

Review Article

A Literature Review on the Effects of Superheroes on Children

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Superheroes are increasingly popular in the media, with many new movies coming out in this genre. Many small children are also consumers of superhero media, which raises possible concerns given the violent nature of many superhero programs. This study is a literature review to investigate what is known regarding the effects of superhero media on small children. A search was performed of multiple databases, and several articles found. Overall, there is conflicting reports regarding whether or not exposure to superhero content leads to increased aggression in children, although the ill effects of violent media in general on children has been well established in the literature.

Keywords: Superhero; Media; Violent; Aggression; Children**Abbreviations**

AAP: American Academy of Pediatrics; T1: Time 1; T2: Time 2

Introduction

This question was inspired by the observation of how popular superhero play is in my son's kindergarten classroom, as well as how the boys who are most engaged in superhero play also tend to be the ones who get disciplined the most for aggressive play. This led to my husband and I wondering if there is an association between superhero media and aggression.

The clinical question

Are children who consume superhero media more or less likely to be aggressive when compared to their peers?

Search terms

Superheroes; Media (television, toys); Children (youth, preschoolers); Aggression (violence, bullying, antisocial behavior, interpersonal relations, emotional response, effects, play); Psychology (mental health, development)

Search engines

PubMed; Google Scholar; EBSCOhost

Search findings

Christakis D, et al. Virtual Violence, Council on Communications and Media. *Pediatrics*. 2016; 138(2).

This is a policy statement from the American Academy of Pediatrics (AAP) regarding virtual violence, a term they use to describe all forms of violence not experienced physically. They cite numerous studies and meta-analyses, including one by BJ Bushman et al, and state that in the medical literature there has been reported a "significant association between exposure to media violence and aggressive behavior, aggressive thoughts, angry feelings, and physiological arousal." They admit that some of these correlations are in the small to moderate range, but note that they are stronger than the associations between passive smoking and lung cancer.

They recommend discussing "media diets" during well-child exams, including both how much screen time children get, as well as the content of what they are watching [2].

This study, conducted by communications professors, builds on prior research indicating three well-documented harmful effects of consuming violent media: learning aggressive attitudes/behaviors, desensitization, exaggerated fear. The authors then went further to identify eight contextual factors that they have found determine the likely impact of violence on both child and adult viewers: (1) the nature of the perpetrator (how attractive they are); (2) the motive or reason for violence (i.e. justified or not); (3) presence of weapons; (4) violence that is extensive or graphic; (5) violence that seems realistic; (6) violence that is explicitly rewarded or simply goes unpunished; (7) the impact of violence on victim; (8) violence that is portrayed as humorous. Using these guidelines, they reviewed both children's and adult's TV programming from 1995-1996 to evaluate: (1) how children's programs compare with adults' in amount of violence; (2) how children's programs compare with adults' in the above contextual features associated with violent portrayals. They also investigated these questions between five subgenres of children's programming, one of them being superhero. Sample size was 2757 programs. They found that children's programming was significantly more likely to feature aggression (69% vs 57%) and a higher concentration of violence (three times the violent events per hour). They also found that children's shows were more likely to depict violence that was immediately rewarded (32% vs 21%), and 66% of violent encounters in children's shows portrayed unrealistic harm to victim compared to 26% in adult programming. Also, 76% of violent scenes in programs targeted to children contained some form of humor, compared to 24% with adult's programming. Between the subgenres of children's programming, they noted that 97% of sampled superhero programming contained violence, featuring almost 30 violent events per hour. They further noted the nearly 25% of program time was devoted to violence in sampled superhero shows. Superhero shows were also more likely to feature violence that appeared to be justified or morally correct, and more likely to feature repetitious violence and less likely to contextualize violence with humor. The authors stated

that this mixture of superhero shows portraying an ample amount of violence that appears to be justified could increase the risk that violent behavior could be learned by children [3].

This is an article written in the journal *Clinical Pediatrics* that investigated positive and negative themes in superhero films in attempt to guide health care providers and parents in developing co-viewing strategies to watch superhero media with children. The study was performed during the summer of 2015. Sample was taken from the highest lifetime grossing superhero films, and the mean year of release for films was 2002. Films were watched by five viewers, who coded every film independently for positive and negative themes. Of note, there was weak agreement among the five viewers. Average number of positive themes per hour among the movies was 19.4 per hour, and average number of negative themes per hour was 29.5. The article also cites prior studies regarding parental co-viewing and its potential to modulate children's perception of media. They state that a meta-analysis does *parental mediation of media influence child outcomes* by KM Collier showed that passive co-viewing of violent media sends an implicit message to children that their parents approve of the content. Furthermore, they found that restrictive mediation, or restricting the amount of media a child sees, decreases early sexual behavior without affecting aggression or substance use, while active mediation, where parents discuss what is being watched, does not decrease the amount of media consumed, but does decrease aggressive behavior, substance use, and early sexual behavior. The article also includes a template the authors provide for co-viewing of superhero-based films [4].

This study examined 240 preschoolers to examine effects of superhero engagement on children's physical, relational, and verbal aggression across time, as well as on their general prosocial and defending behaviors. The sample was 49% male with an average age of 4.8 years, 86% White. The main source of data for the study was obtained by interviewing parents at two different time points, one year apart. Parents were asked which superhero their child most identifies with, how often the child watches TV/movies with superheroes, and how the parents felt about superheroes. Parents were also asked to report how frequently their child engages in: physical aggression, relational aggression, and verbal aggression, as well as their general prosocial and defending behavior. Children were also independently interviewed and asked to identify a favorite superhero and describe why, which also helped to establish how "engaged" the child was with superheroes. The children's reported favorite TV programs were also given a "violence score" by the interviewers. Although the sample was almost half female, there were not many significant results for girls; however, there were many significant findings for boys. Overall boys showed significantly higher levels of superhero engagement ($p < 0.001$), exposure to violence ($p < 0.01$), and physical aggression ($p < 0.01$) in the time 1 (T1) sample. Also for boys, superhero engagement at T1 was positively associated with TV violence, physical/relational/verbal aggression, and negatively associated with prosocial behavior. In terms of how the behaviors at T1 compared with T2 one year later, higher levels of superhero engagement at T1 in boys was found to be positively associated with superhero engagement, and physical and relational aggression at T2, even after controlling for exposure to other forms (non-superhero) of media violence. Superhero engagement was not associated with defending behavior at either time point for boys or girls. Authors conclude that the results

suggest that engagement with superheroes is related longitudinally to preschool children's aggression but not to prosocial or defending behavior. They postulated that the mixing of prosocial and aggressive behaviors common in superhero media is too complicated for preschool children to disentangle, which may help to explain some of their results [5].

This is a study conducted with 134 children, 62 boys and 72 girls, with an average age of 4.91 years to examine if superhero program viewing is associated with gendered play and weapon play. The children were primarily White and from middle class families. The study is based on the theory that children's play is structured and channeled by social influence, including media, and that through play children reinforce learned behavior. There was a 73% consent rate for the study, and a 78% retention rate at Time 2 (T2) one year later (50 boys, 55 girls, average age 5.81 years.) Questionnaires were the main source of data, which were all parent reported, and 98% from the mother. Parents were asked: (1) how often child watches TV shows or movies portraying superheroes; (2) to complete a Preschool Activities Inventory, a measure of gender stereotyping in terms of activities and play of preschoolers in the past month; (3) to indicate how frequently their child played with different weapon-like toys in the past month; (4) to indicate their child's three favorite TV programs to assess for exposure to TV violence; (5) to report if the parents actively mediate their child's media use. In their findings, boys were significantly more exposed to both superhero programs and violence in the media compared to girls, and boys also showed significantly higher levels of male-stereotyped play and weapon play. There was no gender difference for active parental mediation at either time point. For boys, superhero exposure associated with higher levels of male-stereotyped play and weapon play at every time point, and over time. For girls, superhero exposure was only associated with weapon play, and only at T2. Also, as an independent risk factor, overall TV violence exposure was strongly associated with superhero exposure and weapon play for boys only. Additionally, results did not show a significant interaction between active parental mediation and superhero exposure or gendered play for both boys and girls. However, interestingly among girls with high superhero exposure, weapon play was highest for girls who received frequent active mediation from parents, for reasons that are unclear. Weapon play was lowest for girls with low superhero exposure who received frequent active mediation [6].

This study was conducted to investigate the influence of superhero toys on the quantity and quality of play among 4-year-old boys. Fifty-eight boys attending one of 12 English-speaking childcare centers in a large bilingual (French, English) metropolitan area participated in the study, with a mean age of 54.85 months. The boys were paired up in dyads based on peer nomination, in attempts to create dyads where the children were friends. They were provided a five-minute warm-up session, after which superhero character toys were placed on the floor. Play was observed, and after eight minutes the toys were removed and a second set of non-superhero toys introduced. Play was observed for another eight minutes. The authors found that there was greater physical activity among the boys during the non-superhero condition compared to the superhero condition, which is counter to popular thought that superhero play is associated with hyperactivity. The authors also state they did not detect any aggression in either of the play conditions. There was a low frequency

overall and non-significant difference between the two conditions for children pretending to play with aggressive objects (eg, pretend guns, swords), with more noted in the superhero condition. Additionally, children who had been identified as preferring to watch superhero programs were more likely to engage in attack and battling themes when provided with both superhero and non-superhero toys [7].

In this study, 58 boys with an average age of 54.95 months from a middle-class, bilingual (French, English) background were observed playing in pairs with both superhero and generic toys. The aim of the study was to investigate how play with superhero toys, with associated prescribed roles and themes, influenced boys' coconstruction of shared meanings. This alludes to prior research that has demonstrated that playing with superhero toys can lead to play where children simply re-create scenes they have seen, instead of creative play. For the results, no significant difference was detected between the content of pretend play in either of the two sessions, with superhero toys or generic toys. They noted that when the pairs played with superhero toys, they still engaged in discussion and explanation of play themes, indicating some degree of creativity. Additionally, when the pairs played with superhero toys, they noted more frequent prosocial behavior, such as sharing materials and positive interactions, compared to when they played with generic toys [8].

This article was written by a preschool teacher regarding her experience with incorporating superhero play in her Head Start classroom. It starts by the teacher stating that in her experience superhero play quickly develops into aggression and/or violence. However, she attended a seminar for teachers that discussed superhero play that made her rethink her perspective. Well into the school year, after the class had already undergone many guided conversations regarding avoiding violence and aggression, the teacher started introducing superhero play. She started by asking children during group time what superheroes do and how to identify them, guiding them to focus on traits such as "kind, caring, and helpful." After this, the children brainstormed names for their own, made-up superheroes, and created insignias. The teacher then again reminded the children of classroom rules, such as keeping hands to self, walking not running, inside voices, and again reviewed the positive traits of their superheroes. After all of this, the teacher introduced the insignias and capes for the children to play with. In her experience, the children embraced the ideas regarding the superheroes being helping, caring, and kind. She noted that the children's play was creative, cooperative, and organized, with both boys and girls participating in the play. She further noted that the level of cooperative play in the classroom increased, and kids were largely able to solve their own problems without adult intervention. Overall, the teacher was satisfied with how this superhero play had unfolded in her classroom [9].

This study starts by stating that there are more acts of violence in *The Mighty Morphin Power Rangers* than prior children's shows, and that there is widespread concern from teachers that the Power Rangers were leading to increased violence in their classrooms, due to children imitating what they were seeing on TV. The study consisted of a questionnaire sent to teachers with open-ended questions, asking teachers to describe how children "brought the Power Rangers" into their classrooms, and whether or not the teachers had any concerns regarding the impact that the Power Rangers were having on the classrooms. The questionnaire was not distributed in a systematic

way, but instead at professional conferences, through early childhood networks online, and through professional organizations. Teachers who responded worked primarily with children ages 2-7 years. A total of 204 questionnaires were completed, from teachers in 17 states. In their findings, 97% of teachers voiced at least one concern about negative effects of the Power Rangers in their classroom, and many stated that they have seen Power Ranger engagement linked to increased violence in their classroom. Additionally, there was also concern expressed about children being confused in Power Rangers were real or not, and concern regarding child obsession with the Power Rangers. The author discusses pros and cons of outright banning superhero play, and concludes by encouraging teachers to ensure safety in the classroom, give children alternative storylines to explore, reach out to parents regarding concerns, and possibly facilitate Power Ranger play [10].

This study utilized the Superheroes Social Skills manual developed by the Utah State Office of Education to investigate if it was effective at reducing disruptive and aggressive behavior in students with high-incidence disabilities, which they categorized as including: learning disabilities, emotional and behavioral disorders, mild intellectual disabilities, speech and language impairment, and other health impairments. They also hoped to teach the children social skills through the Superheroes Social Skills manual. They note in the introduction that students with high-incidence disabilities are at high risk for social and behavioral deficits that can have a negative impact on their education. The study consisted of six African American students in a predominately African American populated elementary school. All six children spent most, if not all, of their time in special needs classrooms. One participant was removed following the first intervention after he was placed in a more restrictive educational setting. For the intervention, the Superheroes Social Skills manual was followed, which started by group facilitators reviewing group rules, introducing target social skills, and the rationale for their use. Students then viewed videos of animated superheroes explaining importance of the skill and describing steps for successful skill use, followed by videos of children correctly utilizing the skill. Following the videos, there was role-play with the target skill, followed by approximately ten minutes of observed free play. Results showed a substantial decrease in mean classroom disruptive behavior after introduction of the Turn Taking skill, which persisted during follow up at 1 and 2 weeks. The participants also demonstrated improved skill accuracy for all three social skills post-intervention. Furthermore, there was an improvement in social network salience, indicating that the children adopted a more nuclear role in the classroom.

Discussion

Overall, there are many articles that were found pertaining to violence and superheroes, however most studies were of lower levels of evidence. While not dealing explicitly with superhero media, the AAP does warn about the risks involved in pediatric consumption of violent media and advises physicians to counsel parents on it as well. Furthermore, as multiple of the articles point out, superhero programming tends to be violent, which would categorize it as a possible risk for exposed children per AAP's findings.

The two studies most pertinent to the clinical question, both by Coyne et al, did find that boys with more exposure/engagement with

superhero media were more likely to have male-stereotyped play, weapon play, and aggression, which is concerning. However, the studies with superhero toys by Parsons et al showed some surprising results, including increased prosocial play among boys engaged in superhero play compared to generic toy play, and they did not note any aggressive behaviors in either play condition. However, there are limitations with both of Parsons' studies, including the limited amount of playtime that was observed.

Additionally, other studies in the educational environment, such as those published by O'Handley and De-Souza, have showed positive changes in children exposed to superhero content. However, it should be noted that in both of these cases, the superhero exposure was not to traditional superheroes from the mass media, but rather invented superheroes created in an educational environment. Additionally, in both cases there was a great deal of priming the participants prior to the introduction of superheroes, so this is less likely to be relevant to the effects of popular superhero media on children.

There were also mixed findings regarding the effects of parental mediation on children's media consumption. In the study by Bauer et al, they cited a meta-analysis that found that active parental mediation decreases aggressive behavior, substance use, and early sexual behavior. However, in the 2014 cohort study by Coyne et al, they did not observe much effect from active parental mediation on superhero exposure or weapon play.

Overall, this project has unveiled the complexity of the possible effects that exposure to violent media in general, and superhero media in particular, may have on child development. It appears that superheroes can be used for good in child development if adults take the time to guide their exposure and play. However, we must keep in mind that there are real, established risks of exposure to violent media, including that commonly featured in superhero shows, and these risks should be discussed with families during well child visits.

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