their pages with information that was irrelevant or damaging to the public (Speed, 1893). The author cited several critics of American newspapers, including Charles Dickens, who in 1842 reportedly declared that most U.S. newspapers were better titled “The Daily Sewer” (p. 705). Speed’s sample was comprised of the Sunday editions of four major New York newspapers, 12 years apart (1881 and 1893). Column

space for different subjects was counted in each edition, and then the results were tabled for comparison. Even though the sample was not close to generalizable, the results – assuming they were coded with a degree of accuracy – were surprising. Some topics received close to the same amount of column space, such as editorials (1.75 inch difference) and art (1 inch). For gossip, however, the difference in 12 years amounted to an additional 111.75 inches of space; politics an extra 16.75 inches; and sporting and fiction 43 and 24 extra inches, respectively. The article was one of the first of many content analyses that aimed to analyze the literary quality of newspapers (Krippendorff, 1980).

One of the most extensive and earliest of modern content analyses occurred in the 1920s and 1930s in the United States. The studies, financed by the Payne Fund and dubbed the Payne Fund Studies, sought to measure the messages and effects of the newfangled motion pictures that had entranced the public. Beginning in 1928, scholars from seven universities surveyed audiences to discover correlations between movie attendance and attitudes of youth. Case studies and interviews were conducted and galvanic skin responses were administered to discover children's emotional responses to moving pictures. Even sleep studies were administered in an effort to discover movies' effects on children's sleep patterns (Neuendorf, 2002; Jowett, 1971).

The content analysis portion of the Payne Fund Studies was conducted by Edgar Dale of Ohio State University. Under his supervision, 1,500 movies – 500 each from 1920, 1925, and 1930 – were coded for themes of crime, sex, love, mystery, war, children's entertainment, history, travel, comedy, and social propaganda (Dale, 1935). By today's standards the study was flawed in its development, which established a coding sheet while the study was being coded (rather than before). However, the study otherwise used “good scientific procedures” (Neuendorf, 2002, p. 33; see also Dale, 1935, chapters one and two) to establish an overall

reliability of 87 percent for the 10 categories.

The results for all three years (see Appendix D) showed that love was the most prominent theme, accounting for 36 percent of the movies. The other prominent movie topics were crime at 27 percent, sex at 15 percent, and comedy at 13 percent. In his study Dale (1935) listed other worrying motifs in the cinema of his time, such as living “happily ever after” following a romantic story, an emphasis on physical beauty over other qualities, problems that accompany being young and single, portrayal of the rich as opposed to middle and lower classes, and crimes and crime methods as opposed to reasons and solutions of crime.

Since World War II researchers from numerous disciplines have employed content analysis with increasing frequency. In 1971, 6.3 percent of the articles published in *Journalism and Mass Communication Quarterly* were content analyses. By 1994, that number increased to 34.8 percent (Riffe & Freitag, 1997). Content analysis was also the most commonly taught method of research in Master’s journalism programs in the United States in 1982 and 1983 (Fowler, 1986). The introduction of computers contributed tremendously to the ability to evaluate the written word much faster than any human, although they have remained fairly limited in their ability determine word variance and context (Krippendorff, 2004; Neuendorf, 2002).

The scholars and professionals performing content analysis have also grown significantly. Whereas the method was first exclusively employed in journalism in the late nineteenth century (Krippendorff, 1980), users in the next century also applied it to cinema (Dale, 1935), politics and propaganda, psychology, linguistics, television (Neuendorf, 2002; Krippendorff, 1980), anthropology (Krippendorff, 1980), history (Neuendorf, 2002), public relations, health communications (Wimmer & Dominick, 2011), education (Wimmer &

Dominick, 2011; Neuendorf, 2002; Krippendorff, 1980) and social work (Vonk, Tripodi, & Epstein, 2007).

Content Analysis Uses and Limitations

Content analysis is used to describe message material, assess hypotheses about communication traits, compare real-world conditions to media messages, evaluate societal images of groups, and ascertain where to begin when studying media effects (Wimmer & Dominick, 2011). It can be applied to all recorded mediums (Neuendorf, 2002), and its broad range of uses has made content analysis popular among the social sciences (see e.g. Wimmer & Dominick, 2011; Neuendorf, 2002; Michaelson & Stacks, 2014; Stacks & Hocking, 1992; and Krippendorff, 2004).

However, not all content analysis involves message evaluation. In its simplest form, it may involve clip counting, which can be used to maintain a chronological database of articles or article tallies, acquire a circulation analysis, or obtain an estimate of message topics (Michaelson & Stacks, 2014). Other forms involve the study of *manifest* and *latent* messages. Manifest analysis, as the name suggests, is the observation of messages that can be observed through written, auditory, or video means (Michaelson & Stacks, 2014; Vonk, Tripodi, & Epstein, 2007).

Latent content analysis, on the other hand, is an attempt to observe messages that are not so easily perceived. Like manifest communications, messages may be recorded using various mediums. The difference is that latent content analysis looks for message traits such as tone (positive, hostile, biased, etc.), quality of articles, and competitive analyses such as comparing media coverage for company *X* verses company *Y* (Michaelson & Stacks, 2014; Vonk, Tripodi, & Epstein, 2007). Because the observed message traits of latent content analysis are often conveyed indirectly, they can be more challenging studies to conduct.

Whatever the nature of the message, one strength of this method is its unobtrusive nature; that is, there is no potential of the researcher to create artifacts or otherwise artificially affect communications of a previously recorded message (Krippendorff, 2004; Vonk, Tripodi & Epstein, 2007). Of course, this strength may disappear when messages are observed coming directly from subjects. For instance, they may change their behavior when they are aware of being observed, or may attempt to answer in ways that fit interviewer expects. An experiment or question might lead subjects to provide disingenuous answers. Even the measurement questions or process may inadvertently manipulate responses (Wimmer & Dominick, 2011; Krippendorff, 2004).

Content analysis has other limitations. One of the great drawbacks to content analysis is high cost in time and money (Neuendorf, 2002). It also cannot be used to establish media effects because content analysis measures the message and not the receiver; and studies are often inconsistent in their definitions of variables and even populations (Wimmer & Dominick, 2011). Non-physical aggressions are a prime example of this, where indirect and relational aggression have been operationally defined different ways. For instance, indirect aggression has been defined as intentional attempts at ostracism and social dismissal; social aggression and exclusion; and covert social aggression. Relational aggression was likewise meant to describe attempts at social manipulation and damage, but many studies ignored the direct-indirect nature of such aggressions, which caused overlap in definitions with indirect aggressions (Archer, 2001).

Conducting a Content Analysis

Content analysis is the most systematic of all quantitative methods (Stacks, 2005). The following steps are important for producing empirically solid results.

Produce a Literature Review

The general point of literature reviews is to provide a supportive, scholarly foundation for hypotheses and research questions (including theory and rationale) or to develop research questions and hypotheses. It also demonstrates the salience of a topic within the extant body of research (Neuendorf, 2002). References from journals with high standards will provide the most reliable sources.

Formulate a Hypothesis or Research Question

Research questions and hypotheses are the reason for a study's existence; therefore they must be clear, specific, and measurable. They determine a study's universe, population, sample, units of analysis, variables and constructs. When a question, statement or premise is clearly defined, it prevents unnecessary gathering of data that contribute little to the subject at hand or to the body of literature (Wimmer & Dominick, 2011; Krippendorff, 2004).

Determine Population and Sample

Population is determined by the items, subjects, or events being observed, and often with a time period (Stacks & Hocking, 1992). In Dale's (1935) landmark analysis of motion pictures from 1920-1930, the population spanned all movies during that time period.

Once a population has been established, a census or sample must be selected to answer each research question or hypothesis. A *census* analyzes the entire population of a study, while a *sample* is a subset of the population. In order for a study to be generalizable its sample must be representative of the population, also called a probability sample. These may include simple random samples, where subjects, items or events have equal chances of being chosen; systematic samples, where every *n*th subject, item or event is selected; and stratified samples, which ensures accuracy by selecting subjects, items or events by variables that are similar to the population (e.g. if 10 percent of the population includes subjects ages 20-29, then 10 percent of the sample

will include subjects within that age range; Neuendorf, 2002). Content analysis studies typically use multistage sampling. The *stages* in these multistage samples usually involve 1) Choosing a sample of content sources; and 2) Select dates based on the study's intent (Wimmer & Dominick, 2011).

Where sample size is concerned, generally speaking bigger is better – up to a point (Krippendorff, 2004; Neuendorf, 2002). Formulas are available for calculating the number of samples (n) required to establish a confidence interval and standard deviation for generalization, although an exploration of such is beyond the scope of this study (for more information see Krippendorff, 2004, pp. 121-124; and Neuendorf, 2002, pp. 89-91). Other considerations for deciding sample size may include how much inaccuracy is tolerated in the study, money and time available, and the sample size that similar studies have found acceptable (Wimmer & Dominick, 2011); although using the last suggestion is a contested topic among some academics (Neuendorf, 2002).

Create a Codebook: Determine Categories, Variables, Units of Analysis, Definitions and Measurement

A codebook contains the established categories, variables, definitions and units of analysis necessary to train coders and obtain homogenous coding. There are two primary ways to develop a codebook and code sheet. The first and most common manner begins by carefully considering the study's research questions and hypotheses. A codebook is then created, establishing the necessary categories, variables, definitions and units of analysis in order for coders to collect data. The second way, dubbed emergent coding, creates categories by first observing a portion of the population (Neuendorf, 2011). This can be especially desirable for pioneering studies where knowledge of the subject is limited, as with Dale's (1935) seminal

study of motion pictures. Occasionally time can be saved by borrowing and modifying a similar quality study, provided proper credit is ascribed.

Content categories are developed to answer research questions and hypotheses and must be exhaustive in their definition. That is, no category's definition may overlap within another or the study's measurements and conclusions will be inaccurate (Wimmer & Dominick, 2011). Categories will vary as widely as topics.

Once a content category is established, variables are added or created in order to quantify it. A variable is "a phenomenon or event that can be measured or manipulated" (Wimmer & Dominick, 2011, p. 447). A unit of analysis is the item or event that will be counted during the coding process. This can be virtually anything, from a behavior to a word or event. For instance, this study's unit of analysis was an individual act of non-physical aggression. Once a unit of analysis is identified, it can be operationally defined in the codebook.

Finally, a method of measuring each unit of analysis must be established. Two primary factors must be taken into consideration to obtain standardized, quantitative results: Validity and reliability. If a content analysis is valid (a.k.a. internal validity) that means it really measures what it intends to measure – i.e., its measurement standards measure the intended concept and nothing else. If measures are reliable, other studies will be able to repeat the process and results (Michaelson & Stacks, 2014; Krippendorff, 2004; Neuendorf, 2002; Stacks & Hocking, 1992). In a content analysis this is shown through intercoder reliability, discussed below.

Several techniques can be used to obtain proper validity. Neuendorf (2002) recommends a generalizability check through careful analysis of definitions to ensure generalizability; face validity, which involves an objective review of measurements and constructs (by a study author or by a third party); content validity, which examines how thoroughly the measures consider all

aspects of the research concept; and construct validity, which inspects the study's constructs and correlates them to a supporting theory's prediction. Many other forms of validity checks exist. Krippendorff (2004) provided a review of 10 separate validity tests that can be used for a content analysis.

Intercoder reliability

Intercoder reliability demonstrates the ability to replicate a content analysis' processes and results by showing agreement between coders. It also demonstrates that the measures used to gather data are accurate. Reliability of some form is necessary for research to be considered quantitative because it allows other researchers to perform their own studies that support or refute claims. With some academics arguing for higher requirements and others contending for lower, there are no universally accepted standards of reliability for intercoder agreement (Neuendorf, 2002; Lombard, Snyder-Duch & Bracken, 2002).

Some researchers have even argued that reliability standards should be determined based on the formula used (Neuendorf, 2002; Lombard, Snyder-Duch & Bracken, 2002). Standards based on formula are not unreasonable, as differing methods have limitations that may produce slightly skewed results. For instance, only Cohen's *kappa* and Krippendorff's *alpha* can be used for more than two coders. Percentage agreement – the simplest form of reliability – has the tendency of showing agreement when two coders' answers come close to one another (usually within ± 1 or ± 2), which artificially inflates the results (Neuendorf, 2002). Similar to percentage agreement, Holsti's method “does not take into account some coder agreement that occurs strictly by chance... [e.g.] a two-category system has 50% reliability simply by chance, [and] a five-category system generates a 20% agreement by chance, and so on” (Wimmer & Dominick, 2011, p. 173). Krippendorff's *alpha* is generally considered to be among the most accurate and

versatile of intercoder reliability formulas, and this dependability has led some academics with more stringent standards to deem an agreement of .70 as acceptable (Lombard, Snyder-Duch & Bracken, 2002). After a review of the debate, Neuendorf (2002, p. 143) summed up by saying, “Reliability coefficients of .90 or greater would be acceptable to all, .80 or greater would be acceptable in most situations, and below that, there exists great disagreement.”

Coders are trained with the help of the codebook and coding sheet. Coders must be able to recognize units of analysis and assign them to their proper categories, possess an understanding of operational definitions, and otherwise thoroughly understand the ins and outs of the study. This typically requires multiple, lengthy instruction sessions that involve coding practice, which time is also used to refine the code sheet (Wimmer & Dominick, 2011).

Once training is complete two codings are performed: A pilot study and the final study. The purpose of a pilot study is to obtain intercoder reliability and to identify troublesome measures, variables, and coders. If problems are found with any of these items, corrective steps may be taken such as further training, rewording instructions, dividing variables, or even discharging a coder whose results do not match the others after further training. If coder agreement is acceptable the results can be included with the final study results; otherwise the pilot study results are not included (Neuendorf, 2002).

Once acceptable intercoder reliabilities are obtained and coding corrections made, the final coding can begin. Some researchers suggest that after the final coding is complete, a second reliability test be conducted. Wimmer and Dominick (2011) recommend this comprise 10 to 25 percent of the sample, while Lacy and Riffe (1996) suggest using their formula to avoid potential errors that may arise from conducting a consistency check on a probability sample.

Reliability results are reported in the method section, along with all other pertinent

information concerning how the study was conducted. Data is now ready to be entered into a statistical program for analysis.

Analysis of Data and Reporting

There are many inferential formulas available once data is uploaded into a statistical program such as IBM's SPSS. Which formula is used depends on the measurement value of the variables being compared: Nominal, ordinal, interval or ratio. Nominal variables have no numeric value; the numbers simply represent a category. Gender is a common nominal variable, where "female" may equal one and "male" may equal two. Ordinal variables are ranked – they may be hierarchically arranged, but the distance between variables is not considered equal and there is no zero. An example is ranking communications by mean, meaner, or meanest. Interval variables have numbers that are equally distant from one another, such as a Likert-type test. Like ordinal, these numbers are not anchored by a zero, meaning they do not represent a quantity of zero or quality of nothing. Finally, ratio variables are the same as interval except that do *are* anchored by a zero. These can be any number of measurements such as centimeters or decibels.

Once each variable has been identified with its proper measurement value (nominal, ordinal, interval, or ratio), statistical analyses are run for each research question and hypothesis. The formula used depends on variable values. For instance, hypothesis 2a of this study states that . Two nominal variables will be compared – gender and relational aggression; therefore a Chi square formula is appropriate. A similar comparison of each variable's measurement value is used to determine the appropriate statistical formula to use.

Once obtained, results are compared to confirm or refute research questions and hypotheses. These are reported in the results section. The discussion section provides a review of the results and attempts to provide additional insights about study outcomes. This could include

items such as expected outcomes fitting into the study's theory or possible reasons for unexpected results.

As one of the most commonly used research methods, content analysis is also one of the most commonly misused of techniques (Michaelson & Stacks, 2014). When properly used, however, it is powerful tool for analyzing communications and providing insights into deeper questions about media effects and human communications. Even with its drawbacks, it appears that content analysis will continue to be a favorite of professionals within the social sciences.

Appendix D: Copy of Edgar Dale's Results Table

COMPARISON OF THE TYPES OF MOTION PICTURES PRODUCED IN 1920, 1925, AND 1930

Number and per cent of pictures of each type as shown by a 500 sample
each year

<i>Type of Picture</i>	<i>Release Date</i>							
	1920		1925		1930		3 year total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Crime.....	120	24	148	29.6	137	27.4	405	27%
Sex.....	65	13	84	16.8	75	15	224	15%
Love.....	223	44.6	164	32.8	148	29.6	535	36%
Mystery.....	16	3.2	11	2.2	24	4.8	51	3%
War.....	10	2	11	2.2	19	3.8	40	3%
Children.....	2	.4	4	.8	1	.2	7	0%
History.....	0	0	6	1.2	7	1.4	13	1%
Travel.....	1	.2	7	1.4	9	1.8	17	1%
Comedy.....	59	11.8	63	12.6	80	16	202	13%
Social propa- ganda.....	4	.8	2	.4	0	0	6	0%
Total	500	100	500	100	500	100	1500	100%

Note. Copy of Edgar Dale's results table (1935; Table 2, p. 17), "Comparison of the Types of Motion Pictures Produced in 1920, 1925, and 1930," with a "3 year total" columns added on the far right. Slight details in layout were not duplicated.