

Exposure to Media on Perceptions of Violence as a Function of Trait Aggression and Athletic Status

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ABSTRACT. Little research has been conducted regarding the perceptions of violence and the variables that influence these perceptions, especially in a population primed for more aggressive behaviors than others: collegiate athletes. The present study examined the effects of trait aggression and exposure to media on perceptions of violence in athletes using a 2 x 2 x 3 design. Participants ($N=91$) were randomly assigned to watch a violent or nonviolent video clip after completing a demographic questionnaire that included athletic status and a trait aggression questionnaire. After watching the clip, participants completed a provocation stories task. Although there was no main effect of exposure to media, $F(1, 79) = 0.18, p = .675, \eta_p^2 = .002, \text{power} = .070$, there were main effects for trait aggression, $F(1, 79) = 16.47, p \leq .001, \eta_p^2 = .173, \text{power} = .980$, and athletic status, $F(2, 79) = 4.88, p = .010, \eta_p^2 = .110, \text{power} = .789$. No 2-way interactions were observed. Results indicated a statistically significant 3-way interaction, $F(2, 79) = 3.17, p = .047, \eta_p^2 = .074, \text{power} = .592$. The study's implications for college students, especially those with high levels of trait aggression, and future directions are discussed.



Open Data and Open Materials badges earned for transparent research practices. Data and materials are available at <https://osf.io/735ru/>

Research has shown that 75% of youth-oriented media contains violence (i.e., more severe types of aggression such as assault, shootings, or murder; Anderson & Bushman, 2001; Levermore & Salisbury, 2009). Some studies (e.g., Anderson & Dill, 2000) found that exposure to violent television shows or violent video games was positively correlated with violent thoughts, actions, and feelings in adolescents immediately following exposure. Other studies (e.g., Huesmann & Taylor, 2006) researched the enduring or long-term effects of violent media (e.g., retesting the same individuals 4 months to 15 years later) and found that fictional violence portrayed in media correlated with a long-term increase in acts of real-world violence.

Although there has been an abundance of

research conducted regarding the effects of violent media on aggression, little research has been conducted regarding the perceptions of violence (i.e., the degree to which an individual identifies an act as violent; Kirsch & Olczak, 2002a) and the variables that influence these perceptions. Within the realm of psychology, it is important to study perceptions of violence because individuals' perceptions regulate their behavioral and cognitive responses.

Exposure to Media

One variable that may influence a person's perception of violence is observing violence. Children and adults both exhibit an increase in aggressive behaviors and thoughts after exposure to violent media such as video games, television commercials,

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and action movies (Brocato, Gentile, Laczniak, Maier, & Ji-Song, 2010; Buschling & Krahé, 2013; Huesmann & Taylor, 2006). A retrospective study by Levermore and Salisbury (2009) found that playing video games with high levels of violence increased positive beliefs about aggression (i.e., aggression is acceptable and beneficial) and correlated positively with verbal aggression over time.

The effects of media exposure can be immediate or cumulative, meaning that exposure over time accumulates and creates a lasting impact on behaviors and cognitions. Thus, the more an individual is exposed to violent media, the more stable the learned aggression. This can happen for several reasons.

According to social learning theory, an individual learns aggression, not only by directly performing aggressive acts, but also through observation and replication of such behaviors by other individuals (Bandura, 1973). For example, Lang (1999) found that individuals exposed to a violent video game, including individuals who merely watched the violent video game, demonstrated increased feelings of aggression compared to those exposed to a nonviolent video game. Furthermore, participants who actively played the violent video game reported even greater feelings of aggression. Notably, the active players did not significantly differ from those who simply observed the violent video game. These findings support social learning theory (Bandura, 1973) because participants who actively played did not differ significantly from those who merely observed.

In another facet of social learning theory, if an individual witnesses an act of aggression, that individual will be more likely to imitate that act of aggression later, especially if the act is successful in achieving the desired effect (Bandura, 1973). To illustrate, Miranda, McCluskey, Silber, von Pohle, and Bainum (2009) examined how play would be affected after a child viewed a 5-minute clip of a violent cartoon in the presence of a silent adult or an adult who vocally disapproved of the violence within the cartoon. They found that children with the silent adult present demonstrated more aggressive play and more verbal and physical aggression than children with the vocal adult. The study demonstrated the strength of a simple mediator in deterring aggressive behaviors that result from exposure to media violence.

Griffiths and Shuckford (1989) proposed another theory to explain this phenomenon. Desensitization theory suggests that exposure to

second-hand violence in a relaxing setting, such as violence portrayed in media, results in diminished physiological responses to violence over time (Griffiths & Shuckford, 1989). They argued that desensitization arises when the stimuli being presented (e.g., the violent media) are no longer new and exciting. When individuals become desensitized to the stimuli, in this case violent media, they experience decreased psychological and physiological arousal. The violence is gradually viewed as commonplace and normal, which in turn makes aggressive cognitions and behaviors the norm as well. One longitudinal study of schoolchildren found that increased exposure to violent media in fourth grade decreased empathy levels in fifth grade; this, in turn, increased aggressive behaviors in sixth grade (Möbke, Kliem, & Rehbein, 2014). By promoting positive beliefs about aggression and increasing aggressive behavior, repeatedly, over time, exposure to violent media may cause individuals to perceive more instances of aggression and violence. Perhaps instead of external stimuli, there are internal or participant characteristics that may influence one's perception of violence.

Trait Aggression

Another variable that may lead people to perceive violence is their own level of trait aggression. Higher levels of trait aggression (i.e., the degree to which an individual performs behaviors intended to inflict harm on another individual; Anderson & Bushman, 2001) may lead to an increase in perceiving aggression and violence in others, even when it is not present. For example, incarcerated men with a history of extreme violence tend to perceive social interactions as more threatening and hostile than other populations (Kret & de Gelder, 2013). Furthermore, violently inclined men demonstrated more inaccuracies in perceiving intentions and emotions when asked to ignore aggressive stimuli. Kret and de Gelder (2013) hypothesized that the hostile world view adopted by incarcerated men may form as a means of survival in prison and other violent settings (e.g., within gangs and crime-ridden neighborhoods). By allowing an individual to react more quickly to perceived threats, a hasty perception of violence can be an adaptive skill rather than an inherent flaw.

However, the effect of trait aggression was not limited to extremely violent men. Even students who reported higher levels of aggression were more likely to perceive aggression where it was not present (Hall, 2006). Hall (2006) observed

that undergraduates with higher levels of trait aggression perceived the world as more negative. These individuals inaccurately perceived negative emotions more often than individuals with lower levels of aggression. It seems that, if an individual was primed to see hostility in other people, then that individual may be more likely to perceive the world as hostile and violent. Essentially, individuals created a worldview that altered their expectation about the world and other people's intentions, controlling their perception and interpretation of the world (Hall, 2006).

The previous studies may lend support to the locus of control theory of aggressive behavior, which states that individuals with an external locus of control will display significantly more physical, verbal, and indirect aggression (Österman et al., 1999). Locus of control refers to the degree in which individuals believe they have control of the situations in their lives (Österman et al., 1999). Essentially, individuals with a hostile perception of the world may attribute the cause of what happens in social situations to something out of their control. Thus, they may react more aggressively because they do not think they are responsible and attribute any blame to the other person (Hall, 2006).

Perceptions of Violence

Several researchers have looked at the effect of violent media on aggression and the perception of violence, but varied in the type of media used as the stimuli. In terms of print media, Kirsch and Olczak (2002a) examined the effects of reading two types of comic books on the perception of relational aggression (i.e., acts intended to harm an individual by harming a social relationship).

Kirsch and Olczak (2002a) found that participants who were assigned to read violent comic books perceived the provocateur's mood and intentions as more hostile and recommended more retaliation than participants in the mild violence condition. The findings support the assumption that comic books may influence perception of social information similar to that of other media forms such as television or video games. More importantly, Kirsch and Olczak (2002a) argued that repeated exposure to violent comic books may increase the probability of long-term aggressive behavior. However, the authors did not look into the level of trait aggression prior to media exposure, which might have influenced the outcome.

In addition to measuring participants' reactions to ambiguous fictional vignettes, other studies

measured perceptions of violence from participants' reactions to photographs of ambiguous facial expressions. Hall (2006) used photographs of facial expressions to research the relationship between an individual's self-reported aggression and the perception of anger in other people. Hall (2006) found that individuals with a higher level of self-reported aggression were more likely to perceive aggression in nonaggressive facial expressions than individuals with lower self-reported aggression. Higher levels of reported aggression also correlated with a more external locus of control, which may link aggression to lower feelings of control in neutral social interactions. Furthermore, the Hall Resiliency Scale (Hall, 1998) showed that higher reported aggression negatively correlated with autonomy and initiation.

Hall's (2006) research provided evidence for the idea that individuals with higher levels of trait aggression would perceive the world as more negative than less aggressive individuals. Because these individuals see anger and hostile intent where it is not present, their schema of the world as a hostile place is regularly reinforced and the effect is intensified.

Similar to Hall (2006), Kret and de Gelder (2013) also utilized photographs to examine how violent male offenders perceive facial expressions and body postures. The experimental group consisted of 29 violent offenders from Dutch prisons based on their case history. The comparison group, similar in nationality and matched on age, included 31 men with various levels of education and employment but no criminal history. Four experiments were conducted in which participants were asked to match body postures to facial expressions and to identify the facial expressions of the subjects in the photographs. Kret and de Gelder (2013) found that the experimental group performed much slower than the control group in matching postures and expressions and consistently misidentified expressions (e.g., misclassifying fear as anger) more often than the control group. Kret and de Gelder (2013) demonstrated how men with a history of extreme violence perceive social interactions with difficulty and may help explain the perception of violence by violent individuals.

Rationale

Previous research has focused on trait aggression and perceptions of violence (e.g., Hall, 2006) and exposure to violence and perceptions of violence (e.g., Kirsch & Olczak, 2002a). The present study

extended the research to an understudied population that may be primed for aggression: athletes. Collegiate athletes are especially interesting because they spend much of their time engaging in behaviors that would be considered aggressive outside of practice or competition. Therefore, this particular population may be primed for more aggressive behaviors than other populations. It is possible that the aggression from competing may extend into their lives outside of the sport. The present study utilized a questionnaire with several vignettes to measure perceptions of violence (Kirsch and Olczak, 2002a). This questionnaire assessed participants' perceptions of violence or nonviolence at that point in time, which provided information about their overall perceptions of violence outside of the experimental context. The present study assessed differences in the perception of violence between current athletes, former athletes, and nonathletes.

Hypotheses

It was hypothesized that participants who viewed violent media would rate ambiguous scenarios as more violent than participants who viewed nonviolent media. Furthermore, it was hypothesized that participants with higher levels of trait aggression would rate ambiguous scenarios as more violent than participants with lower levels of trait aggression. It was hypothesized that athletes (current and former) would rate ambiguous scenarios as more violent than nonathletes. It was hypothesized that neither two-way nor three-way interactions would be significant.

Method

Participants

Data were collected from 100 participants. Participants with incomplete forms and participants younger than 18 years of age were removed from the data set ($n = 9$). Thus, the sample consisted of 91 undergraduate students attending a small, Methodist-affiliated liberal arts college in the mid-Atlantic region of the United States. The sample included 26 men and 65 women; 27.5% were current college athletes (i.e., currently playing a college sport), 17.6% were former college athletes (i.e., no longer participating in a college sport but used to), and 54.9% were never college athletes (i.e., never played a college sport). Participants were African American (51.6%), European American (37.4%), Latino/a (2.2%), and Other (8.8%). The ages of participants ranged from 18 to 42

($M = 20.71$, $SD = 3.76$). A convenience sampling method was used to gather participants because it was the most time-efficient means of obtaining the desired sample size. Participants were mainly recruited from psychology classes and kinesiology classes. All participants were either full-time or part-time students.

Measures

Exposure to media. Only media exposure was manipulated in the present study and was categorized into two levels: nonviolent and violent. Nonviolent media was defined as media that depicts actions or behaviors that do not cause harm to the individual and others around that individual (e.g., cooking video clip). Violent media was defined as media with themes of aggression and violence that portrays acts of aggression between two or more individuals (e.g., fighting video clip). In the present study, participants were randomly assigned to one of the two conditions, and there were two levels to this variable: violent ($n = 49$) versus nonviolent ($n = 42$).

Trait aggression. Aggression has been defined in several different ways because it can take so many different forms such as exclusion, name-calling, hitting, and even lethal assaults. In the present study, trait aggression was defined as the degree to which an individual, on average, performs behaviors with the intention of harming another individual. The Buss-Perry Aggression Questionnaire (BPAQ; Buss & Perry, 1992) was used to measure trait aggression, and participants' scores were continuous in nature. The BPAQ (Buss & Perry, 1992) is a 29-item self-report measure of aggressive behaviors that covers four subgroups of aggression: physical, verbal, anger, and hostility. Participants used a 7-point Likert-type scale from 1 (*extremely uncharacteristic of me*) to 7 (*extremely characteristic of me*). Questionnaire items include, "I get into fights a little more than the average person" and "I sometimes feel that people are laughing at me behind my back." Higher scores on the aggression scale indicate a higher level of trait aggression present in an individual.

Ebesutani, Kim, and Young (2014) calculated a reliability estimate of .90 for a sample of 199 children and adolescents in Mississippi. Another study calculated the test-retest reliability of this questionnaire at .78 for a cross-sectional study of 492 undergraduate students in Iran (Samani, 2008). In the present study, the Cronbach's α for the BPAQ was .89 ($M = 88.99$, $SD = 24.68$).

Athletic status. All participants completed a demographic questionnaire about their age,

gender, race/ethnicity, class rank, and history of collegiate athletic experience. Participants' athletic status was determined based on responses to the following question: "Are you currently a college athlete?" To make it clear if they were currently participating in collegiate sports, participants were asked to circle one of the following responses: (a) "Yes, I currently play a college-level sport," (b) "No, but I used to play a college-level sport," or (c) "No, and I have never played a college-level sport." There were three levels to this variable: current athlete ($n = 25$), former athlete ($n = 16$), and nonathlete ($n = 50$).

Perceptions of violence. The dependent variable was the perception of violence, defined as the degree to which an individual identifies a behavior as one with an intention to cause harm to another individual. The Relational Provocation Stories Task (RPST; Kirsh & Olczak, 2002b) is a measure of perceived violence that requires participants to read six hypothetical stories that describe fairly ambiguous, relationally aggressive events happening to a child (Kirsh & Olczak, 2002b). For example, in one scenario, a child plays catch with other kids on the playground, and one of the other children playing throws the ball, hitting the first child in the back with the ball. None of the stories state the gender of any of the characters involved or the intention of the provocateur. Participants were asked to rate the level of aggressive intent of the provocateur on a 4-point scale from 1 (*no aggressive intent*) to 4 (*extremely aggressive intent*). Higher scores on the provocation task indicate a higher degree of perceived violence. Participants' scores were continuous in nature.

The RPST was derived from a larger scale, the Aggressive Provocation Questionnaire (O'Connor, Archer, & Wu, 2001), in which the Cronbach's α was calculated for three subscales: Anger ($\alpha = .92$), Frustration ($\alpha = .92$), and Irritation ($\alpha = .93$). In the present study, perhaps due to the shortened nature of the survey, the Cronbach's α for the RPST was .67 ($M = 12.28$, $SD = 3.43$).

Procedure

The researchers obtained Wesley College Institutional Review Board approval (IRB#: 01272017-05) before starting the study and obtained approval again for amended procedures. Following the original procedures, the study was advertised via flyers around campus, and participants came to a specified classroom at 5:30 p.m. or 6:30 p.m. in a span of 2 weeks to complete the study. All participants

completed and signed an informed consent form before partaking in the study. The informed consent form only contained a basic description of the study without any details about the purpose to protect against demand characteristics tainting participants' responses on the provocation task. Once consent was obtained, participants completed a demographic questionnaire and the BPAQ before viewing the respective video clips.

Random assignment was completed by having participants pull pieces of paper with either a 1 (violent condition) or a 2 (nonviolent condition) out of a bag. Participants randomly assigned to the violent condition watched a 3-minute video clip with an extensive amount of violent themes (i.e., a fight scene from the movie *Homeland*; BestMovieClips, 2016). Participants randomly assigned to the nonviolent condition viewed a 3-minute video clip without any form of aggression present (i.e., a segment on a cooking show; Chilcott, 2013). Then, after viewing the clips, all participants completed the RPST, were informed of the definition of aggression (i.e., intentional harm to another individual; Anderson & Bushman, 2001), and told to rate the stories per their own perceptions of the provocateur's intentions. No formal manipulation check was completed. Both groups watched the clip to ensure consistency in the study. The nonviolent condition during these sessions was led by a research assistant, and the violent condition was led by the primary researcher. To ensure procedural integrity, both the primary researcher and the research assistants followed a strict protocol written by the primary researcher.

After participants completed these questionnaires, they were debriefed about the true nature of the study. They then watched a humorous video clip, *Baby Panda Wants to Play with Tired Zookeeper* (Funny haha, 2017) and filled out an optional gift card raffle form while the primary researcher collected the data packets.

Because few participants were obtained with this method ($n = 5$), the procedures were amended. In the amended procedures, the researchers contacted different professors and obtained permission to conduct the study in their classrooms. The study was conducted in four psychology classrooms and two kinesiology classrooms at the aforementioned institution over a 2-week period. After receiving permission from professors, the classes were randomly assigned to either the violent or nonviolent condition to minimize disruption. Aside from the change of conducting the study in classes and

completing random assignment by class, the procedures remained the same. All research sessions conducted during classes were carried out by the primary researcher; no research assistants helped during these sessions. At the end of the data collection, raffle winners were randomly selected for a chance to win one of two \$25 gift cards to Target, a discount store retailer based in the United States.

Statistical Analysis

To compare group means to support or refute the hypotheses, the BPAQ (i.e., trait aggression) was coded using a median split into high (i.e., scores above the 50th cumulative percentile = 83.3 and

above) and low (i.e., scores below the 50th cumulative percentile = 83.2 and below) groups. In the present study, there were two levels to the BPAQ (i.e., trait aggression): high ($n = 45$) versus low ($n = 45$). The correlation between the BPAQ and the RPST was $.35, p = .001$.

Results

A 2 x 2 x 3 factorial Analysis of Variance was conducted on the sample of 91 participants to examine the effect of exposure to media (violent vs. nonviolent), trait aggression (high vs. low), and athletic status (current vs. former vs. nonathlete) on perceptions of violence (see Table 1 and Table 2).

With regard to the hypotheses, there was no statistically significant difference in provocation scores between participants in the violent media condition ($M = 12.16, SD = 3.18$) and participants in the nonviolent media condition ($M = 12.12, SD = 3.19$), $F(1, 79) = 0.18, p = .675, \eta_p^2 = .002$, power = $.070$. However, there were main effects for trait aggression and athletic status. Participants with higher levels of trait aggression ($M = 13.36, SD = 2.98$) had higher provocation scores than participants with lower levels of trait aggression ($M = 10.96, SD = 2.91$), $F(1, 79) = 16.47, p \leq .001, \eta_p^2 = .173$, power = $.980$. In addition, there was a statistically significant difference in provocation scores among levels of athletic status, $F(2, 79) = 4.88, p = .010, \eta_p^2 = .110$, power = $.789$. A Tukey b post-hoc test with the Bonferroni adjustment for multiple comparisons revealed that there was no statistically significant difference between current athletes ($M = 11.28, SD = 3.18$) and nonathletes ($M = 12.04, SD = 3.12$), $p = .805$, as well as former athletes ($M = 13.81, SD = 2.81$) and nonathletes ($M = 12.04, SD = 3.12$), $p = .088$. However, former athletes ($M = 13.81, SD = 2.81$) were significantly more likely to have higher provocation scores than current athletes ($M = 11.28, SD = 3.18$), $p = .017$ (see Figure 1).

As predicted, no statistically significant two-way interactions were observed. Unexpectedly, there was a significant three-way interaction, $F(2, 79) = 3.17, p = .047, \eta_p^2 = .074$, power = $.592$. The main effects were subsumed by the three-way interaction. On one hand, nonathletes with high trait aggression in the violent media condition had higher provocation scores than nonathletes with low trait aggression in the violent media condition. On the other hand, current athletes with high trait aggression in the nonviolent media condition had higher provocation scores than current athletes with low trait aggression in the nonviolent condition.

TABLE 1

Descriptive Statistics of Athletic Status, Exposure to Media, and Trait Aggression on RPST Scores

Athletic Status	Exposure to Media	Trait Aggression	<i>N</i>	<i>M</i>	<i>SD</i>
Current	Violent	Low	5	9.40	2.70
		High	9	11.67	2.87
	Nonviolent	Low	4	7.75	1.26
		High	7	14.14	1.68
Former	Violent	Low	4	13.00	2.45
		High	6	15.33	2.25
	Nonviolent	Low	4	12.25	3.69
		High	2	14.00	2.83
Nonathlete	Violent	Low	15	10.60	2.23
		High	10	14.10	3.35
	Nonviolent	Low	14	11.86	3.16
		High	11	12.36	3.20

Note. RPST = Relational Provocation Stories Task.

TABLE 2

Analysis of Variance Summary Table for Scores on the Relational Provocation Stories Task

Variable	<i>M</i>	<i>SD</i>	<i>df</i>	<i>F</i>	<i>p</i>	η_p^2	power
Exposure to Media							
Violent	12.16	3.18	1	0.18	.675	.002	.070
Nonviolent	12.12	3.19	1				
Trait Aggression							
Low	10.96	2.91	1	16.47	$\leq .001$.173	.980
High	13.36	2.98	1				
Athletic Status							
Current Athlete	11.28	3.18	2	4.88	.010	.110	.789
Former Athlete	13.81	2.81	2				
Nonathlete	12.04	3.12	2				

Discussion

The present study assessed how exposure to media, trait aggression, and athletic status were related to the perceptions of violence. The hypothesis that individuals who have higher levels of trait aggression would immediately perceive more violence in the ambiguous stories was supported. Supporting findings from previous research (i.e., Hall, 2006; Kret & de Gelder, 2013), the present study provides evidence that individuals with a history of high trait aggression may be more likely to perceive violence in situations without explicit violence. These individuals have a tendency or proneness to be aggressive because they have adopted a hostile world view (Kret & de Gelder, 2013). Furthermore, quickly responding to possible aggressive acts may help individuals in violent situations survive. It is important in these situations to make quick judgments, which may lead to incorrectly perceiving violent situations. Therefore, individuals with higher levels of trait aggression might have developed the heightened trait aggression as a response to their surroundings, in which case it is safer for those individuals to incorrectly perceive violence and react first than to incorrectly perceive amity and experience negative consequences.

In contrast, the present study did not find that exposure to violence had an immediate effect on perceptions of violence. This is surprising given the premise of social learning theory (Bandura, 1973) and desensitization theory (Griffiths & Shuckford, 1989). Moreover, there was the expectation that priming individuals with violent content would lead to having more perceptions of violence. One possible explanation for this finding may be that there are differences in the immediate versus long-term effects of desensitization. Griffiths and Shuckford (1989) argued that desensitization arises when the stimuli being presented (e.g., the violent media) are no longer new and exciting. When individuals become desensitized to the stimuli, they experience decreased psychological and physiological arousal. The violence is gradually viewed as commonplace and normal, which in turn makes aggressive cognitions and behaviors the norm as well. In the present study, perhaps participants were desensitized to the stimuli, and because of the immediate nature of the ratings, they did not have enough time psychologically and physiologically to acclimate and, therefore, did not have higher perceptions of violence. They were desensitized and did not find any violent intent in the ambiguous scenarios.

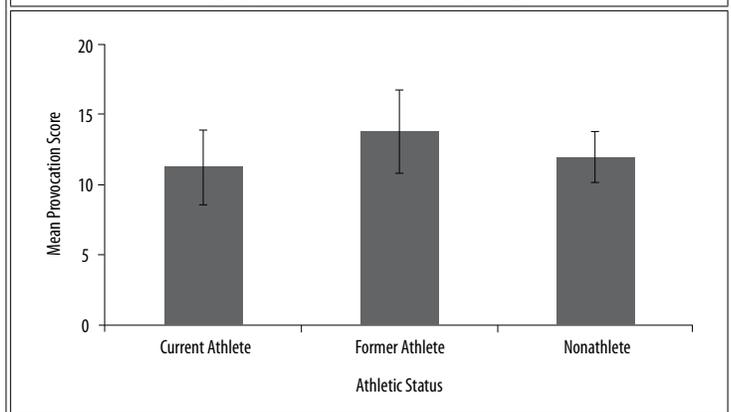
The hypothesis that current and former

athletes would immediately perceive more violence in the ambiguous stories than nonathletes was supported, as a main effect was found. This was initially hypothesized because any participation in sports, current or former, would increase perceptions of violence. This reasoning comes from social learning theory (Bandura, 1973), in which athletes, exposed to more competition, aggression, and violence in the sport, may be more likely to carry these perceptions in their daily lives outside of the sport. However, the results were surprising in that there were no differences in the perceptions of violence between current athletes and nonathletes. A main effect was indeed found but the difference lay between the perceptions of violence between current athletes and former athletes.

One possible explanation utilizes the catharsis hypothesis (Bushman, Baumeister, & Stack, 1999) with the premise that most athletes are primed for aggression through their sport. Whereas current athletes still participate in their respective sport, which may act as an outlet for any aggression (essentially directing aggression back into the game), former athletes do not have an outlet for that aggression. This may lead former athletes to have higher perceptions of violence. Another possible explanation is that current athletes may be able to differentiate between acts of aggression that are intended to harm the athlete (e.g., shoving another athlete to get the soccer ball) and behaviors that are simply part of aggressive playing (e.g., trying to get the soccer ball). Former athletes may no longer make this distinction effectively because they have been away from the sport, whereas current athletes are continually refining this distinction by playing

FIGURE 1

Means and Confidence Intervals of RPST Scores as a Function of Athletic Status



Note. Error bars denote 95% confidence intervals. RPST = Relational Provocation Stories Task.

their sport. On the other hand, perhaps former athletes left the sport due to obtaining an injury of some kind. As a result, they may be hypervigilant in trying to prevent injury in the future. They might have also left a sport because it was too violent and they did not want to be injured. This may lend itself to the hostile word view, as postulated by Kret and de Gelder (2013). By allowing an individual to react more quickly to perceived threats (e.g., in this case, the possibility of having an injury), a hasty perception of violence can be an adaptive skill rather than an inherent flaw.

In the present study, there were no two-way interactions, but there was an unexpected three-way interaction. However, this interaction should be interpreted with caution. With this in mind, the groups with the highest perceptions of violence include former athletes with high trait aggression in both the violent and nonviolent conditions, current athletes with high trait aggression in the nonviolent condition, and nonathletes with high trait aggression in the violent condition. The findings for the former athletes were not surprising for reasons outlined above. For the current athletes, trait aggression accounts for higher perceptions of violence but the violent media appeared not to matter. It is interesting that no differences were found between current athletes with low trait aggression and current athletes with high trait aggression in the violent media condition. Perhaps there is a ceiling effect for perceptions of violence and athletes in which those with low trait aggression “catch up” with their high trait aggression peers when violence is present. However, current athletes with high trait aggression in the nonviolent condition displayed scores on the provocation task that were almost double that of current athletes with low trait aggression in the nonviolent condition.

A study by Coleman (1999) may provide a possible explanation for this finding in the nonathletes. Coleman (1999) studied the effects of video games driven by head-to-head fighting on state aggression in adolescents and found that participants with lower aggression scores on the pretest were most affected by the games. Adolescents who exhibited low scores on the competitiveness pretest experienced a significant increase in their competitiveness score after playing the game. Similarly, individuals with low pretest scores on the Aggression scale saw a significant increase in the Suspicion subscale score during the posttest. The results indicated that individuals with lower reported levels of aggression and competitiveness were more prone to adverse

effects of violent video games than individuals with higher levels of aggression before game exposure. In the present study, for the nonathletes, trait aggression appears to account for higher perceptions of violence, but it seems that exposure to violent media may have a role. That is, the violent video clip may act as an amplifier, either triggering or further amplifying the individual for aggressive thoughts, feelings, and cognitions.

Limitations and Future Research

Exposure to media. The hypothesis that those who were exposed to violent media would immediately perceive more aggression was not supported. One explanation is that the video clip utilized in the present study was only 3 minutes long. A 3-minute clip was chosen to help minimize the time required to conduct the study as well as any loss of focus by participants. Perhaps if participants were exposed to violent media for a longer amount of time (e.g., the same duration as if reading a comic book per Kirsch and Olczak, 2002b), then the results could have differed. Thus, future investigations should replicate the present study and examine if dosage of stimuli (e.g., 5-minute video vs. 15-minute video vs. 30-minute video) has an effect on perceptions of violence. Future studies should also include a measure of participants' ongoing exposure to or preference for violent media.

Another explanation for the nonsignificant results is that participants were exposed to the different media conditions by class. There may also be self-selection of participants into their classes. Although the psychology classes in the violent condition gasped and winced during the fight scene, the kinesiology classes (which included more current and former athletes) assigned to the violent condition actually cheered on the fight and laughed throughout the viewing. No other class displayed such a reaction while viewing the video clips. An interesting study would be to compare participants' pre- and postmeasures of state aggression to see what effects, if any, violent media had on their perceptions of violence and to see if their self-selection of classes were a factor. When a Trait Aggression scale was reworded to generate a State Aggression scale, both measures were found to be reliable and were affected by exposure to violent media (Farrar & Krcmar, 2009).

In addition, the perception of violence in the violent video might have differed among participants depending on the aggressor to which they attended. For example, if they attended to the

bully, they might have perceived more violence in the scenarios than participants who attended to the defense against the bully. Future studies should consider the difference between justified aggression (e.g., defense against a bully) and unjustified aggression (e.g., an unprovoked attack by a bully).

Sample. The generalizability of the study is limited because the sample came from a small, Methodist-affiliated liberal arts college in the mid-Atlantic region of the United States. This sample should have included more athletes who currently play a sport because more than half of the sample in the current study was made up of individuals with no history of college-level athletics. In addition, the three-way interaction conducted in the present study used very few participants for some groups such as the current athletes in the nonviolent condition ($n = 7$ for high trait aggression; $n = 4$ for low trait aggression). In addition, the athletes who participated in the study were Division III athletes, so using participants from a Division I program or travel teams may exhibit a stronger effect because there are higher stakes in those sports teams.

The present study did not consider the association of the level of different activities and exposure to media or trait aggression. Future research can examine distinctions of whether the sports and non-sport activities participants engage in are important in terms of their relationship with trait aggression and exposure to media. A potential model of categorizing these variables can be found in Jordan's (1999) study. First, noting the difference between individual sports (e.g., tennis, golf) and team sports (e.g., basketball, football) is important because there may be more interpersonal interaction in team sports. Second, the number of hours spent participating in their sport provides a measure of the students' involvement and commitment to their training (e.g., 1 to 4 hours per week vs. 14 to 19 hours a week). To include extracurricular activities that may include vigorous activity (e.g., cheerleading, marching band), another model of categorizing variables can be found in Marsh & Kleitman's (2002) study. They first outlined what types of activities students engaged in and then created five main predictor variables: number of school-sponsored extracurricular activities, time spent in school-sponsored extracurricular activities, total participation in school-sponsored extracurricular activities, structured out-of-school activities (e.g., karate lessons), and unstructured out-of-school activities (e.g., talking or doing things with friends).

General Conclusion

Although the present study only focused on an undergraduate population, it is still widely applicable because it expands upon current knowledge and takes the research in a new direction. The undergraduate population was chosen because it is not an especially violent population and it encompasses individuals from a variety of backgrounds. The present study demonstrated that trait aggression affects individuals' perceptions of potentially violent, but ambiguous, situations.

References

- Anderson, C. A., & Bushman, B. J. (2001). Effects of violent video games on aggressive behavior, aggressive cognition, aggressive affect, physiological arousal, and prosocial behavior: A meta-analytic review of the scientific literature. *Psychological Science, 12*, 353–359. <https://doi.org/10.1111/1467-9280.00366>
- Anderson, C. A., & Dill, K. E. (2000). Video games and aggressive thoughts, feelings, and behavior in the laboratory and in life [Abstract]. *Journal of Personality and Social Psychology, 78*, 772–790. <http://dx.doi.org/10.1037/0022-3514.78.4.772>
- Bandura, A. (1973). *Aggression: A social learning analysis*. Englewood Cliffs, NJ: Prentice Hall.
- BestMovieClips. (2016, June 26). *Homefront movie petrol pump fight scene (Jason Statham HD)* [Video file]. Retrieved from <https://www.youtube.com/watch?v=dg0xnEHbMw>
- Brocato, E. D., Gentile, D. A., Laczniak, R. N., Maier, J. A., & Ji-Song, M. (2010). Television commercial violence: Potential effects on children. *Journal of Advertising, 39*, 95–107. <https://doi.org/10.2753/JOA0091-3367390407>
- Buschling, R., & Krahé, B. (2013). Charging neutral cues with aggressive meaning through violent video game play. *Societies, 3*, 445–456. <https://doi.org/10.3390/soc3040445>
- Bushman, B. J., Baumeister, R. F., & Stack, A. D. (1999). Catharsis, aggression, and persuasive influence: Self-fulfilling or self-defeating prophecies? *Journal of Personality and Social Psychology, 76*, 367–376. <https://doi.org/10.1037/0022-3514.76.3.367>
- Buss, A. H., & Durkee, A. (1957). An inventory for assessing different kinds of hostility. *Journal of Consulting Psychology, 21*, 343–349. <http://dx.doi.org/10.1037/h0046900>
- Buss, A. H., & Perry, M. (1992). The Aggression Questionnaire. *Journal of Personality and Social Psychology, 63*, 452–459. <http://dx.doi.org/10.1037/0022-3514.63.3.452>
- Chilcott, D. [OnePotChefShow]. (2013, May 26). *Easy pasta alfredo | One pot chef* [Video file]. Retrieved from <https://www.youtube.com/watch?v=sAhUTzTJNaE>
- Coleman, D. (1999). Culture wars and video games: Ethnic fighting, competitiveness, and aggression in head-to-head fighting games. *Psi Chi Journal of Undergraduate Research, 4*, 70–75. Retrieved by <https://doi.org/10.24849/1089-4136.JN4.2.70>
- Ebesutani, C., Kim, E., & Young, J. (2014). The role of violence exposure and negative affect in understanding child and adolescent aggression. *Child Psychiatry and Human Development, 45*, 736–745. <https://doi.org/10.1007/s10578-014-0442-x>
- Farrar, K., & Krmar, M. (2009). Measuring state and trait aggression: A short, cautionary tale. *Journal of Media Psychology, 8*, 127–138. http://dx.doi.org/10.1207/s1532785xmep0802_4
- Funny haha. (2017, March 10). *Baby panda wants to play with tired zookeeper | Funny video* [Video file]. Retrieved from <https://www.youtube.com/watch?v=Vbc-2FFExnl>
- Griffiths, M. D., & Shuckford, G. L. J. (1989). Desensitization to television violence: A new model. *New Ideas in Psychology, 7*, 85–89. [https://doi.org/10.1016/0732-118X\(89\)90039-1](https://doi.org/10.1016/0732-118X(89)90039-1)
- Hall, C. W. (1998). [Factor analysis of Hall Resiliency Scale]. Unpublished raw data.
- Hall, C. W. (2006). Self-reported aggression and the perception of anger in facial expression photos. *The Journal of Psychology, 140*, 255–267.

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- <https://doi.org/10.3200/JRLP140.3.255-267>
Huesmann, L. R., & Taylor, L. D. (2006). The role of media violence in violent behavior. *Annual Review of Public Health, 27*, 393–415.
<https://doi.org/10.1146/annurev.publhealth.26.021304.144640>
- Jordan, W. J. (1999). Black high school students' participation in school-sponsored sports activities: Effects on school engagement and achievement. *The Journal of Negro Education, 68*, 54–71.
<https://doi.org/10.2307/2668209>
- Kirsch, S. J., & Olczak, P. V. (2002a). Violent comic books and judgments of relational aggression. *Violence and Victims, 17*, 373–380.
<https://doi.org/10.1891/vivi.17.3.373.33661>
- Kirsch, S. J., & Olczak, P. V. (2002b). The effects of extremely violent comic books on social information processing. *Journal of Interpersonal Violence, 17*, 1160–1178. <https://doi.org/10.1177/088626002237400>
- Kret, M. E., & de Gelder, B. (2013). When a smile becomes a fist: The perception of facial and bodily expressions of emotion in violent offenders. *Experimental Brain Research, 228*, 399–410.
<https://doi.org/10.1007/s00221-013-3557-6>
- Lang, M. J. (1999). Induced aggressive mood and explicit memory. *Psi Chi Journal of Undergraduate Research, 4*, 149–154. Retrieved from <https://doi.org/10.24849/1089-4136.JN4.4.149>
- Levermore, M. A., & Salisbury, G. L. (2009). The relationship between Virtual and actual Aggression: Youth exposure to violent media. *Forensic Examiner, 18*(2), 32–43.
- Marsh, H. W., & Kleitman, S. (2002). Extracurricular school activities: The good, the bad, and the nonlinear. *Harvard Educational Review, 72*, 464–514.
<https://doi.org/10.17763/haer.72.4.051388703v7v7736>
- Miranda, P., McCluskey, N., Silber, B. J., von Pohle, C. M. D., & Bainum, C. K. (2009). Effect of adult disapproval of cartoon violence on children's aggressive play. *Psi Chi Journal of Undergraduate Research, 14*, 79–83.
<https://doi.org/10.24839/1089-4136.JN14.2.79>
- Möble, T., Kliem, S., & Rehbein, F. (2014). Longitudinal effects of violent media usage on aggressive behavior—the significance of empathy. *Societies, 4*, 105–124. <https://doi.org/10.3390/soc4010105>
- O'Connor, D. B., Archer, J., & Wu, F. W. C. (2001). Measuring aggression: Self-reports, partner reports, and responses to provoking scenarios. *Aggressive Behavior, 27*, 79–101. <https://doi.org/10.1002/ab.2>
- Österman, K., Björkqvist, K., Lagerspetz, K., Charpentier, S., Caprara, G., & Pastorelli, C. (1999). Locus of control and three types of aggression. *Aggressive Behavior, 25*, 61–65. [https://doi.org/10.1002/\(SICI\)1098-2337\(1999\)25:1<61::AID-AB6>3.0.CO;2-G](https://doi.org/10.1002/(SICI)1098-2337(1999)25:1<61::AID-AB6>3.0.CO;2-G)
- Samani, S. (2008). Study of reliability and validity of the Buss and Perry's Aggression Questionnaire. *Iranian Journal of Psychiatry and Clinical Psychology, 13*, 359–365.

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