

The Effect of Media Violence on Early Teens' Hostility

The Case of Secondary School Students at Bina Bangsa School – Kebon Jeruk
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Abstract: As violence shown in films steadily increases, notably in those targeted towards the teenage audience, this research looks into its effect specifically by observing the change in audiences' hostility. An experiment was done on 125 Indonesian secondary school students to observe the effect of exposure to media violence on their feelings of hostility, measured using Anderson's State Hostility Scale (1995, 2012). Students' hostility scores were measured before and after being exposed to an assigned clip; either a violent clip, or an equally exciting but non-violent clip as a control group. Results showed that those in the violent condition were significantly more hostile after watching than before watching, and those in the violent condition were significantly more hostile post-exposure than those in the non-violent condition. Out of the four dimensions of hostility, the dimension 'Lack of positive feelings' was significantly highest in both conditions, and only the dimension 'Aggravation' significantly differed between the two conditions. These findings indicate that exposure to media violence raises teen audiences' hostility levels significantly, which implies that further precaution should be taken when exposing teens to certain film content which has significant immediate effects on their moods, while also raising the issue of its potential long-term effects, should this exposure be continuous.

Keywords: Film violence, Experiment, State Hostility Scale, Media Psychology

1. Introduction

In recent years, there has been surge in gun violence in films marketed directly at the teen audience, i.e., PG-13 films. Bushman (2013) notes that films are more likely to get an R-rating over a scene which contains sexually explicit content, than when they include violence. This indicates that teens nowadays are exposed to violence in film more than ever, with research showing that gun violence shown in film has more than tripled since 1985, and has been more prevalent in PG-13 films than R-rated ones (Bushman et al., 2013). That being said, the films that teens have been watching these past few years are highly likely to include a violence.

Film, due to its immersive capacities, is a medium reputed for its potential to enhance the response to emotional stimuli (e.g. Gross & Levenson, 1995). In the same vein, films have the power to induce different mood states in its audience, based on what is shown on screen. The emotional effect of motion pictures is just one of the many short-term effects that this medium has on its audience. Through cinematic immersion, audiences are somewhat unknowingly given access to this undeniable emotional response which follows through in their moods, during and even after viewing/experiencing the film. With these emotional responses, comes changes in the different aspects of one's mood (i.e., raised or lowered levels of positive or negative mood aspects). One that has been heavily associated with viewing violence is hostility (Anderson, Carnagey, & Eubanks, 2003). Hostility is characterized as unfriendliness or showing animosity, which can be reflected through a person's behavior, attitude, or thoughts. This research shall focus on the subtly aggressive feelings within a person, i.e. their feelings of hostility.

Changes in feelings of hostility as a result of viewing violent media has been observed in communications papers (e.g. Anderson, 1997; Bushman & Huesmann, 2006) under the broad ongoing debate of whether 'violent media increase aggression'. Years of discussion and research on the issue of whether or not exposure to media violence cause increases in aggressive behavior have resulted in an

array of support for the notion that violent media does increase aggression (Anderson, 1997). In the current research, further confirmation shall be garnered as to whether this is true, within the vein of emotional responses as a result of exposure to violent media.

It should be noted that one's general innate hostility as a person can be attributed to their 'trait hostility', which should not be confused with their current level of hostility in the moment, which is their 'state hostility' (Anderson, 1997). State hostility is what is usually observed in instances of studying media violence effects, including the current study. Post-exposure state hostility shows concrete direct effects of said exposure. This has been a mode of research in plenty of studies worldwide (e.g. Brincat, 2015; Kronenberger, et al., 2005; Gentile et al., 2004; Bushman, 1995; Osborn & Endsley, 1971). However, empirical evidence on the effect of media or film violence in Indonesian teens or young teenagers is scarce. The following paper presents an experiment-style research testing the immediate effect of viewing media violence, on the moods of early teens, specifically their current hostility levels (state hostility). Furthermore, the existing studies on these topics have discussed hostility as a whole, without breaking it down into its individual dimensions and comparing these dimensions for a more extensive and detailed analysis of the hostility measured. This research gap is one that shall be tackled with the current study, which aims to answer the research questions (RQ) below.

1.1. Research Questions & Hypotheses

- RQ1: Is there a difference in early teens' state hostility before and after being exposed to media violence?
- Hypothesis: Early teens' state hostility after being exposed to media violence is higher than their state hostility before being exposed to media violence.
- RQ1a: How is each dimension of early teens' state hostility affected post exposure to violent media compared to non-violent media?
- Hypothesis: The 'Aggravation' dimension of post-exposure state hostility of early teens exposed to violent media is higher than that of early teens exposed to non-violent media.
- RQ2: Does the change in state hostility of those exposed to violent media differ from that of those exposed to non-violent media?
- Hypothesis: The change in state hostility of early teens exposed to violent media is higher than that of early teens exposed to non-violent media.

2. Literature Review

Violence in the media prevails in mainly two forms: non-fictitious media violence, as in the news (e.g. news reports about violent crimes in the neighborhood) and fictitious media violence, as in video games or other entertainment media. Generally, anything done in an injurious or physically damaging way may be described as violence, when it is done by one person towards another. Examples of violent acts include stabbing a person with a knife, shooting someone with a gun, or even without weapons violence can be carried out in forms of martial arts or combat.

This has inevitably been depicted fictitiously in various media forms, one of them being films or motion pictures. There are various ways through which violence is depicted in film; it ranges from the highly stylized and glamorized, to the repulsively bloody and gory. All in all, any scene portraying violence in any film is bound to elicit a distinct response from its audience; they may cringe, cover their eyes, or even feel nauseous, among other physical responses. This is in line with the notion that film is a media form by which emotional effects are achieved (Wirth & Schramm, 2005).

Research on the effects of violence as depicted in mass media have examined the effects of violence in video games, comic books, and even violent song lyrics. Most studies place emphasis on the relation between violent media and aggressive behavior, desensitization to violence, or level of real-world violence, and they support the correlation between themes of violence in the media and audience aggression (Anderson et al., 2003). Much of this research has been guided by or based on Bandura's social learning theory, which suggests that one way in which human beings learn is through copying, specifically observing and imitating ('modeling') the behavior that they see (Bandura, 1971).

With specific regard to media violence, the social learning theory suggests that children may learn aggression from viewing others. Therefore, the popular conclusion is that violence-viewing results in higher aggression, whether that be behavioral or attitudinal, in the audience.

However, there have also been some studies with results that show otherwise. A study on media violence titled “Media Violence and its Audience” (1997) by Anu Mustonen of the University of Jyväskylä discussed, among others, the variation in media violence, and the basis of choosing violent media content in individuals. Interestingly, unlike most previous studies that tested groups of young people, this study showed that violence-viewing was not a strong predictor of later aggression in adulthood. Notably, a connection was identified between violence-viewing and anxiety instead. Mustonen (1997) notes that a factor that likely contributes to the attitudinal effects of media violence is ‘attractive’ violence, i.e. glamorized or stylized violence shown in films.

2.1. Lasting Impact of Narrative and Visuals on Audiences’ Memories

Images or visuals are processed by the human brain 60,000 times faster than text (3M Visual Systems Division, 1997). which explains the frequent use of images in ads or the use of infographics in marketing, and the like. This is the reason that people are more likely to remember content presented in visual media. In this sense, movies are a medium that audiences will easily still remember after viewing, more than other text-heavy media such as articles. Along with this, another ‘more effective’ tool which is more memorable to audiences is the use of storytelling, or narratives. Narratives offer increased comprehension, interest, and engagement (Dahlstrom, 2014). When content is presented through storytelling, audiences are able to not only understand but also remember it better than when not presented as a story. For example, in educational videos, examples are often presented in the form of a short story, which helps the viewer better understand and remember the content.

Coupled with the fact that visuals are more powerful than words, this emphasizes how memorable movies are, as a medium, to the human brain. This may explain how exposure to film violence can have such an immediate and strong effect on viewers, or elicit certain emotional responses. In ‘film violence’, the violence is shown as part of a story or narrative, which follows a particular structure that describes the cause-and-effect relationships between events that take place over a particular time period that impact particular characters (Dahlstrom, 2014).

3. Methodology

3.1. Experiment Design

- Method: Experiment (Quantitative)
- Measurement tool: Custom Questionnaire featuring the State Hostility Scale (SHS) -- 35 items, each a short sentence describing feelings – either hostile (e.g. “I feel like yelling at somebody”, “I feel furious”), or friendly (e.g. “I feel cooperative”, “I feel agreeable”). Each item is to be rated on a 5-point Likert scale (1 as ‘I strongly agree’ to 5 as ‘I strongly disagree’). The friendly items are reversed-scored. All 35 items are categorized into 4 dimensions, D1 = Feeling Unsociable, D2 = Feeling Mean, D3 = Lack of Positive Feelings, and D4 = Aggravation (Anderson & Carnagey, 2009).
- Number of participants: 125 (68 in Main Sample, 57 in Control Group)

Table 1: Questionnaire Design

Questionnaire Section	Items/Description
Demographics	Age, Gender
Categorization	Class (indicating whether they are part of the Main Sample or Control Group)
Pre-Exposure State Hostility	35 items of the SHS, to assess respondents' general state hostility prior to being exposed to their assigned clip.
Exposure	Sample is shown either 'violent' or 'non-violent' clip.
Previous Viewing	Indicating whether or not they have seen the clip before this.
Post-Exposure State Hostility	35 items of the SHS, to measure respondents' state hostility after watching the clip.

For the 'Exposure' section, each group's exposure to violent media content was adjusted by determining which short film clip they were shown: either the 'violent' clip (compilation of scenes from *The Karate Kid III* (1989), duration: 16 minutes and 47 seconds) or the 'non-violent' clip (compilation of scenes from *Gorillas in the Mist* (1988), duration: 16 minutes and 47 seconds) -- chosen since they were rated as statistically equally exciting but differentially violent (Bushman, 1995).

3.2. Procedure

Participants were seated in their respective classrooms as per any usual school day. From their individual gadgets, they were asked to open the Google Forms link which led them to the custom questionnaire prepared for them. The students filled in the first section of the questionnaire, which measured their Pre-Exposure State Hostility. Next, teachers in all classrooms simultaneously showed their previously-determined clip (either "Violent" clip for the Main Sample, or "Non-violent" clip for the Control Group). After watching the clip, participants proceeded to complete the questionnaire (filling the SHS for a second time, for their Post-Exposure State Hostility), before being debriefed. All questionnaires were answered electronically via personal tablets, mobile phones, or laptops.

4. Result

In regards to RQ1, a paired-samples t-test was conducted to compare State Hostility in Pre-Exposure and Post-Exposure conditions. There was a significant difference in the scores for Pre-Exposure ($M = 2.4021$, $SD = .73612$) and Post-Exposure ($M = 2.6588$, $SD = .72665$) conditions; $t(67) = -3.180$, $p = .002$. These results suggest that teens' level of hostility increases after they have been exposed to media violence. $H_1: \mu_{\text{after}} > \mu_{\text{before}}$ is accepted.

For RQ1a, a one-way ANOVA was conducted to compare the four dimensions of Post-Exposure Hostility (Feeling Unsociable, Feeling Mean, Lack of Positive Feelings and Aggravation) in the exposure to violent media (Main Sample) and exposure to non-violent media (Control Group) conditions. There was a significant difference between groups only in the 'Aggravation' dimension at the $p < .05$ level [$F(1,123) = 6.526$, $p = 0.012$], while the other three dimensions had no significant difference between groups. Therefore, $H_1: \mu_{\text{AggravationMS}} > \mu_{\text{AggravationCG}}$ is accepted.

As for RQ2, 'Change in state hostility' for both groups had to first be calculated. For this, the overall mean post-exposure state hostility was subtracted by the overall mean pre-exposure state hostility, for both the Main Sample and Control Group. In formula form, 'Change in state hostility' can be stated as: $\mu_{\text{Change}} = \text{MEAN}(\text{MeanPost} - \text{MeanPre})$, where 'MeanPost' is the mean of the responses of all post-exposure state hostility items for each respondent, and 'MeanPre' is the mean of the responses of all pre-exposure state hostility items for each respondent. Then, the mean of the result of this subtraction is calculated; representing the change of state hostility for all respondents. The μ_{Change} values were then compared for hypothesis testing of RQ2 (μ_{Change} of Main Sample vs. μ_{Change} of Control Group), in an independent-samples t-test.

An independent-samples t-test was conducted to compare the change in state hostility in the violent (Main Sample) and non-violent (Control Group) conditions. There was a significant difference in the scores for the violent ($M = .2333$, $SD = .66600$) and non-violent ($M = -.2257$, $SD = .67314$)

conditions; $t(123)=3.819$, $p = .000$. The hypothesis “The change in state hostility of those exposed to violent media is higher than that of those exposed to non-violent media” ($H_1: \mu_{\text{violent}} > \mu_{\text{non-violent}}$) is accepted.

5. Discussion

5.1. Hostility Before and After Exposure

With the results of Research Question 1, we can conclude that there was a significant change in the teens’ hostility levels as a result of being exposed to violent media content. After watching the 17-minute compilation clip of excerpts from the 1989 film *The Karate Kid Part III*, the participants showed a significantly higher level of hostility than they did before watching. This confirms that the exposure to the clip did in fact not only change their hostility levels, but caused them to rise. This is in accordance to the Priming Theory, which explains that audiences, when exposed to certain media content, will have their thoughts and feelings ‘primed’ to be in line with that content -- in this case, the media content shown to the participants proved to have ‘primed’ their thoughts and feelings, in this case aggressive feelings in the form of hostility.

This could be caused by the fact that the stimulus material used for each group was a video taken from a film, which incorporates narratives and visuals. As discussed in Section 2, these two content-delivering tools are on their own already very easily processed by the human brain – narratives are understood and therefore remembered better than plain facts, while visuals are taken in or processed much faster than text. When combined, such as in a film, the content being delivered is therefore not only received by the brain very quickly, and also easily retained or remembered after the exposure, creating a long-lasting impact on the audience’s memory. This explains how after being exposed to the ‘violent’ clip such as in this experiment, the subjects still remembered the violent content – the mental images were retained in their minds – and thus score higher in their Post-Exposure State Hostility than Pre-Exposure.

The before-and-after comparison showed how with just a relatively short exposure period of 16 minutes and 46 seconds, violent media content can already affect early teens in their mood or feelings. This supports the notion of having to curate and monitor the level of violence which teens are exposed to, in order to avoid them being affected negatively by this exposure. Especially for this case, since the subjects were early teens, they seem to be quite susceptible to the effects of exposure to media violence, since they are very much still in their developmental years. The popular and expected result of ‘exposure to media violence raises aggression in audiences’ (i.e. teens) is proven with this experiment and analysis.

5.2. The Four Dimensions of Post-Exposure Hostility

In the study by Anderson & Carnagey (2009) regarding the effect of video game violence, which was the study that originated the breaking down of ‘state hostility’ into its four dimensions as previously stated, it was found that the “Aggravation” dimension resulted as most relevant to media violence-inspired affect, that is to say, it was the ‘most affected’ dimension when subjects were exposed to video game violence.

With the results from this study, it was proven that the dimension “Aggravation” indeed was also the most affected dimension, indicated by the Post-Exposure Hostility scores which significantly differed between the Main Sample and Control Group. Overall, the Post-Exposure Hostility of the Main Sample was higher than that of the Control Group – however, when broken down into its bare four dimensions, only this dimension, “Aggravation”, had significant difference among the two groups. This implies that this dimension was the most affected one by film violence, drawing a similarity to the effect of video game violence on hostility. The dimension “Aggravation” therefore can be concluded as the most affected dimension of hostility, when it comes to being exposed to these two media forms.

This significant difference between the two groups in the “Aggravation” dimension means that the items in this dimension were more polarizing to the two groups than the items in other dimensions; the two clips garnered distinctly opposing scores on these items when in the violent vs. non-violent condition. Looking into the seven items of this dimension (‘aggravated’, ‘irritable’, ‘stormy’,

‘discontented’, ‘vexed’, ‘frustrated’, ‘furious’), they seem to be “stronger” words that have highly negative connotations than the items in other dimensions (e.g. the “weaker” items such as ‘unsociable’ from the dimension “Feeling Unsociable”, or ‘bitter’ from the dimension “Feeling Mean”). However, this is just generally speaking and perceptions of the “strength” of these words may vary.

Continued analysis of all these dimensions showed that in both groups, the dimension “Lack of positive feelings” showed to be the highest. This dimension was the only one with reverse-scored items, that is, all other items had negative connotations (furious, mean, irritated, etc.) while the 11 items in this particular dimension had positive connotations (kindly, sympathetic, friendly, etc.) which were possibly quite stark in comparison to all the other items for the participants. The teens tended to associate these positive words with ‘average’ ratings in the 1-to-5 scale, around 2 to 3, as opposed to the much lower rating which were given to the other negative words. For example, a rating of “2” was, for all items in this dimension, reverse-scored into “4”, which is of course higher than the other scores of “1” or “2” given to the items in other dimensions (the negative words). The teens were reluctant to give “4” or “5” ratings in the items which had words with negative connotations, probably due to them not feeling like they really “strongly” felt those negative feelings described in those items. They were more comfortable giving an average, and therefore higher, rating to the items describing positive feelings. This could be a reason as to why this dimension scored highest in both groups, in their Post-Exposure Hostility.

However, that being said, the items in this dimension and their reverse-scoring are still necessary to the completion of this scale -- without these friendly, reverse-scored items, the whole questionnaire would only include straightforward, negative words, which would skew the participants’ perception of the questionnaire when they fill it in. The State Hostility Scale is labeled ‘Current Mood’ (in order for the respondent to not realize that it is their hostility that is being measured, which may lead to them giving a biased response), therefore should include a mix of positive and negative words. Should the items in this dimension be changed into regular-scored (i.e. not reverse-scored) ones, it would result in a questionnaire with just all negative words, and balance would be lost. All that to say, it is best to still keep these items as they are, unlike other questionnaires which have reverse-scored items that can easily be turned into regular-scored items (for example, other scales or instruments could possibly be improved by changing the wording of certain reverse-scored items into regular-scored items. This does not apply in the current case, with the State Hostility Scale).

5.3. Change in Hostility in the Violent and Non-violent Condition

The pre-exposure hostility of the teens in both groups were specifically measured in order for the researcher to be able to find and show the difference or change in hostility in the audiences, in both conditions. The change in hostility of the Main Sample significantly was higher than that of the Control Group, proving that this change in hostility was indeed caused by the violent content in the clip. This indicates that violent media content affects audiences negatively (raises their hostility levels), more than non-violent media content does. The two clips were previously rated to be equally exciting but differentially violent, therefore confirming that the only distinguishing factor in the two clips was the level of violence in them. It should be noted that the original or Pre-Exposure State Hostility in the two groups were statistically equal (an independent samples t-test was run for Pre-Exposure State Hostility of Main Sample vs. Pre-Exposure State Hostility of Control Group, which resulted in no significant difference in the scores for the Main Sample ($M=2.3996$, $SD=.67536$) and Control Group ($M=2.5649$, $SD=.63512$); $t(123)=-1.401$, $p = .164$), which is to say that both groups had an equal base line of state hostility before being exposed to any stimulus material. This ensured that the change in hostility measured was indeed compared fairly.

The results show that the effect of media violence is indeed apparent, as it has been compared to that of non-violent media. This is also again in line with the Priming Theory, showing that when the audience is only exposed to non-violent media, their hostility levels do not rise as much as when audiences are exclusively exposed to violent media. This shows how the audiences’ minds and feelings have been primed by the media content which they have just watched.

5.4. Real-Life Implications

In light of these results, given that such researches are quite rare in Indonesia, some concerns can be raised regarding the curation of teens’ – or even children’s – intake of media such as television programmes or films. Seeing the big picture, the fact teens are being exposed to such violent content

and at this magnitude, might be seen as the root cause; is the MPAA rating system at fault here, for not being strict enough with their PG-13 ratings, and therefore allowing early teens to be exposed to this significantly-impactful violent content in movies? Focusing more on the Indonesian audience, what about the age restriction policies in mainstream cinemas in Indonesia? Currently, there are no specific tight restrictions regarding viewing age in cinemas. Customers are not limited to certain ages when purchasing movie tickets in the film theatres in Indonesia, prompting any age group to be able to purchase tickets to and watch any film that they like. This research's results - and subsequent questions raised - implies the possibility of the need to perhaps regulate "viewing age" policies in Indonesian cinemas, to minimize increasing aggression (especially hostility) in their youth. This is of course one small step to prevent or reduce the effects of film violence exposure, in the big picture of this ongoing issue.

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