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What Animated Cartoons Tell Viewers about Assault

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Abstract

Relying upon a content analysis of one specific type of medium to which young people are exposed beginning at an early age, on a regular basis, and for many years (i.e., animated cartoons), the present study examines what types of messages are provided about violence that takes the form of simple assault. This research examines the following issues: (1) How prevalent is violent assault in animated cartoons, and has this prevalence changed over time? (2) What characteristics tend to be associated with being a perpetrator or a victim of assault? (3) What types of effects are shown to result from hitting, slapping, or punching others? (4) What reasons are given for why cartoon characters engage in this type of violence?

Results indicate that assault is fairly prevalent in cartoons (it is the most common type of violence shown) and that this prevalence has diminished over time. Most of the time, cartoons show assaults to “land” on their intended victims, but having done so, to cause few if any adverse effects. For example, victims rarely experience pain or incur cuts, scrapes, or broken bones, and they rarely suffer more serious consequences than these. Moreover, assaults rarely backfire on the perpetrators. Anger, revenge, and inherent meanness are the most common reasons implied for why characters commit acts of violent assault.

Keywords

animated cartoons; media content; violence; assault; portrayals; messages

According to figures compiled by the U.S. Bureau of Justice Statistics, each year, approximately 3.5% of American adults become victims of assault (Bureau of Justice Statistics, 2006a), with average assault rates between 1973 and 2003 being approximately 35 per 1,000 persons aged 12 or older. Of these, approximately two-thirds entail simple assault—that is, attacks without a weapon. In 2004, more than 3.4 million simple assaults were reported in this country, approximately two-thirds of which resulted in no major injury to the victim (Bureau of Justice Statistics, 2006b).

Most instances of simple assault (61.5%) were perpetrated by males and the majority (55.6%) of assault victims were male as well (Bureau of Justice Statistics, 2006b). Youths

and young adults are overrepresented in the perpetrator statistics for assaults, as they account for more than half (43.2% and 10.9%, respectively) of all simple assaults perpetrated when the age of the perpetrator is known (Bureau of Justice Statistics, 2006b), but fewer than half of all persons in the United States (41.5%, Bureau of the Census, 2000). Youths and young adults are also far more likely to be victims of assault than adults aged 35 and older (Bureau of Justice Statistics, 2006b). In instances where the race of the perpetrator is known or reported, Caucasians are underrepresented in the assault statistics, accounting for 65.2% of perpetrators versus 81.1% of the U.S. population, compared to overrepresentations of African Americans (20.1% of assault perpetrators despite comprising only 11.8% of the U.S. population) and persons of some other race (14.7% of assault perpetrators versus 7.1% of the American population) (Bureau of the Census, 2000).

Most assault offenders are comparable in age to their victims: Youths who are assaulted tend to be victimized by other youths; older adults who are assaulted are most likely to be victimized by older adults (Bureau of Justice Statistics, 2006b). Similarly, most assault offenders are comparable to their victims in terms of race, too. Of the Caucasian assault victims whose offender's race was known, 72.9% were victimized by other Caucasians; of the African American assault victims whose offender's race was known, 73.3% were victimized by other African Americans (Bureau of Justice Statistics, 2006b).

Numerous sources are usually blamed for the high rates of interpersonal violence such as assaults in American society: poverty, living highly-stressful lives, illegal drug abuse and drug trafficking, to name but a few of the major sources that are often mentioned. In addition to these, the mass media are often cited for helping to incite violence and escalate the propensity toward aggressive and violent behaviors in our culture. The media are replete with antisocial content (Diefenbach & West, 2001; Kunkel *et al.*, 1996), and this has led to considerable public outcry over the years for action to be taken to reduce violent and aggressive content in the media. Many research studies have demonstrated an association between media exposure and increased aggression and violence (Anderson *et al.*, 2003; Chory-Assad, 2004; Singer *et al.*, 1998). There also appears to be a dose-response effect operating, such that people who have more exposure to the media are more affected by what they see, hear, and read than are their peers who are exposed less significantly to media messages (Shrum, Wyler, & O'Guinn, 1998; Singer *et al.*, 1998).

Conceptually, this makes perfect sense and there is a substantial body of theoretical work in the sociological, psychological, and media studies fields to account for—and to anticipate the presence of—these types of effects. For example, social learning theory (Akers, 1973; Bandura, 1971) posits that people acquire their beliefs, attitudes, and propensity to engage in behaviors, directly based on first-hand experiences they have with others who exhibit particular behaviors *and/or* indirectly, based on what they observe others—including others appearing in the mass media—doing or saying. As Kunkel *et al.* (1996: I-6) put it, “through the observation of mass media models the observer comes to learn which behaviors are ‘appropriate’—that is, which behaviors will later be rewarded, and which will be punished.” Accordingly, social learning theory would predict that people of all ages (and young people in particular) will learn a great deal about societal notions of violence and aggression, social expectations for what is a “proper” situation that may be handled “appropriately” with

violence, and the social consequences of being aggressive or violent just from being exposed to violence-related media content.

As another example, cultivation theory (Gerbner & Gross, 1976; Signorielli & Morgan, 1990) states that media viewers' perceptions of social reality will be shaped by extensive and cumulative exposure to media-provided messages. This theoretical model assumes that people develop beliefs, attitudes, and expectations about the real world based on what they see and hear on television, on video, in film, in magazines, etc. Subsequently, they use the beliefs, attitudes, and expectations they have developed to make decisions about how they will behave in real-world settings and situations. Again, Kunkel *et al.* (1996: I-11, I-13) put it well when they stated, "The media, in particular television, communicate facts, norms, and values about our social world. For many people television is the main source of information about critical aspects of their social environment... . Whether television shapes or merely maintains beliefs about the world is not as important as its role in a dynamic process that leads to enduring and stable assumptions about the world." In the context of the study of violence-related media content (such as the present research, which focuses on one particular medium's messages regarding the use of hands to perpetrate assaults), then, cultivation theory would posit that media messages serve as agents of socialization regarding what to think about violence, violent situations, violent persons, and victims of violence. This would be particularly true for young viewers who are exposed rather heavily to such media messages through the types of programming that they tend to view. Given the types of messages that many of the media provide about antisocial behaviors, cultivation theory would predict that the cumulative effect of exposure to these messages would provide young people with beliefs and attitudes that, ostensibly, reinforce social stereotypes that violence is omnipresent, that it is often acceptable to respond to situations aggressively or violently, and so forth.

Taking these theoretical models' tenets and the aforementioned research studies on media effects to heart, the present study entails an examination of content pertaining to hand-related violence—that is, assaults involving hitting, slapping, or punching, but no concomitant weapon use—in a medium that, we contend, is likely to provide young people with some of their earliest notions regarding violence-related standards/expectations: animated cartoons. We have chosen animated cartoons as the focal point of this research for a few reasons. First, people are exposed to this type of medium beginning at an early age. Therefore, messages provided by this particular medium are likely to be influential in the initial stages of developing beliefs and attitudes about violence and aggression. Second, for most young people, this exposure continues for many years, and typically entails repeated and frequent media content exposures during that entire viewing period. Thus, animated cartoons also help to crystallize young people's beliefs and attitudes about violence, violent situations, and violent persons, while helping to shape relevant behaviors through the repeated and consistent antisocial content-related messages they provide. Research has shown that early-life exposure to media messages does, indeed, affect the formation of attitudes and contributes to the crystallization of notions about a variety of aspects of young viewers' social worlds (Greenberg, 1982; Tiggemann & Pickering, 1996).

In this study, we address several research questions. First, how prevalent is violence involving simple assaults in animated cartoons, and has this prevalence changed over time? Second, what “types” of characteristics tend to be associated with being a perpetrator or a victim of simple assault? Third, when assaults occur in cartoons, what effects are shown to result? Fourth, what are the purported reasons that cartoon characters engage in this type of violence? We conclude by discussing the implications of our findings and elaborating briefly upon some steps that might be taken in the future to provide viewers with what we consider to be more-positive content.

Methods

Sampling Strategy

This study is based on an examination of the content of animated cartoons. For the present study, only animated *cel* cartoons are included in the sample (e.g., Bugs Bunny, Popeye, Mighty Mouse, Yogi Bear). This eliminates from the present study such types of animation as claymation (e.g., Gumby and Pokey, the California Raisins), pixillation (the type of animation usually seen at the end of *The Benny Hill Show*), and puppet animation (e.g., *Davey and Goliath*, George Pal’s *Puppetoons*).

The cartoons chosen for the study sample were selected randomly from among *all* cartoons produced between the years 1930 and the mid-1990s by *all* of the major animation studios. Before drawing the final sample of cartoons that would be viewed and coded for this work, the researchers had to develop a comprehensive and inclusive sample frame of cartoons produced by the aforementioned animation studios. Published filmographies (Lenberg, 1991; Maltin, 1980) provided the authors with a great deal of this information, and in some instances, the animation studios themselves were contacted and asked to provide comprehensive episode-by-episode lists of animated cartoons they had produced. Once the “universe” of cartoons had been identified, actual copies of the specific cartoons selected for viewing and coding as part of the random sampling approach had to be located. This was done in a wide variety of ways: by contacting animation fans and collectors and having them make copies of some of their cartoons for us, visiting film archives and repositories and viewing cartoons in their libraries/holdings on site, obtaining copies of the needed cartoons directly from the animation studios, purchasing sample-selected items from retail outlets and private sellers who advertised them in trade publications, renting videocassettes from retail outlets like Blockbuster Video, and videotaping from programs broadcast on television.

The origination date for this research (1930) was chosen for four reasons: (1) many major animation studios had begun operations by that time, (2) the era of silent cartoons had virtually ended, (3) cartoons produced prior to 1930 are not very accessible today, and (4) many cartoons produced during the 1930s are still broadcast on television and/or available for viewing on home video. Due to the fiscal constraints of the funding program, only animated cartoons with a total running time of 20 minutes or less were included in the sample frame.

A stratified (by decade of production) random sampling procedure was used to ensure that cartoons from all decades were represented equally in the study sample. This stratification

procedure was necessary because very different numbers of cartoons have been produced during different decades (e.g., many more were produced during the 1980s than during the 1930s), thereby leading to the risk that a general random sample (as differentiated from this study's stratified random sample) might have led to an overrepresentation of certain decades during which greater-or lesser-than-average numbers of different "types" of characters were portrayed.

Data Collection

This study relied upon a content analysis approach to examine the types of messages that cartoons provide about hand-related violence. Data collection for this research entailed viewing the cartoons contained on the project's sample list and recording detailed information on predesigned, pretested, pilot tested, fixed-format coding sheets. Prior to beginning their viewing and coding work for this study, research assistants underwent an intensive training that familiarized them with the data that the study strived to collect, the rationale underlying the coding of each piece of information, and the decision-making procedures that should be used when recording information from each cartoon. To make sure that all people involved in the viewing/coding (i.e., data collection) process implemented the decision-making procedures in a similar manner, intercoder reliability coefficients were calculated periodically throughout the project. Reliability estimates consistently were above .80 for all major measures, and were at least .90 for all of the variables used in the analyses reported in this article, indicating a very high level of intercoder reliability for this research.

To understand the information that this study contains, it is best to conceptualize the database as consisting of three datasets. Dataset #1 focuses on the cartoon itself as the unit of analysis and contains macro-level variables that provide prevalence-type information. Among several others, this dataset includes such measures as the cartoon's length; number of characters of each gender, race, age, body weight group, and so forth; number of times using or making reference to various legal and illegal drugs; and number of prosocial and antisocial acts committed. This dataset facilitates analyses indicating the proportion of cartoons containing at least one violent act, how that proportion changed over time, or identifying the rate per hour of seeing violence. The sample size for this dataset is 1,221.

Dataset #2 focuses on the major characters in each cartoon (regardless of whether they are human characters, animals, personified inanimate objects [e.g., cars with the ability to growl or dance, telephone poles given human-like abilities to see or hear or sing], monsters, ghosts, etc.), providing detailed information that is of value when trying to interpret the types of messages that cartoons provide about who it is that is shown to be a perpetrator of assaults. This dataset contains information about each major character's gender, age, race, ethnicity, marital status, level of intelligence, attractiveness, body weight, physique, occupational status, level of goodness or badness, and other demographic-type and descriptive information. In addition, Dataset #2 contains data about the number of acts of violence, aggression, and prosocial behaviors (and limited information about the types of these behaviors involved) that the characters have committed. This dataset's information is useful for examining such things as whether males/females or smart/dumb characters or attractive/

unattractive characters are more likely to perpetrate violence, whether characters of different “types” were more prosocial or more antisocial, and so forth. The sample size for this dataset is 4,201.

Dataset #3 contains information about all acts of violence, acts of aggression, and prosocial behaviors committed by major characters. This dataset provides information about the specific type of act involved; (if violence) the effect(s), if any, that the violent act caused on its victim; whether or not the act backfired on the perpetrator (and if so, the effects it had); the purported reason(s) for engaging in the prosocial, aggressive, or violent act; and characteristics of the victim of violence or aggression or the beneficiary of the prosocial act. The sample size for this dataset is 13,283, including 6,191 separate acts of violence.

Operational Definitions of Some Key Concepts

Perhaps the most important operational definition to provide for this study is that used for violence. In our research, we defined violence as “any behavior that is intended to harm any character or any character’s property, or as any behavior that would reasonably be expected to cause harm to any character or any character’s property.” Distinctions were made in this research amongst violence, physical aggression¹, and verbal aggression², and a considerable amount of time was devoted during training to make sure that coders understood the ways to differentiate these concepts from one another. Our definition of violence was adapted as a “best practices” hybrid based on the operational definitions used by several well-respected researchers who have studied violence in the media, including Gerbner and Signorielli (1990), Hickey (1994), Nichols, Dabbs, and Chester (1996), Cole (1997), and Woodard (1999). In the analyses conducted for the present paper, we focus specifically on violence involving the use of hands for hitting, slapping, or punching, but have excluded similar violence involving the use of an object like a stick, club, or pole wielded by hand.

In this study, we collected detailed data (i.e., the information collected in Dataset #2 and Dataset #3) only for major characters. We felt that it was important to distinguish between major and minor characters because the former have a much greater and much more consequential impact upon cartoons’ storylines and messages, whereas the latter do not. Therefore, we adopted operational definition criteria that would enable the two character types (i.e., major and minor) to be differentiated easily and in a meaningful way. Coders were instructed to follow these rules in order to determine whether a character was “major” or “minor”: First, all characters were supposed to be classified *by default* as minor, unless the conditions stipulated in one or more of the subsequent rules were met. Second, if a character appeared in an average of at least two camera cuts³ for each complete minute or additional partial minute⁴ of the cartoon’s running time, that was sufficient to label it a

¹In this study, physical aggression was defined as “any antisocial act that unintentionally leads to the physical injury of another character or another character’s property.” It also included such behaviors as grabbing another character, pushing/shoving another character, and similar actions provided that they did not rise to the threshold established for labeling these behaviors as violence.

²For the purposes of this research, verbal aggression was “a verbal insult or verbal assault that leads to another character’s hurt feelings, or that reasonably could be expected to hurt another character’s feelings, or that leads to the purposeful embarrassment of another character.” This included such behaviors as yelling at another character, ridiculing another character, insulting another character, threatening another character, and so forth.

“major” character. For example, if a cartoon had a total running time of 8 minutes and 10 seconds, a character would have to appear at least 18 times (i.e., in 18 or more camera cuts, [that is, two per minute or partial minute of running time, multiplied by nine minutes/partial minutes increments]) throughout the duration of the cartoon in order to be considered “major” using this criterion. Third, a character was considered “major” if it spoke an average two sentences or phrases counting as sentences⁵ per minute or partial minute of the cartoon’s total running time. Fourth, a character was considered “major” if it had an average of three or more camera cuts in which it appeared and sentences or phrases counting as sentences per minute of the cartoon’s running time. This criterion was implemented to take into account that many consequential characters in the cartoons do not appear a lot and do not say a lot, but their cumulative visual and verbal presence in the cartoon merits “major” character status even though the two previous rules would have prevented such a designation from being made. Finally, a character was considered “major” if it appeared on screen for at least 20% of the cartoon’s total running time, ***regardless of the number of camera cuts and sentences or phrases counting as sentences spoken***. Generally speaking, although these rules may seem to be somewhat convoluted, determining whether a character was a major or minor one was an easy, straightforward, and relatively-obvious process.

Analysis

Some of the findings reported in this paper are based on descriptive statistics, particularly where prevalence estimates are used, as was the case for addressing Research Question 1. Changes over time in the prevalence of violence of involving the use of hands are examined using logistic regression because the dependent variable (namely, the presence or absence of assault in cartoons) was dichotomous and the predictor variable was a continuous measure. Tests of curvilinearity were performed to determine whether observed changes were linear in nature or whether they demonstrated periods of significant upswing followed by periods of significant downswing (or vice-versa). Descriptive statistics are also used, at least in part, for answering Questions 3 and 4, pertaining to the frequency of depicting certain types of effects resulting from violence perpetrated by hitting, slapping, or punching, and the purported reasons given for perpetrating this type of violence. The analyses examining the characteristics associated with which “types” of characters were more/less likely than others to perpetrate hitting/punching violence or were more/less likely to be victims of this type of violence (Question 2) entailed the computation of odds ratios (ORs), with 95% confidence intervals (CI₉₅) presented for each estimate. Odds ratios were selected for these analyses because they facilitated direct comparisons of the messages provided about characters of different types, whereas other statistical tests do not lend themselves so easily to such

³The best way to understand the concept of “camera cut” is to think of looking through the lens of a camcorder, as if one were filming. Whatever is seen through the lens is in the field of vision. If someone moved outside of the field of vision and then returned to it, either because of his/her own movement or because of the movement of the camcorder’s field of vision, that would constitute **two** camera cuts by this study’s definition—one when he/she was initially in the picture, and a second one when he/she returned to view again after the temporary disappearance.

⁴Time increments for these computations were based in much the same manner that parking garage fees are based. If someone stays for 1 hour and 15 minutes, that person is charged for two hours. Likewise, in this study, if a cartoon had a running time of eight minutes and ten seconds, the computations for major/minor character are based on a nine-minute-long cartoon rule.

⁵Many dialogs and verbal exchanges or utterances do not involve complete sentences, but instead, are based on “shorthand” responses that take the place of complete sentences. For instance, if someone asked “How are you doing today?” and the response given was “fine,” in this study, the “fine” reply would be considered one phrase counting as a sentence, since it is the functional equivalent of a “I am doing fine.” complete-sentence response.

comparisons and interpretation. Due to the large sample size used in this research, results are reported as statistically significant whenever $p < .01$ and as marginally significant whenever $p < .05$.

Results

Question #1: Prevalence of Hitting and Changes over Time

Approximately 1 violent act in 5 entailed simple assault as the type of violence (21.4%). This made it the single most common type of violence portrayed in cartoons. From the 1930s until the 1970s, this type of violence became significantly less common ($p = .0001$), declining from 35% of the violent acts committed during the 1930s to 9% of those perpetrated during the 1970s. Since then, however, there has been a steady and significant ($p = .0001$) increase in the prevalence of this type of violence, with it accounting for more than 1 violent act in 6 (17%) by the mid-1990s. Figure 1 depicts these changes over time.

Question #2: Characteristics Associated with Perpetrating Assault or Being Victimized by Violence Involving Hitting

Females were much more likely than males to perpetrate violence entailing hitting (32.0% versus 20.1%, $OR = 1.87$, $CI_{95} = 1.57-2.23$, $p = .0001$). Children and adolescents were more likely to use hitting as a form of violence than were their adult and elderly counterparts (30.3% versus 20.0%, $OR = 1.74$, $CI_{95} = 1.45-2.08$, $p = .0001$). A significant main-effect relationship was obtained for race ($\chi^2 [7df] = 33.41$, $p = .0001$), so we examined intergroup differences to identify what intergroup difference(s) was/were underlying this result. We discovered that Asian characters were significantly less likely than those belonging to other racial groups to hit another character (5.3% versus 21.7%, $OR = 0.20$, $CI_{95} = 0.07-0.56$, $p = .0006$). As body weight increased, the likelihood of using hitting to perpetrate violence went down ($\chi^2 [2df] = 55.15$, $p = .0001$). In particular, underweight characters were more likely than those that were overweight or of an average weight to hit other characters (37.9% versus 20.8%, $OR = 2.33$, $CI_{95} = 1.84-2.95$, $p = .0001$).

Males were more than three times as likely as females to be the victims of violence involving the use of hands (22.1% versus 7.2%, $OR = 3.67$, $CI_{95} = 2.22-5.88$, $p = .0001$). A significant main-effect relationship was obtained for race ($\chi^2 [5df] = 84.50$, $p = .0001$), so we examined intergroup differences to identify what intergroup difference(s) was/were underlying this result. Asians were somewhat more likely than characters of other races to be hit (50.0% versus 25.0%, $OR = 3.01$, $CI_{95} = 1.18-7.61$, $p = .02$). “Good guys” were somewhat more likely to be hit than were characters that were classified as something other than “good guys” (24.4% versus 21.1%, $OR = 1.20$, $CI_{95} = 1.03-1.40$, $p = .02$). Being a victim of hitting or punching did not differ on the basis of the character’s age ($p = .24$).

Question #3: Effects Shown to Result from Hitting or Punching Others

Most of the time (78.3%), when cartoon characters used their hands or fists to perpetrate violence, their violence “landed” on a victim. Compared to other types of violence, this particular type of violence was noticeably more likely to land on a victim (78.3% versus 66.6%, $OR = 1.81$, $CI_{95} = 1.56-2.10$, $p = .0001$). Conversely, only rarely did the use of hands

or fists to commit violence backfire on the perpetrator, as this was observed in only 2.4% of the cases. Compared to other types of violence, hitting was far less likely to backfire on the perpetrator (2.4% versus 8.3%, $OR = 0.27$, $CI_{95} = 0.18-0.40$, $p=.0001$).

Interestingly, though, even though 78% of all acts of hitting or punching “landed” on the victim, more than half of the time (51.4%), these acts resulted in the victim experiencing no effects/consequences whatsoever. Using one’s hands/fists with no resulting consequences was a somewhat more common outcome with this type of violence than it was for other types of violent acts (51.4% versus 47.2%, $OR = 1.18$, $CI_{95} = 1.02-1.37$, $p=.03$).

When some type of effect was shown to result from hitting or punching another character, it was most likely to be physical pain, which befell 21.0% of the victims. The third most common type of effect shown to result from violence involving the use of hands or fists was becoming dazed, which was observed in 15.4% of the victims.

All other types of effects resulting from hand-related violence were observed in fewer than 10% of all instances. These included rendering the victim unconscious (7.9%), bruising the victim (4.0%), crushing the victim (1.3%), having the victim lose clothing (0.8%), having the victim get cuts or scrapes (0.5%), causing the victim to lose any senses (0.4%), causing the victim to become wet (0.4%), death (0.3%), causing the victim to have any bones or limbs broken (0.2%), or having the victim become burned (0.0%).

Question #4: Reasons Implied as to Why Cartoon Characters Assault Others⁶

The most common reason implied as to why cartoon characters used their hands or fists to perpetrate violence was out of anger, which explained 40.5% of all such violent acts. Revenge (21.9%) and self-defense (21.3%) were about half as common as anger as rationales for using one’s hands or fists to commit violence. Cited somewhat less frequently as reasons for committing violent acts with one’s hands or fists were a character’s inherent meanspiritedness (17.4%) or as a way of helping the perpetrator win some type of race or contest (17.4%).

All other reasons for using one’s hands or fists to perpetrate violence were cited less often than 10% of the time. These less-commonly-cited reasons included a desire to protect another character or prevent that character from being harmed (7.1%), using one’s hands or fists for no reason whatsoever (7.0%), as a result of jealousy (5.0%), as an expression of greed (1.6%), as a result of experiencing hunger (0.9%), or as part of the act of hunting (0.2%).

Discussion

Before discussing the implications of our main findings, we would like to acknowledge a few potential limitations of the present study. First, this research was based on animated cartoons with running times of 20 minutes or less, thereby excluding longer-form animated

⁶Coders could list up to three implied rationales underlying the commission of violent acts in this study, indicating which they considered to be primary, secondary, and tertiary. The percentages cited here sum to more than 100% because of the selection of multiple reasons explaining some instances of hitting or punching.

cartoons from consideration. We do not know whether or not short-form and long-form animated cartoons are similar to one another with respect to the types of messages they convey, and therefore cannot assess the extent to which the exclusion of the latter may affect this study's findings. Conducting research such as ours with the longer cartoons would be a worthwhile endeavor for future researchers to undertake. Second, our sample ends during the middle-1990s. It would be helpful and, we believe, interesting to have this research extended to the present, so that the most up-to-date trends possible are studied and analyzed. Third, as with any content analysis research study, some scholars might prefer to see different operational definitions of the key concepts used. There is no "gold standard" in content analysis research with regard to defining major versus minor characters, violence, and so forth. The definitions that we adopted were chosen on the basis of common sense, so that they would foster face validity, and on the basis of simplicity and clarity of implementation, so that they would maximize interrater reliability. We believe that our operational definitions are well-conceptualized and justified; but as with any content analysis study, there is no way to know the extent to which the use of different definitions might have led to different research findings.

Despite these potential limitations, we still believe that the present research has much to contribute to our understanding of cartoons' messages about violence involving hitting or punching. First, we have shown that simple assault is the single most common type of violence shown in cartoons. Averaged over time, our research has shown that the major characters in the cartoons we studied perpetrated an average of 63 acts of violence per viewing hour—that is, 45 minutes of cartoon programming and 15 minutes of commercials. Moreover, this study has shown that 13 of these acts entail physical assaults that rise to our operational definition of violence. Our findings complement those obtained by other media content researchers who have reported high rates of violence in the media (Cole, 1997; Jason & Fries, 2004; Johnson, 1996), particularly media targeting young persons (Cole, 1997; Kunkel *et al.*, 1996), and they extend knowledge in this area by demonstrating that assault is one specific type of violent act that is particularly common in the medium of animated cartoons. Although the prevalence of hitting, punching, and slapping has declined over time, there was a significant resurgence noted from the 1970s onward. Despite the decline over time, assaults remained the single most common type of violence portrayed in the cartoons studied. Masked by this finding of a decline over time is another interesting phenomenon not previously reported in this article: During the same years that violent assaults decreased in frequency, the prevalence of acts of nonviolent physical aggression increased significantly ($p=.0001$), as shown in Figure 2. What appears to have happened is that the story writers who create the animated cartoons that people see have attempted—and successfully, we will add, although only to a limited extent—to respond to long-standing, widespread public pressure to reduce the violent content of cartoons by making their storylines less violent. At the same time, however, they have increased nonviolent, aggressive content—that is, actions that are antisocial in nature and personally harmful to others without rising to the "higher threshold" definition of violence. When we combine the nonviolent, aggressive content with the violent messages found in these cartoons, the changes over time virtually vanish. Future researchers studying antisocial media content would be wise, we believe, to differentiate between violence and aggression while at the same time also examining overall antisocial

content and the potential effects that exposure to such messages may have. Some researchers have made just such a distinction in their work (Thompson & Zerbino, 1995; Williams, Zabrack, & Joy, 1982), and the present study highlights the importance of continuing to do so.

In terms of what characteristics are associated with perpetrating or being victimized by assault, cartoons provide some realistic and some unrealistic messages. For example, with respect to gender, the cartoons show females as being nearly twice as likely as males to hit, slap, or punch another character, whereas in “real life” males are somewhat more likely than females to perpetrate this type of offense. As another example, regarding race, cartoons show Asian characters as being much less likely than other groups to assault others, whereas the “real life” statistics show that persons who are not Caucasian or African American are more likely than others to perpetrate assaults. In contrast, animated cartoons show youths as the group most likely to hit, punch, or slap others—a finding that is consistent with the national crime data. On balance, we find no particular patterning to the findings obtained regarding the characteristics associated with the perpetration of assault or being the victim of assault. It would be worthwhile for other media content researchers to examine the extent to which the media provide realistic or unrealistic messages about the “types” of persons or characters that perpetrate and/or are victimized by violence, as this is an area that has been subjected to very little research. Most of the published studies on this subject have reported the same types of mixed messages about representativeness that we mentioned above (Bufkin & Eschholz, 2000; Dixon, Azocar, & Casas, 2003; Elasmara, Hasegawa, & Brain, 1999; Menifield *et al.*, 2001; Wilson, Colvin, & Smith, 2002).

Some of the most interesting—and we think also important—findings derived by the present study pertain to the results obtained for the effects shown to result from hitting, punching, or slapping others. The large majority of the time, violent perpetrators engaging in assault were successful in “landing” their hits on their victims. Only rarely, however, did victims experience adverse effects as a result of being assaulted. Indeed, more than half of the time, assault victims experienced no effects whatsoever as a result of being hit, punched, or slapped. Only 1 victim in 5 was shown to feel pain as a result of being assaulted, and only 1 victim in 6 was shown to become dazed as a result of being hit. We believe that this sends a rather dangerous message to young viewers about assault—namely, that this type of violence is not very serious, as it rarely causes consequential harm to the victim. Compounding this message are our findings pertaining to backfiring, which showed that assaults were very unlikely to result in any adverse consequences to the perpetrator. Unlike “real life” assaults, in which victims take self-protective actions against their perpetrator(s) about two-thirds of the time, in the cartoon world, such actions rarely happen. Viewers are shown—and in particular, young viewers are taught—not only that hitting, slapping, or punching others is a commonplace occurrence, but also that these actions are unlikely to result in adverse consequences either to the victim or the perpetrator. This process of denial and minimization of effect/impact has been shown in numerous research studies to be associated with greater risk for perpetrating a variety of negative behaviors, including among others sexual abuse and sex offending, spousal abuse, kidnapping, and torture victims (Hartley, 1998; Lindsay & Smith, 1998; Schneider & Wright, 2001). Related back to the present study, we believe that internalizing the denial and minimization processes may be among the key factors that

influence some individuals to perpetrate assaults, thinking that their actions have few, if any, consequences on their victims.

Also of interest and importance, we believe, are the findings obtained for why cartoon characters supposedly assault others. Of the five most-commonly-cited reasons for hitting, slapping, or punching others, three could be said to be related to acting-out behaviors: anger, revenge, and inherent meanness. While the popularity of these reasons for assaulting others did not come as a surprise to us, we do think that it is worth mentioning that, through this type of story content, viewers are taught that physical violence is a commonplace way of responding to one's negative feelings. The cartoons portray and reinforce the notion that, if one is angry, hitting the person(s) responsible for the anger is an appropriate way of venting the anger. They portray and reinforce the notion that, if one wishes to exact revenge on someone who is perceived to have wronged him/her, hitting that individual is an acceptable way of getting that revenge. Likewise, cartoons convey the message that just being or feeling ornery is reason enough to hit, slap, or punch someone. In our opinion, these messages are inappropriate, particularly for impressionable younger viewers, since they suggest that physical violence is one of the preferable and most common ways of handling negative emotions. Although successful conflict resolution and appropriate strategies for managing one's anger could have been shown in the cartoons we studied, they rarely were. Clearly, counterprogramming would be a wise idea for the television and film industries to consider, and research on the effectiveness of providing counterprogramming messages has shown them to be effective at combating negative or undesirable media content (Power, Murphy, & Coover, 1996).

What Might Be Done Based on These Findings?

There are a number of things that might be done in an attempt to improve on the situation outlined above. First and foremost, studios producing new animated cartoons and the story-writers and producers of such cartoons could begin to develop storylines that are less violent, particularly where assaults are involved. Such cartoons *can* be entertaining without (or with significantly less) violence, and whenever violent content is deemed essential to the plot, it can be included in such a manner as to convey responsible messages (e.g., violence causes harm, perpetrators of violence may suffer consequences for their actions). We believe that one excellent way to begin to improve cartoons' content vis-a-vis hitting, slapping, and punching would be, quite simply, to provide animated cartoon content that minimizes violence as much as possible. This has been done with great success in recent years with cartoon programs such as *Arthur* and *The Adventures of Little Bear*, among others.

Providing counter-programming amidst televised animated cartoon episodes (or alongside such cartoons made available to consumers on home video and DVD) might also be an avenue worth exploring. One way that counter-programming could be implemented—one that we think might be worthwhile and cost-effective for the television and cable industries to consider—would be through the addition of interstitial segments in existing animated cartoon programs. Interstitials are small program segments, usually having running times ranging from 30 seconds to about 3 minutes, that can be inserted between cartoon episodes within a given program if the episodes are short enough or that can be inserted between programs

during the commercial blocks that occur before and after scheduled programming is broadcast. As short-form segments, interstitials would be inexpensive to create, and their short running times would allow them to be added to a variety of children's programs without requiring the broadcaster to edit these programs for time. The interstitials could be made so that they feature the same cartoon characters shown in the original (i.e., "problematic") cartoons, but with short vignettes that are simultaneously entertaining, enlightening, and prosocially-oriented. In this manner, the original, entertaining cartoons containing larger amounts of violent assaults can remain intact and be broadcast intact while being combined with newer content that is designed to be equally entertaining but more prosocial in nature. Over the years, some studios (most notably Hanna-Barbera and Warner Brothers) and some television networks (most notably the American Broadcasting Company [ABC]) have implemented educational and/or prosocial interstitial segments into their animated cartoon programming, and these programs have been entertaining and positive in their content.⁷ We applaud these efforts. Moreover, some research has been conducted on the effects of counter-programming, generally showing at least some measure of success in accomplishing its goals (Power, Murphy, & Coover, 1996). We believe that this type of approach to the issues pertaining to assault that we have outlined in this paper merits further exploration in the years to come. The key with all such programming is to make it entertaining, so that viewers will watch the programs willingly and pay attention to their messages.

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⁷Hanna Barbera, for example, included safety-related interstitial segments in its hour-long *Superfriends* cartoon block during the mid-1970s. These featured the Wonder Twins in three-minute self-contained cartoons that focused on such topics as crossing the street safely, how to be safe underwater, how to avoid drug use, and so forth. ABC is perhaps the best known provider of interstitial animated programming with its *Schoolhouse Rock* interstitial between-program segments featuring well-known vignettes like "I'm Only a Bill," "Conjunction Junction," and "Interplanet Janet." Most recently, the Warner Brothers studio's cartoon programs *The Animaniacs* and *Pinky and the Brain* incorporated highly-entertaining interstitial animated cartoons of one to three minutes in length, focusing on such subjects as the names of various countries of the world, different types of cheese and the countries from which they originate, and the elements of the periodic table.

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Figure 1.
Percentage of Violent Acts Involving Simple Assault ($p<.0001$).

Figure 2.
Percentage of Violent Acts Involving Simple Assault and percentage of All Acts Involving Physical Aggression.