2011-03-09

Emulating *Gossip Girl*: Aggressive and Prosocial Material in Adolescent Novels and Associations with Behavior

Laura Ann Stockdale  
*Brigham Young University - Provo*

Follow this and additional works at: [https://scholarsarchive.byu.edu/etd](https://scholarsarchive.byu.edu/etd)  
Part of the [Family, Life Course, and Society Commons](https://scholarsarchive.byu.edu/etd)

BYU ScholarsArchive Citation  
[https://scholarsarchive.byu.edu/etd/2926](https://scholarsarchive.byu.edu/etd/2926)

This Thesis is brought to you for free and open access by BYU ScholarsArchive. It has been accepted for inclusion in All Theses and Dissertations by an authorized administrator of BYU ScholarsArchive. For more information, please contact scholarsarchive@byu.edu, ellen amatangelo@byu.edu.
Emulating *Gossip Girl*: Aggressive and Prosocial Material in Adolescent Novels and Associations with Behavior

Laura Stockdale

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

Master of Science

Sarah M. Coyne, chair
David A. Nelson
Laura M. Walker

School of Family Life
Brigham Young University

April 2011

Copyright © 2011 Laura Stockdale
All Rights Reserved
ABSTRACT

Emulating *Gossip Girl*: Aggressive and Prosocial Material in Adolescent Novels and Associations with Behavior

Laura Stockdale
School of Family Life, BYU
Master of Science

Decades of researchers have found that exposure to aggressive content in multiple forms of media is associated with both physically (Bushman & Anderson, 2001) and relationally (Coyne, Nelson, Graham-Kevan, Keister, & Grant, 2010) aggressive behavior. Similarly, other researchers have found that exposure to prosocial content in multiple forms of media is associated with increased prosocial behavior (Mares & Underwood, 2008). While these associations have been studied in a variety of media, books as a form of media have received less research attention. The current study examined the associations between the content of adolescents’ favorite novels and their normative beliefs about aggression, physical, relational, and romantic relational aggression, and prosocial behavior. Associations were found between reading relationally aggressive material in novels and romantic relationally and peer-directed relationally aggressive behaviors. Similar associations were found between reading prosocial content in novels and prosocial behavior. Implications of the results are discussed.

Keywords: Adolescents, Aggression, Media
ACKNOWLEDGEMENTS

I would like to take this opportunity to thank my wonderful graduate advisor for all of her support and encouragement. Thank you so much for encouraging me to collect my own data. It has been an incredible learning opportunity that I will value forever. Thank you for reading my thesis countless number of times and never getting frustrated with me. Thank you for allowing me to pursue my own goals and dreams and constantly pushing me to be the best I could be. You are amazing and I am so grateful for the opportunity I have had to work with you over the past few years. It has blessed my life forever.

Deepest thanks to my helpmeet and better half. Chris, you have read this thesis more than anyone else. You have listened to countless statistical lectures and presentations and pretended to be enthusiastic about my work even though you play violent video games. You earned this degree as much as I did. Thank you for never telling me what to do and letting me make my own choices. You are a true example of a righteous priesthood holder and being equal partners. I love you and am so grateful for your support.

Dr. Nelson thank you for letting me hang out in your office and absorb your statistical genius. I hope someday I can know half as much as you. Dr. Walker thank you for teaching me about “synthesis”. You are an incredible writer and your advice was greatly needed. Now every time I write a paper I ask myself “How many sources are in each line?”

Above all else I am grateful for a Father in Heaven who when I was lacking wisdom gave liberally and upbraideth not. Thank you for hearing my pleas for help and providing comfort when I was in distress.
# Table of Contents

Introduction ....................................................................................................................................... 1

Review of Literature ......................................................................................................................... 2
  Aggression ................................................................................................................................... 2
  Prosocial Behavior ....................................................................................................................... 5
  Adolescents and the Media ........................................................................................................... 6
  Television and Movies .................................................................................................................. 8
  Video Games ............................................................................................................................... 13
  Music .......................................................................................................................................... 15
  Books ........................................................................................................................................ 17
  Theory ......................................................................................................................................... 18
  Purpose of the Study .................................................................................................................... 20

Method ........................................................................................................................................... 22
  Participants ................................................................................................................................. 22
  Procedures ................................................................................................................................. 23
  Measures .................................................................................................................................. 23

Results ........................................................................................................................................... 26
  Validity of Adolescent Self-Report of Aggression in Novels ..................................................... 26
  Descriptive Analyses ................................................................................................................. 28
  Path Analysis ............................................................................................................................. 30

Discussion .................................................................................................................................... 33
  Limitations and Future Research ............................................................................................... 42

References ..................................................................................................................................... 46
List of Tables
Table 1 Means and Standard Deviations for Behaviors in Books, Actual Behaviors and Age .... 65
Table 2 Means and SDs for Behaviors in Books, Actual Behaviors and Gender .................. 66
Table 3 Bivariate Correlations Between Frequency of Reading and Behaviors ................... 67
Table 4 Bivariate Correlations Between Main Study Variables ........................................... 68
Table 5 Bivariate Correlations Between Main Study Variables and Control Variables ........... 69
List of Figures

Figure 1 The General Learning Model ................................................................. 70
Figure 2 Associations Between Reading Material, Normative Beliefs, and Behaviors .......... 71
Figure 3 Alternative Model 1 .................................................................................. 72
Figure 4 Alternative Model 2 .................................................................................. 73
Emulating *Gossip Girl*: Aggressive and Prosocial Material in Adolescent Novels and Associations with Behavior

**Introduction**

“Jerome was driven back by a whirlwind of forehands, backhands, side and overhead cuts. He managed to block some of the strokes, but the blistering speed of Horace’s attack defeated him. Blows rained on his shins, elbows and shoulders almost at will. Horace seemed to concentrate on the bony spots that would hurt the most. Occasionally, he used the rounded point of the sword to thrust into Jerome’s ribs—just hard enough to bruise, without breaking bones.” *Ranger’s Apprentice: The Ruins of Gorlan*, John Flanagan

Since its release in 1997, the *Harry Potter* series has sold over 400 million copies and to date is the best-selling book series in history (British Broadcasting Corporation, 2008). With the release of other popular book series, such as the *Twilight* saga and *The Hunger Games*, adolescents and adults alike could be seen outside bookstores dressed as their favorite characters anticipating the issue of the latest installments. Novels clearly are still a very important and popular form of media for society. Despite their popularity as a form of entertainment, there is still some debate surrounding the content of novels, especially those aimed at adolescents (Alsup, 2003). In fact, recent research suggests that the average adolescent is exposed to more questionable content during an hour of reading for leisure than an hour of watching television (Coyne et al., under review). The dispute surrounding the content of adolescent literature has led over 80% of book buyers to claim that they would support the implementation of age guidance based on content. Furthermore, almost 50% of parents claimed they would buy more books if the books contained content warnings (Horn, 2008). However, the effect of reading such questionable material and whether such content warnings are warranted is still unclear.
Over fifty years of research into media violence and effects has repeatedly shown that being exposed to violent and aggressive material can increase physical aggression (Bushman & Anderson, 2001), relational aggression (Coyne, Archer, & Eslea, 2004), and can decrease prosocial behavior (Strenziok, et al., 2010). These effects have been found for television (Christakis & Zimmerman, 2007), movies (Anastasio, 2004), video games (see Anderson, 2004 for a review), and music (Anderson, Carnagey, & Eubanks, 2003). However, books, as a form of media, has received significantly less research attention compared to these other forms.

According to the General Aggression Model (Anderson & Bushman, 2002), the media can have an effect on aggressive thoughts, feelings, and behaviors regardless of the form of media studied. According to this theory, it is possible that reading aggressive material in the form of books or novels could also increase aggressive behavior in the same way as television, movies, and video games. Consequently, the purpose of the current study is to determine how reading aggressive content in literature influences aggressive behavior. Furthermore, the study will also determine the relationship between reading prosocial behavior in literature and subsequent prosocial behavior. The below literature review will first outline physical and relational aggression and prosocial behavior in brief. The review will then focus on media content and effects regarding each of these behaviors for various media forms.

**Review of Literature**

**Aggression**

Aggression in children, adolescents, and adults has repeatedly been linked to negative psychological and developmental outcomes (Ostrov et al., 2004). The link between aggression and antisocial behavior is so strong that most delinquency measures include aggressive behavior (Brotman et al., 2008). With the clear association between aggression and negative
developmental outcomes, scholars have turned their attention to understanding and preventing both physical and relational aggression.

Physical aggression has been defined as “the intent to hurt another individual using physical force or the threat of physical harm” (Ostrov et al., 2008, p. 664). Examples of physical aggression include hitting, kicking, biting, shoving, pushing, or threatening to do any of these behaviors. Developmentally, physical aggression peaks around 18 months and then declines sharply for most individuals throughout life (Tremblay et al., 2004). Regardless of age, most research finds that boys tend to use more physical aggression than girls (Juliano, Werner, & Cassidy, 2006). Additionally, perpetrators of aggression (both boys and girls) show a number of psychosocial problems, including poor social functioning (Juliano et al., 2006), low self-concept, low feelings of global self-worth (Houbre, Tarquinio, Thuillier, & Hergott, 2006), and high levels of peer rejection and victimization (Barker et al., 2008). Perpetrators of physical aggression are not the only ones who experience difficulties. Victims of physical aggression also experience a variety of problems. Victims tend to have lower self-esteem, self-concept, and global self-worth, and tend to have more health problems, such as getting sick, missing school, and bed wetting than non-victims (Houbre et al., 2006). Historically, most research has focused on physical aggression; however, recent research has begun to examine non-physical forms.

Relational aggression has been defined as attempting to harm others through openly or covertly damaging relationships or threatening to damage relationships (see Nelson, Mitchell, & Yang, 2008). Examples of relational aggression include gossiping, spreading false rumors, love withdrawal, and social exclusion. Children as young as four years old have been found to display relational aggression with their peers (Nelson, Robinson, & Hart, 2005); nevertheless, relational aggression seems to peak in early adolescence (Ostrov et al., 2008). Relational aggression
perpetration has been associated with a variety of negative outcomes for children including delinquent behavior, withdrawn, anxious and depressed feelings, and more sleeping problems than children who do not use relational aggression (Crick, Ostrov, & Werner, 2006). Likewise, while children who use relational aggression tend to have a great deal of power in their peer relationships, they are more often rated as “controversial” by their peers, meaning that many peers identify them as someone they like, while many peers identify them as someone they do not like (Nelson et al., 2005).

Just as being a perpetrator of relational aggression is related to several social and psychological problems, so is being a victim of relational aggression. Victims of relational aggression tend to show signs of emotional maladjustment and increased delinquency (Ellis, Crooke, & Wolfe, 2009). Likewise, girls who are victims of relational aggression have higher levels of externalizing problems while boys show a particular increase in internalizing difficulties as a result of victimization (Reed, Goldstein, Morris, & Keyes, 2008). Though there are few gender differences in the perpetration of relational aggression (e.g., Card, Stucky, Sawalani, & Litter, 2008), it is clear that females are more likely to be victims of relational aggression than males (Ostrov et al., 2004).

Romantic relational aggression is relational aggression within the context of a romantic relationship (Linder, Crick, & Collins, 2002). Examples include flirting with another person when angry to provoke a romantic partner, threatening to share a partner’s secrets to control them and giving the “silent treatment” to a romantic partner. It is unclear whether there is a gender difference in perpetration of romantic relational aggression with some authors finding that men perpetrate more relational aggression in romantic relationships (Saini & Singh, 2008), others women (Carroll et al., 2010; Murray-Close et al., 2010), and still others finding no gender
difference in perpetration (Bagner, Storch, & Preston, 2007). Nevertheless, it is clear that relational aggression in romantic relationships is harmful to the individual (Schad et al., 2008; Bagner, Storch, & Preston, 2007) and the relationship (Goldstein, Chesir-Teran, & McFaul, 2008; Linder, Crick, & Collins, 2002) and may be related to other forms of intimate partner violence (Wright & Benson, 2010).

**Normative Beliefs about Aggression**

Normative beliefs about aggression can be defined as “an individual’s own cognition about the acceptability or unacceptability of a behavior” (Huesmann & Guerra, 1997, p.409) and in particular, aggression. Aggressive children tend to think behaving aggressively is normal and appropriate (Huesmann & Guerra, 1997). Likewise beliefs about physical (Huesmann & Guerra, 1997) and relational (Werner & Nixon, 2004) aggression are highly related to aggressive behavior, meaning that children who perceive aggression as normal and appropriate are more likely to be both relationally and physically aggressive. These associations between normative beliefs about aggression and aggressive behavior have been consistent across age (Bailey & Ostrov, 2008), ethnic, and cultural groups and backgrounds (Bellmore, Witkow, & Juvonen, 2005).

**Prosocial Behavior**

Prosocial behavior is typically defined as a voluntary act or behavior that is intended to benefit someone else (Eisenberg, 1986). Examples of prosocial behavior include giving blood, donating to charity, volunteer work, giving up a seat to a stranger, having empathy for others, or helping a stranger carry belongings. Prosocial children also display increased socially desirable behaviors and less aggression (Eisenberg et al., 1996). Young children begin to employ clear prosocial behavior tactics as early as preschool (Eisenberg, McCreath, & Ahn, 1988). While some
have argued the use of prosocial behavior takes a slight decrease as children enter adolescence (Nantel-Vivier, 2009) these decreases tend to dissipate when type of prosocial behavior is taken into account (Carlo, Hausmann, Christiansen, & Randall, 2003). Regardless, it is clear that prosocial behavior stabilizes during late adolescence and early adulthood (Eisenberg, Carlo, Murphy, & Van Court, 1995). Moreover, researchers are finding that the development of prosocial behaviors can also be influenced by outside factors such as parents (Lindsey et al., 2008), peers (Jacobs, Vernon, & Eccles, 2004), religiosity (Hardy & Carlo, 2005) and gender (Garaigordobil, 2009). In particular, Garaigordobil (2009) found that girls use more prosocial behavior than boys in their daily interactions with peers, neighbors, and friends and this gender discrepancy is heightened during early adolescence (Fabes, Carlo, Kupanoff, & Laible, 1999).

It is clear that prosocial behavior (Nantel-Vivier, 2009) and relational, romantic relational, and physical aggression are common during adolescence (Card, Stucky, Sawalani, & Litter, 2008). It is also clear that these behaviors are associated with a variety of psychosocial outcomes (Ellis, Crooke, & Wolfe, 2009). Researchers have identified a variety of external factors that can influence the prevalence of these behaviors, such as parents (Lindsey et al., 2008), peers (Nelson et al., 2005), and the social environment (Rhee & Waldman, 2011). Most relevant to the current study, much research has now found that exposure to certain types of media content can influence aggression and prosocial behavior (see Bushman & Anderson, 2001; 2006).

**Adolescents and the Media**

The average adolescent today could be called a victim of media “overload”. Media use accounts for about 59% of Americans’ waking hours (Bachen, 2007), and these numbers appear to be increasing each year (Kaiser Family Foundation, 2009). A typical American teenager can expect to own a cell phone, MP3 player, portable video game console (Kaiser Family
Foundation, 2009), and live in a household that has multiple television sets (Wilson, 2004), a computer with internet access (Wilson, 2004), DVD, radio, and CD players (Bachen, 2007), and a video game console (Lachlan et al., 2004). In fact, the average adolescent between the ages of eight and eighteen can expect to spend approximately four and a half hours a day watching television (five and a half if they have a TV in their bedroom), an hour and a half on the computer, over an hour playing video games, four hours watching movies, over thirty minutes talking on a cell phone, over two and a half hours a day listening to music and about fifty minutes a day reading for leisure (Kaiser Family Foundation, 2009). However, most of these activities are done simultaneously. From these results, it appears that adolescents are spending much less time reading than using other forms of media. Indeed, there is a stereotype that adolescents simply do not read anymore (Irwin, 2003). However, 80% of teenagers report reading for leisure on any given day (Roberts & Foehr, 2004). Older adolescents report reading about thirty minutes a day, while younger adolescents report reading about an hour a day for leisure. Likewise, adolescent females spend as much time reading each day as the average adolescent male spends playing video games (Kaiser Family Foundation, 2009). According to Conley et al. (2008), “Young people do more reading and writing today--on paper and online--than ever before” (p. 2).

This heavy diet of media (including reading) led Roberts, Foehr, and Rideout (2005) to say that today’s adolescents are “media saturated”. This “media saturation” had completely changed and shaped the social context and society in which adolescents are expected to grow and develop. The media has become such an important part of adolescents’ daily lives that Arnett (1995) stated it was a vital “socializing agent” for adolescents. According to Arnett, the media can sometimes replace parents as sources of information and entertainment. Similarly, the media
can help adolescents shape their own “peer culture” distinct from their parents. This peer culture can help adolescents develop as they begin to express autonomy and their own identity apart from their parents. The media can also help adolescents establish thoughts and ideals regarding society, culture, and norms that are independent from their parents.

With the predominant and vital role that the media has begun to play in the lives of adolescents, it is important to understand the content of such media and the potential effects. For the purposes of this study, a brief review of literature regarding the content and effects of several types of media will be presented. In particular, the review will focus on the content and effects of several types of media in regards to physical aggression, relational aggression, and prosocial behavior.

**Television and Movies**

**Content.** Television and movies are both saturated with violence and aggression. According to The National Television Violence Study (1998), 60% of television programs contain violence. Indeed, before the average American child graduates elementary school, they will be exposed to over 8,000 murders and more than 100,000 other acts of violence, such as assault or rape through the television alone (Bushman & Anderson, 2001). Perhaps more shocking than the sheer amount of physical aggression in television is the fact that most children’s television programs contain more violence than programs aimed at adults (Linder & Gentile, 2009).

Movies seem to be following the same trends as television shows in regards to physical aggression. Longitudinal studies have found that G-rated films have become increasingly violent over time (Yokota & Thompson, 2000) and that PG and PG-13 movies appear to contain as much physical aggression as R-rated movies, suggesting that ratings may no longer be a reliable
way to estimate the amount of aggression in films (Jenkins, Webb, Browne, Afifi, & Kraus, 2005). Browne et al. (2002) found that action, drama, and comedy films contain the most physical aggression and that the majority of physical aggression is portrayed with little or no consequences. These findings lead Browne et al. to say, “The human body in Hollywood cinema is a uniquely cinematic invention, almost wholly distinct from any real-life, existing one” (Browne et al, 2004, p. 364).

While physical aggression in movies and film has received a great deal of research attention, less attention has been paid to relational aggression in films and television. One study by Coyne and Archer (2004), found that relational aggression was more common in television than physical aggression, with approximately 93% of television shows popular among adolescents containing relational aggression. Similar to physical aggression in television, relational aggression is also likely to be shown as justified and rewarded. Likewise, during prime-time television, the average viewer is exposed to approximately twenty acts of relational aggression per hour and most of these acts are initiated by female characters (Glascock, 2008). Additionally, the genre of television programs that contained the most relational aggression was reality TV shows, such as Big Brother, Survivor, American Idol, and The Apprentice (Coyne, Robinson, & Nelson, 2010). Movies also contain relational aggression. For example, Coyne and Whitehead (2008) found that the average Disney animated film contained approximately ten acts of relational aggression per hour and that most of these actions were initiated by characters from high socioeconomic standing.

While this may paint a fairly dark picture of television and film media, it is possible that television and film contain a great deal of prosocial behavior as well. It appears that television programs do contain a great deal of prosocial behavior (Liebert & Sprafkin, 1988). However, this
prosocial behavior is often intermixed with violence and aggression (Greenberg, Atkin, Edison, & Korzenny, 1980) and rarely supports anti-violent themes (The National Television Violence Study, 1998). Likewise, the majority of programs containing prosocial lessons are targeted to preschool children, with television programs targeted to adolescents and adults containing few, if any, prosocial lessons (Woodard, 1999). However, when all programs are analyzed together, it appears that the average viewer will be exposed to approximately three acts of prosocial behavior per hour of television watched (Smith et al., 2006). Lee (1988) also identified four predominate themes of prosocial behavior in television: first, the importance of overcoming fears, second, people take priority over material gain, third, lying is destructive, and fourth, to accept differences. Clearly, television programs do contain prosocial behavior, but to date no one has identified the frequency of prosocial behavior in film.

**Effects.** As early as the 1960’s, researchers began to study the effects of watching violence in television and films and subsequent aggressive behavior (Bandura, Ross, & Ross, 1963). A longitudinal study by Eron, Huesmann, Leftkowitz, and Walder (1972) found correlations between boys’ affinity for aggressive and violent television at age nine and their own aggressive behavior ten years later and other researchers have found a similar effect for girls (Huesmann, Moise-Titus, Podolski, & Eron, 2003). Likewise, Turkat (1977) found that media violence exposure was significantly related to their approval of violence. Furthermore, a study by Meyer (1972) found that participants who were exposed to justified film violence were significantly more aggressive to a confederate (measured through the amount of fake shocks they administered to the confederate) than those who were not exposed to justified violence.

In recent years, hundreds of studies have continued to examine the effects of television and film violence on aggressive behavior. Viewing film and television violence leads to
decreased empathy for those in “real life” pain (Thomas, Horton, Lippincott, & Drabman, 1977), devaluing others (Anastasio, 2004), and more access to aggressive thoughts and constructs (Bushman, 1998) in viewers. Likewise, viewing violent television is associated with an increase in pro-violent normative beliefs about aggression (Bushman & Huesmann, 2006; Funk, Baldacci, Pasold, & Baumgardner, 2003). Similarly, a fifteen year longitudinal study found that children who had a heavy diet of violent media had more beliefs in support of physically aggressive behavior fifteen years later (Huesmann & Eron, 1986). Several meta-analyses have shown that the effects of viewing media violence are both strong and consistent. For example, Bushman and Anderson (2001) found that the correlation between exposure to media violence and subsequent aggressive behavior is just as strong as the effect that smoking has on lung cancer. Furthermore, Bushman and Huesmann (2006) found that although exposure to violent media increases aggressive behavior in all age groups, children are particularly vulnerable to long-term effects. Cross-cultural studies have found similar effects in counties around the world (Eron, 1982). These studies lead one author to conclude:

Fifty years of research on the effect of TV violence on children leads to the inescapable conclusion that viewing media violence is related to increases in aggressive attitudes, values, and behaviors. The changes in aggression are both short term and long term, and these changes may be mediated by neurological changes in the young viewer. The effects of media violence are both real and strong and are confirmed by the careful reviews of research evidence by various scientific and professional organizations that are concerned with children's mental health and development (Murray, 2008, p. 1212).

Viewing relational aggression in television and movies can also influence attitudes and behaviors. For example, a number of studies have found that girls who watched more relationally
aggressive television programs were rated as more relationally aggressive by their peers (Coyne & Archer, 2005) and were more likely to be relationally aggressive in their romantic relationships (Coyne, Nelson, Graham-Kevan, Keister, & Grant, 2010). Experimental studies also support the relationship between watching relationally aggressive television and movies and subsequent relationally aggressive behavior (Coyne, Archer, & Eslea, 2004). Of particular interest, researchers found that viewing relational aggression led to an increased use of relational and physical aggression, suggesting a cross-over effect between type of aggression watched and type of aggression displayed (Coyne et al., 2008).

Though many researchers would suggest a negative effect of watching aggressive content on television and in movies, viewing prosocial behavior in the media can have a more positive effect on viewers. A meta-analysis of over 200 studies found that watching prosocial television was significantly related to increased prosocial behavior in children, adolescents, and adults (Mares & Underwood, 2008). However, prosocial content intermixed with aggression (e.g., superhero violence) is related to a decrease in prosocial behavior (Mares & Woodard, 2007). Likewise, it appears that children under the age of seven are the most likely to benefit from prosocial television, with adolescents appearing to be “immune” (Mares & Woodard, 2005). For example, preschool children who watched Mister Rogers’ Neighborhood and Sesame Street gave significantly more positive reinforcement to peers and teachers (Voates, Pusser, & Goodman, 1976); children who watched prosocial programs were more cooperative and giving with peers than those who did not watch prosocial television (Friedrich & Stein, 1973) and were more accepting of diversity (Truglio et al., 2001). Furthermore, experimental studies show that watching as little as five minutes of prosocial television was related to more altruistic behavior in children (Kazdin & Byran, 1971). Watching educational television, which presumably contains
more prosocial behavior, was also related to increased prosocial behavior (Ostrov, Gentile, & Crick, 2006). As a whole, these studies suggest that content matters; viewing aggression in television and movies was related to an increase in aggressive behavior and attitudes, while viewing prosocial behavior was related to an increase in prosocial behavior.

**Video Games**

**Content.** While the content of television and films has received a great deal of media attention, less is known about the content of video games. However, recent analyses found that 64% of E-rated video games contained intentional physical aggression (Thompson & Haninger, 2001) and 98% of T-rated video games included intentional and rewarded physical aggression (Haninger & Thompson, 2004). Furthermore, 60% of the top grossing video games from 1999 had violence as a major theme and objective (Dill, Gentile, Richter, & Dill, 2005). Aggression in video games is so prevalent that children as young as fourth grade are claiming that the majority of their favorite video games are violent (Buchman & Funk, 1996).

Even less is known about the amount of relational aggression and prosocial behavior in video games, with virtually no studies reporting on these dimensions of video games. Accordingly, this represents a particularly promising area of future research. As with research on TV and movies, understanding the content of video games (either prosocial or aggressive) is important for predicting any media effects.

**Effects.** Several studies have found a direct link between playing violence in video games and subsequent aggressive behavior (see Anderson, 2004 for a review). Indeed, Anderson and Bushman (2001) found that the correlation between playing violent video games and subsequent aggressive behavior is stronger than the correlation between condom use and the risk of HIV infection. Even more surprising is that this correlation seems to be increasing in strength as
games become more graphic and realistic (Sherry, 2001). A recent meta-analysis of 381 studies and over 130,000 participants found strong correlations between playing violent video games and aggression, leading the authors to claim that he had “nailed the coffin shut on doubts that violent video games stimulate aggression” (Anderson et al., 2010, p. 151). Not only do violent video games increase subsequent aggression, but they also lead players to identify themselves as more aggressive (Uhlmann & Swanson, 2004).

Similar to TV and movies, heightened aggressive behavior is not the only effect of playing violent video games. Bushman and Anderson (2002) found that playing violent video games led participants to show greater hostile attribution bias, meaning that participants who played violent video games were more likely to assume neutral or ambiguous situations to be more hostile, aggressive, and intentional. Playing violent video games was also associated with beliefs about aggression than were more pro-violence (Krahé & Möller, 2003). Furthermore, individuals who played violent video games for as little as twenty minutes took significantly longer to help someone in pain and physical need (Bushman & Anderson, 2009) and had less emotional responses to images of real violence (Bartholow, Bushman, & Sestir, 2006). Such emotional suppression may have a neural link. For example, Weber, Ritterfeld, and Mathiak (2006) found that playing violent first-person shooter video games lead to suppression of the part of the brain that controls positive emotions such as empathy and helping behaviors and decreased activity in the part of the brain associated with emotion regulation and control (Wang et al., 2009).

As with research on television, video games and relational aggression have received less attention. Some researchers would suggest that playing violent video games can increase relational aggression among adolescents (Möller & Ingrid, 2009) and adults (Coyne et al., under
review). Whether playing video games with heightened levels of relational aggression has an effect on subsequent aggression is unknown.

Similar to watching violent films and television, playing violent video games has repeatedly been shown to decrease prosocial behaviors (Anderson et al., 2010). However, playing neutral video games, regardless or whether or not they have prosocial content, may actually increase prosocial behavior (Sestir & Batholow, 2010). Likewise, just as playing violent video games decreases prosocial behavior, playing prosocial video games can increase prosocial behavior (Sestir & Bartholow, 2010). An example of prosocial content in video games can be found in *Super Mario Sunshine* where players are rewarded for recycling. Greitemeyer and Osswald (2010) found that playing prosocial video games led to more intervention in physical harassment situations. Furthermore, playing prosocial video games decreased aggressive thoughts and hostile attributions (Greitemeyer & Osswald, 2009). In fact, the correlation between playing prosocial video games and subsequent prosocial behavior is found regardless of the age group being studied or the culture (Gentile et al., 2010).

Again, these studies support the idea that content matters in regards to media. Exposure to aggressive content in video games increases aggressive behavior and decreases prosocial behavior, while exposure to prosocial content increases prosocial behavior.

**Music**

Content. The content of popular music is less well known than the content of television, films, and video games, perhaps due to the ever changing styles of music and the plethora of music genres. One content analysis of the top selling songs in the 1960’s found that few songs contained violent themes (Cole, 1971). Unfortunately, this does not appear to be true today. Rubin, West, and Mitchell (2001) found that 22% of rap songs contained violence as their major
theme. Furthermore, of the songs that contained violent themes, 51% contained descriptions or blatant references to murder (Rubin, West, & Mitchell, 2001). Armstrong (2001) found that rap songs produced between the 1980’s and the 1990’s were becoming increasingly violent, with more references to assault, rape, and murder as time progressed. While aggression in music has only been analyzed in the context of physical aggression, no research has analyzed the prevalence of relationally aggressive themes in popular music. Likewise, the prosocial content of popular music is unknown.

**Effect.** While the content of music may not be completely clear, the effect of listening to different types of music has received comparatively more research attention. Affinity for the hip hop music genre has been associated with increased aggression in boys and girls and affinity for the heavy metal genre was associated with increased aggression in boys. However, in the same study, aggressive behavior was not associated with a preference for either genre, suggesting that the music alone had an effect on aggression (Selfhout, Delsing, ter Bogt, & Meeus, 2008). Individuals who listened to songs with violent lyrics and themes had higher state hostility, more aggressive thoughts, and greater accessibility to violent words and thoughts (Anderson, Carnagey, & Eubanks, 2003). Likewise, men and women who listened to misogynistic and violent song lyrics were more aggressive towards a female confederate of a particular study (Fischer & Greitemeyer, 2006). Finally, men who listened to songs that were violent and misogynistic were more likely to be sexually aggressive towards a female confederate (Barogan & Nagayama, 1995). To date, no researchers have addressed the potential relationship between aggressive music and subsequent relationally aggressive behavior or the effect of aggressive music on prosocial behavior.
Conversely, a few studies have focused on the effects of listening to prosocial lyrics. Greitemeyer (2010) found that listening to music with prosocial lyrics (e.g., *Heal the World*, *We Are the World*, *What a Wonderful World*, *Lean on Me*, and *You are Not Alone*) decreased aggression and increased prosocial behavior. Moreover, children as young as four years old who participated in group music making displayed more prosocial behavior (Kirschner & Tomasello, 2010). Finally, Jacob, Guéguen, and Boulbry (2010) found that restaurants that played prosocial music in the background received significantly greater tips by patrons.

**Books**

**Content.** To date, only one known study has systematically examined the content of novels in terms of aggressive behavior. Coyne et al. (in press) analyzed 40 best-selling novels aimed at adolescents and found that all novels in their sample contained aggression in some form. Furthermore, the average reader was estimated to be exposed to approximately thirty acts of aggression for each hour of reading. Additionally, relational aggression was significantly more common in novels than physical aggression. Finally, males were portrayed using more physical aggression whereas females used more relational aggression. This gives us a glimpse regarding aggressive content in novels; namely that it is frequent, and is often portrayed in ways similar to other forms of media, such as television, film, or video games. However, aggression in novels targeting adolescents was different than aggression in other forms of media in that aggression was portrayed as unjustified. Conversely, no studies to date have examined prosocial content in novels. Clearly, more research is needed in this area.

**Effect.** The effects of reading aggressive and prosocial content in books are scant. Bushman, Ridge, Das, Key, and Busath (2007) found that reading scriptural violence increased aggression regardless of the reader’s faith or religious affiliation. Also, an experimental study
found that reading relationally and physically aggressive short-stories increased individuals’ physical and relational aggression in the short term (Coyne, Ridge, Stevens, Callister, & Stockdale, under review). Likewise, individuals who read violent comic books used more retaliation (Kirsh & Olczak, 2002) and had more hostile attribution and intent than those who read a nonviolent comic book (Kirsh & Olczak, 2000). Conversely, others have found that number of hours spent reading each week is associated with the use of less physical aggression (Wittmann, Arce, & Sanlisteban, 2008). Furthermore, Reganick (1991) found that implementing the reading of classic literature with highly aggressive boys in an institution resulted in fewer attacks and outbursts towards the institutions staff. These few studies show that reading novels can have an effect on behavior, but the research is fairly sparse. There is such sparse research regarding the outcomes of reading that Mares and Woodard (2001) specifically called for more research examining the effect of reading prosocial content to children on prosocial behavior. Clearly, more information is needed on the effects of reading aggressive material and subsequent aggressive behavior.

Theory

For the current study, the General Learning Model (GLM) (Anderson & Bushman, 2002) was chosen to guide the theoretical underpinnings of the study. The GLM can be used to understand the human response to any type of medium regardless of its formal features (Anderson & Carnagey, 2004; Anderson et al., 2004; Anderson & Huesmann, 2003). Also, the GLM combines and assimilates several theories of human learning, such as: social learning theory, information processing, excitation transfer, and cultivation theory, making it a particularly powerful and useful theory.
The GLM states that several constructs, such as input variables and routes, work together to influence an individual’s outcome or response regarding a stimuli. To elaborate further, input variables can be personal or situational. Personal input variables include beliefs, attitudes towards a behavior, personality, gender, and hostile attributions. Situational input variables include the formal features of the medium, the conditions of the surrounding environment, and cues. The model also explains that routes are vital to the processing of any behavior, including prosocial and aggressive behavior, meaning that the individual’s current internal state can influence how they process differing behaviors. This personal internal state or route refers to their personal affect or feelings, arousal level, and cognition. These route and input variables work together to influence the individual’s outcome or response to behaviors such as aggression and prosocial behavior. Here the individual will appraise the situation and use available decision making processes to determine how to respond to a situation. The individual will then evaluate or decide whether to act in a thoughtful or an impulsive manner.

The GLM is a particularly useful theory when describing both short-and long-term media effects on aggression and prosocial behavior. In the short term, exposure to violent media may influence aggressive responses through the affective (by lowering mood), arousal (by increasing excitatory arousal), or the cognitive (by activating aggression-related scripts) routes. When in such a heightened state, the individual is now primed to behave aggressively in the short-term, even to ambiguous stimuli. In the long-term, exposure to violent media may create and sustain aggression related scripts, eventually leading to a more aggressive personality. See Figure 1 for a visual representation. Similarly exposure to prosocial content in the media may influence prosocial responses through the affective, arousal, or the cognitive routes and prime the individual to act prosocially in the short-term. In the long-term repeated exposure to prosocial
content can strengthen prosocial scripts and cause the individual to develop a more prosocial personality.

Theoretically, the GLM may be useful when addressing the potential relationship between reading aggressive and prosocial material and subsequent behavior. Specifically, reading aggressive or prosocial material in novels (situational factors) combined with already existing personality factors (personal factors) may have an impact on an individual’s internal state such that they may experience increased or decreased hostility, aggressive thoughts, aggressive intentions, and arousal. In the short-term, this would create an aggressive or prosocial internal state. If this pattern was repeated over time, it would be possible for individuals to create a more permanent aggressive or prosocial internal state. This internal state could then influence the individual’s ability to appraise and make decisions regarding external stimuli, and in particular, could make it difficult for them to choose thoughtful, non-aggressive actions in regards to external stimuli.

**Purpose of the Study**

Currently, there is underdeveloped evidence regarding the effects of reading aggressive material on subsequent aggressive behavior. Furthermore, hundreds of studies, measuring a variety of mediums, have repeatedly found that the content of the media is more important than the type of media in regards to their effect on aggression and prosocial behavior and normative beliefs about aggression (Bushman & Anderson, 2001). Similarly, the general learning model suggests that normative beliefs are an important mediator of the relationship between media content and actual behavior (Anderson & Bushman, 2001). Likewise, researchers have repeatedly ignored the medium of adolescent literature, even though novels aimed at adolescents contain questionable content (Coyne et al., in press). It is possible that literature does not need to
be held to as high of a standard in regards to content as other forms of media. However, current research cannot support this assumption and the GLM would suggest that literature could have the same effect on aggressive behavior as other more researched types of media. Therefore, the purpose of this study is to examine the relationship between reading aggressive material and aggressive behavior in adolescents. The following research questions and hypotheses will guide the present study:

RQ1: How frequently are adolescents reading aggressive material in novels?
RQ2: How frequently are adolescents reading prosocial material in novels?
RQ3: Are there gender differences in the type of content adolescents are reading for pleasure?

Hypothesis 1: According to the GLM, reading physical aggression in novels is predicted to be associated with increased normative beliefs in support of aggressive behavior and increased physically aggressive behavior and decreased prosocial behavior.

Hypothesis 2: Reading relationally aggressive content in novels is predicted to be associated with increased normative beliefs in support of aggressive behavior and increased relationally (and romantic relationally) aggressive behavior and decreased prosocial behavior.

Hypothesis 3: Reading prosocial behavior in novels is predicted to be associated with decreased normative beliefs in support of aggressive behavior and increased prosocial behavior and decreased physical and relational aggression.

Hypothesis 4: According to the cross-over media effect (Coyne et al., 2008), it is predicted that reading relationally aggressive content in novels is associated with increased normative beliefs in support of aggression and increased physical aggression and romantic relational aggression and vice versa.
It is also anticipated that overall time spent reading and physical and relational aggression and prosocial content in other forms of media will need to be controlled in the final model.

Method

“Ali had taunted her about her vampire tan, and even her height—Ali always said Mona was short enough to be the girl version of Mini Me from Austin Powers. Ali also claimed that Mona had cellulite on her gut—she’d seen Mona changing in the country club locker room and had nearly thrown up it was so ugly....Once, when Ali was spending the night at Spencer’s, they sneaked over to Mona’s house down the street and spied on Mona as she was dancing to videos on VH1 in the den. “I hope her shirt flutters up”, Ali whispered. ‘Then you can see her in all her nastiness.’” Unbelievable: A Pretty Little Liars Novel, Sara Shepard

Participants

Participants were 223 middle school students (87 boys, 135 girls, and 1 no response) from a large Midwestern middle school. Students were recruited through lunchtime, school-wide, announcements. Fifteen dollars was given to each student as incentive for participation. The mean age for the participants was 12.58 years (range = 11-15, SD = 1.02 years). The majority of the participants were currently in eighth grade (approximately 44%), approximately 25% were currently in seventh grade, and approximately 31% were currently in sixth grade. A majority of the participants were Caucasian (approximately 63%), approximately 12% were African American, approximately 10% were Asian or Pacific Island, approximately 3% were Hispanic or Latino, approximately 2% were American Indian or Native Alaskan and approximately 8% were other ethnicities. The response rate for the middle school was approximately 35%. The demographics of the sample matched the demographics of the middle school with the exception...
of Caucasian students being slightly under represented in the resulting sample and Hispanic and Native American students being slightly over represented in the sample. To be eligible, participants had to give their own consent and obtained parental consent.

**Procedures**

The questionnaires were administered during the students’ lunch period. Participants who had obtained parental consent were instructed to take the questionnaire packets home and complete them on their own time and not during class time. Participants were told they could skip any questions they did not feel comfortable answering and would still receive compensation. Two days later, the questionnaire packets were collected during the same lunch periods. Lunch-time announcements were made during the two day period to remind students to return their questionnaires. Students who returned their questionnaires, with appropriate parental and student consent, were given fifteen dollars cash for their participation.

**Measures**

**Self-report of Aggression and Prosocial Behavior.** Each participant rated themselves on the frequency of their daily engagement in various behaviors. Relational aggression, physical aggression, romantic relational aggression, and prosocial behavior were all measured using an item bank measuring a variety of social behaviors. The majority of the items for the current study were adopted from the Self-Report of Aggression and Social Behavior Measure (SRASBM) (Morales & Crick, 1998).

**Physical Aggression.** The physical aggression scale included five questions, addressing how frequently the participant employed physical aggression to handle day-to-day events such as, “When someone makes me really angry I push or shove the person” and “I hit, kick, or punch others”. The questions were answered on a five point-Likert scale from *Never True* (1) to *Almost
Always True (5). Internal consistency estimates of reliability were computed for physical aggression. The Cronbach’s alpha was .81.

**Peer-Directed Relational Aggression.** The relational aggression scale included five questions, addressing how frequently the participant employed relational aggression to handle day-to-day events such as, “When someone does something that makes me angry, I try to embarrass that person or make them look stupid in front of everyone else” and “When I have been angry at, or jealous of someone, I have tried to damage that person’s reputation by gossiping about that person or by passing on negative information about that person to other people”. The questions were answered on a five point-Likert scale from Never True (1) to Almost Always True (5). Internal consistency estimates of reliability were computed for relational aggression. The Cronbach’s alpha was .80.

**Romantic Relational Aggression.** The romantic relational aggression scale included four questions, addressing how frequently the participant employed relational aggression in their romantic relationships, such as, “I give my boyfriend/girlfriend the silent treatment when they hurt my feelings in some way” and “If my boyfriend/girlfriend makes me mad, I will flirt with another person in front of him/her”. The questions were answered on a five point-Likert scale from Never True (1) to Almost Always True (5). Internal consistency estimates of reliability were computed for romantic relational aggression. The Cronbach’s alpha was .70.

**Prosocial Behavior.** The prosocial behavior scale included four items, addressing how frequently the participant participate in prosocial behaviors, such as, “I am nice and friendly to others when they need help” and “I do nice things for others, like helping them understand homework or teaching them how to play a game or sport”. The questions were answered on a
five point-Likert scale from *Never True* (1) to *Almost Always True* (5). Internal consistency estimates of reliability were computed for prosocial behavior. The Cronbach’s alpha was .75.

**Beliefs about Aggression.** The *Revised Normative Beliefs about Behaviors* scale (Huesmann & Guerra, 1997) was used to measure adolescents’ beliefs about aggression. The scale included six questions, addressing participants acceptance of aggressive behavior, such as, “In general it is ___ to hit other people” and “It is___ to stop talking to someone if you’re angry”. The questionnaires were answered on a four point-Likert scale from *Really Wrong* (1) to *Perfectly OK* (4). Initial factor analyzes revealed that normative beliefs about physical and relational aggression were highly correlated and most appropriately loaded on a single factor. Therefore, normative beliefs about physical and relational aggression were combined in the final variable. Internal consistency estimates of reliability were computed for normative beliefs about aggression. The Cronbach’s alpha was .83.

**Frequency of Reading.** To determine how frequently the participant was reading for leisure, the participant was asked, “On average, how many minutes do you spend reading a day for fun?” Another question, “How often do you read for fun” was also posed to the participants. This question was answered on a nine-point Likert scale ranging from *Never* (1) to *Everyday* (9).

**Aggression and Prosocial Behavior in Books.** To determine the frequency of physical, relational aggression, and prosocial behavior in novels, participants rated their three favorite novels for each behavior (Anderson & Dill, 2000; Gentile, Lynch, Linder, & Walsh, 2004). Participants were asked to identify the titles of their three favorite books and then they were asked, “How much prosocial behavior is in this book” and “How much physical aggression is in this book,” etc. The questions were answered on a seven-point Likert scale ranging from *None at all* (1) to *A Very High Amount* (7). Definitions for each behavior were given to the participants.
for reference and consistency. Participants did not rate romantic relational aggression in their three favorite books.

**Aggression and Prosocial Behavior in the Media.** To determine the amount of physical and relational aggression adolescents were exposed to in the media, a scale score was created. The amount of relational and physical aggression identified in adolescents' three favorite television shows, video games, and musical artists or bands were combined. A similar technique was used to determine the amount of prosocial behavior in adolescents’ favorite media.

**Results**

“A man with a bandaged hand was telling the mute, shock-faced soldier that he would survive. “You’ll soon be going home,” he assured him. “I’ll wait for you,” he continued. ‘I was going back at the end of the week, but I’ll wait.’” *The Book Thief*, Markus Susak

**Validity of Adolescent Self-Report of Aggression in Novels**

Most studies utilizing this particular method of assessing aggressive content in media do not provide reliability statistics (e.g., Gentile, Lynch, Linder, & Walsh, 2004). However, since this is the first study using this methodology with novels, it seemed prudent to provide evidence of reliability for the ratings. For aggression, a previously published content analysis of novels was used (see Coyne et al., in press). This content analysis analyzed the frequency of physical and relational aggression in 40 best-selling adolescent novels, popular during the summer of 2008. The average number of aggressive acts per page was obtained for all novels mentioned by adolescents in our study (this included 36% of the participants from the overall sample). Using the average number of aggressive acts per page, each book was assigned as being low (falling one or more standard deviations below the overall mean), moderate (within one standard deviation) or high (above one standard deviation) on both physical and relational aggression. To
further clarify, relational and physical aggression were measured separately (physical aggression $M = .10$, $SD = .09$ and relational aggression $M = .18$, $SD = .13$).

Similarly, each book was also assigned a low, moderate, and high rating (separate for physical and relational aggression) based on the self-reports given by adolescents. A “low” rating constituted a 1 or a 2 on the Likert scale meaning the media contains no aggression to rarely containing aggression), a “moderate” rating reflected 3-5 (with a 4 being a “moderate” amount of aggression on the scale), and a “high” rating was a 6 or 7 (meaning a high or very high amount of aggression on the scale). These were then aggregated into a larger mean for each book.

A reliability analysis was then conducted to determine the level of consistency among adolescents’ self-reports of aggression and the aggression actually measured by coders through content analysis (physical aggression $\kappa = .70$ and relational aggression $\kappa = .72$). According to Green and Salkind, (2008) reliability at or above .70 indicates acceptable levels of reliability. Accordingly, this shows that self-reports of aggression in books are fairly reflective of the actual aggression contained in these novels. It should be noted that when disagreements between the content analysis and the adolescents’ ratings were found, adolescents tended to under report aggression not over report, consistent with other self-report measures of content and behavior (Coccaro, Bermana, & Kavoussia, 2007; Underwood, Galend, & Paquette, 2001).

Unfortunately, the content analysis used above did not code for prosocial behavior. Therefore, to provide some indication of reliability, one trained coder (from the content analysis study) coded all the novels they had analyzed from the study for prosocial behavior, using the operational definition previously mentioned, on the low, moderate, and high scale (e. g., low meaning the novel rarely, if ever, contained prosocial behavior, moderate meaning the novel sometimes contained prosocial behavior, and high meaning the novel frequently or very often
contained prosocial behavior). This reflected 26% of the sample. Each book identified by the adolescents was coded as either low, moderate, or high prosocial behavior with a 1 or a 2 on the Likert scale constituting low levels of prosocial behavior, 3 through 5 constituting moderate, or 6 or 7 constituting high levels of prosocial behavior. All of the adolescent reports were then averaged to create a mean adolescent score of prosocial behavior for each novel identified. Comparisons were then made between the adolescents’ reports of low, moderate, or high levels of prosocial behavior in the identified novels and the coders report. Analyses revealed acceptable levels of reliability (κ = .72).

In sum, adolescent ratings of aggressive and prosocial behavior in novels showed acceptable reliability with independent ratings of many of the books themselves.

**Descriptive Analyses**

Descriptive analyses were conducted examining adolescent normative reading habits in regards to time spent reading and the content of the material they read. Adolescents reported that on average they spend approximately 46 minutes a day reading for leisure. However there was a large variability within the sample (SD= 61.9 minutes). A slight majority of adolescents reported reading for leisure every day or almost every day (approximately 51%), approximately 30% reported reading multiple times a week, approximately 15% reported reading for leisure at least once a month, and only 4% reported never reading for leisure (M= 2.99 and SD= 2.03).

In regards to the content of the novels adolescents were reading, approximately 31% of the books identified by adolescents contained moderate to high amounts of physical aggression (meaning a 4 to 6 on the Likert-scale) with approximately 3% containing high amounts of physical aggression. See Tables 1 and 2 for means and standard deviations of all content variables. Similarly, approximately 25% of the novels identified by adolescents contained
moderate to high levels of relational aggression and 3% contained high levels of relational aggression. Continuing with this pattern, approximately 32% of novels identified by adolescents contained moderate to high levels of prosocial behavior and approximately 3% contained high levels of prosocial behavior.

A one-way multiple analysis of variance (MANOVA) was conducted to determine the effect of two independent variables—gender and age—on several dependent variables. The dependent variables analyzed were frequency of reading, physically aggressive material in novels, relationally aggressive material in novels, and prosocial behavior in novels. Overall there was no significant effect of the gender on the independent variables, $F(4, 180) = 0.49, p > .05, \eta^2 = .01$. However, there was an effect for age $F(4, 180) = 4.64, p = .001, \eta^2 = .09$, with younger adolescents (11-13 years old) reading more than older adolescents (14-15 years old) (younger adolescents $M = 7.24, SD = 0.15$ and older adolescents $M = 5.70, SD = 0.35$).

Another one-way multiple analysis of variance (MANOVA) was conducted to determine the effect of age and gender on normative beliefs, physical aggression, relational aggression, romantic relational aggression, and prosocial behavior. Significant effects were found for age ($F(5, 204) = .90, p = .001, \eta^2 = .10$) and gender ($F(5, 204) = 0.90, p = .001, \eta^2 = .10$) with boys using significantly more physical aggression than girls and having more normative beliefs in support of aggression and using less prosocial behavior than girls (see Table 1 for means and standard deviation). In regards to age, older adolescents (13-14) reported having significantly more normative beliefs in support of aggression and using more physical and relational aggression with their peers than younger adolescents (see Tables 1 and 2 for means and standard deviations).
To examine the relationship between aggressive behavior and reading, correlations were run between overall time spent reading for leisure and the use of physical aggression, relational aggression, romantic relational aggression, and prosocial behavior. No significant correlations were found (see Table 3).

The three favorite books identified by both boys and girls were noted. Overall, the most frequent books listed for boys were first, The *Harry Potter* series, second, the *Hunger Games* series, and finally the *Percy Jackson* series. Overall the three most frequent favorite novels for girls were first, the *Twilight* series, second, the *Hunger Games* series and third, the *Harry Potter* series.

**Analysis Strategy**

Given the complexity of the anticipated model, the sample size was not sufficient to produce stable and reliable estimations with the anticipated number of parameters in an SEM-latent variable context (Kline, 2009). To produce reliable estimations of associations, scale scores were employed in place of latent variables. The use of scale scores can produce more conservative and reliable estimates when sample sizes are not as robust (Kline, 2009). Furthermore, because this is the first known study to examine the associations between reading aggressive and prosocial behavior in novels and actual behavior, all hypothesized paths were included in the final model. This resulted in a fully saturated model and fit statistics are not produced.

**Path Analysis**

A path analysis was conducted in SEM with the Analysis of Moments Structure (AMOS) software (Arbuckle, 2008). The analysis was run using maximum likelihood estimation in order to account for missing data. The purpose of the model was to assess the relationship between the
content of adolescent reading materials, mediated by normative beliefs about aggression, and actual behavior. Frequency of reading for leisure (the time an adolescent spent reading for leisure on an average day) was controlled for in the final model to account for the possibility of the analyzed content in other forms of media and to highlight the specific relationship of adolescent novels with normative beliefs and behaviors. Also, physical and relational aggression and prosocial behavior in other forms of media were controlled for in the analysis to highlight the specific contribution on books to behavior. Figure 2 provides a visual representation of the model; however, for ease of interpretation, only significant \((p < .05)\) paths are shown. See Tables 4 and 5 for means and standard deviations and correlations between all study variables.

The results of the path analysis revealed that reading relationally aggressive material in novels was directly related to both relational aggression \((.12)\) and romantic relational aggression \((.21)\), though there was no significant relationship between reading physical aggression and any behavior. Analyses also revealed no significant effect of reading any type of aggressive content and normative beliefs about aggression.

Prosocial content in books showed a trend \((p < .10)\) towards prosocial behavior. Prosocial behavior in novels was also negatively associated with normative beliefs about aggression \((- .16)\). Furthermore, normative beliefs about aggression were significantly related to current physical \((.33)\), relational \((.32)\), and romantic relational aggression \((.39)\), and negatively associated with prosocial behavior \((- .34)\).

**Alternative Models**

Alternative models were also tested to determine the association between content of novels, normative beliefs, and actual behaviors. Because we did not explicitly ask adolescents to rate the romantic relational aggression within their favorite forms of media this was removed...
from the alternative model. Similarly, prosocial behavior was removed from the first alternative model. In this model, physical aggression in novels was still not significantly associated with physical or relational aggression or normative beliefs about aggression. Again, relational aggression in novels was associated with relational aggression use (.12) and trending towards associations with normative beliefs about aggression (.14). Finally, normative beliefs about aggression were significantly associated with physical aggression use (.32) and relational aggression use (.32). See figure 3 for a visual representation.

A second alternative model was analyzed examining the associations between reading physically and relationally aggressive material in novels, normative beliefs about aggression, and aggressive behavior without the controls for aggression in other forms of media and frequency of reading. In this model relational aggression in novels was significantly associated with normative beliefs about aggression (.23) and relational aggression use (.14). Similarly, normative beliefs about aggression was associated with relational aggression use (.45). Physical aggression in novels was trending towards association with normative beliefs about aggression (.10) and physical aggression use (.11). Normative beliefs about aggression was also significantly associated with physical aggression use (.50). Maximum likelihood bootstrapping with a 95% confidence interval (see Shrout and Bolger, 2002) was used to test the mediating relationships. Using the biased corrected percentile method this test revealed that the standardized indirect (mediated) effect between relational aggression in books, normative beliefs about aggression, and relational aggression use was significant (p <.05) (see Shrout and Bolger, 2002 for an in depth explanation of bootstrap mediation). Thus, normative beliefs about aggression is a true mediator of the relationship between relationally aggressive content in novels and the use of relational aggression in the alternative model.
Discussion

“He stepped forward and the white queen pounced. She struck Ron across the head with her stone arm, and he crashed to the floor--Hermione screamed but stayed on her square—the white queen dragged Ron to one side. He looked as if he had been knocked out.” Harry Potter and the Sorcerer’s Stone, J. K. Rowling

While the area of media effects has received a great deal of research attention, one area of the media—books—has received less attention. This study is an attempt to bridge the research gap by examining the associations between reading aggressive and prosocial behavior in novels and actual behavior. From the current study several findings appear relevant. First, it is clear that adolescents are a fairly reliable source of information regarding the content of novels. Similar self-report measures of media content have been employed by several researchers (e.g., Gentile, Lynch, Linder, & Walsh, 2004) and the comparisons between content analyses and the adolescents self-report measures of the content of their three favorite books make it clear that adolescents are aware of the relational and physical aggression portrayed in their favorite novels. Furthermore, these findings suggest that researchers are justified in using adolescent self-report measures in regards to the aggressive content of novels in future research.

Secondly, consistent with the literature, the majority of adolescents are reading for leisure on a daily basis (Kaiser Family Foundation, 2010). There is a stereotype that adolescents simply do not read; (Irwin, 2003) however, this stereotype seems to be a fallacy. This study showed that 96% of adolescents in this study reported that they read for leisure at least once a month, with most adolescents reporting reading weekly or even daily. Also consistent with the literature, results revealed that younger adolescents report reading more than older adolescents (Roberts & Foehr, 2004). While past research has found that there is a gender difference in
frequency of reading, the current study did not find such a difference. Both male and female adolescents reported reading for leisure consistently and the vast majority reported reading for leisure either on a daily basis or almost every day. This lack of gender difference may be due to differences in measurement. Previous studies have analyzed the number of minutes spent reading for leisure each day (Kaiser Family Foundation, 2010) while the current study only analyzed the frequency of reading for leisure (e.g. Do you read every day, almost every day, once a week, etc.). Taking into account actual time spent reading may influence these results. Similarly, the current study employed self-report measures of the frequency of reading for leisure. It is possible that because of the educational and social pressures in support of reading that adolescents over-reported their reading for leisure habits compared to time measurements or measurements that do not rely on self-reports.

Of particular interest is the finding that aggressive adolescents did not report reading less for leisure than nonaggressive adolescents. It is possible that the current cultural and academic pressure to be a proficient reader and to engage in reading on a daily basis could influence most adolescents into reading at least occasionally (Conley et al., 2008). Furthermore, the adolescents in the current study were relatively young (middle school) and therefore may not feel as many external pressures such as sports, clubs, or athletics that would pull them away from leisure activities such as reading and the use of other forms of media. Likewise, the proportion of both physically and relationally aggressive youth in the sample was rather small. Perhaps larger proportions of aggressive adolescents are needed to identify this association between aggressive behavior and time spent reading for leisure.

Analyses were also run to examine the relationships between gender and physically and relationally aggressive behavior and prosocial behavior. Consistent with the literature, there was
no gender difference between the use of relational aggression (Card, Stucky, Sawalani, & Little, 2008; Scheithauer, Haag, Mahlke, & Ittel, 2008) suggesting that both boys and girls are using similar levels of relational aggression in their peer groups. Also in support of the literature, there was a gender difference in physical aggression, with boys using more physical aggression (Card, Stucky, Sawalani, & Little, 2008) and prosocial behavior, with males using less prosocial behavior than girls (Fabes, Carlo, Kupanoff, & Laible, 1999).

While the current study supported past researchers others have argued that these gender discrepancies are conditional. McMahon, Wernsman, and Parnes (2006) found that gender differences in the use of prosocial behavior by adolescents virtually disappear when personality and measurement are taking into consideration and others have found that the gender differences in the use of prosocial behavior are not present in early adolescents (Beutel & Johnson, 2004).

The majority of adolescents reported at least a moderate level of both physical and relational aggression in their three favorite novels. While novels may contain less aggression than other popular forms of media such as video games (Coyne et al., in press), it is important to note that novels do contain aggression, giving credence to research examining any effects of exposure to such aggression. On the other hand, adolescents also reported moderate levels of prosocial behavior in their favorite novels. Interestingly, there was no sex difference in the reported amount of aggression read in books. The lack of a sex difference for aggression may be explained by the finding that boys and girls are actually reading very similar books. For example, across the sample, both boys and girls reported that The Hunger Games and the Harry Potter Series were among their top books, two books that are actually quite high in aggression (see Coyne et al., in press). Conversely, girls reported reading slightly more prosocial behavior in
books. It is possible that novels targeted to girls contain more prosocial behavior; future research should examine this possibility.

When specific content of novels were examined, an association was found between reading relationally aggressive material in novels and both relational and romantic relational aggression. Importantly, these associations were found even after controlling for physical and relational aggression viewed in other types of media. These associations are consistent with the General Learning Model (Anderson & Bushman, 2002) which suggests that partaking of aggressive media can lead to the activation of aggressive schemes and constructs during ambiguous situations and result in more aggressive behavior. The association between reading relationally aggressive material in novels and both romantic relational and relational aggression with peers could be due to several factors. First, several novels popular with adolescents have relational aggression as a central theme of the novel (e.g. *Pretty Little Liars*, *Clique*, and *Gossip Girl* series). This centrality of the relational aggression could make it more likely to be internalized and activated in ambiguous situations than less centrally themed aggression. Additionally, adolescence is a time when children begin to shift focus away from parental relationships and focus on peer relationships and attachments (Arnett, 1995). The inherently “relational” nature of relational aggression may be particularly salient during this time as adolescents give heightened attention to peer relations. Furthermore, as adolescents start to navigate these new peer relationships, novels may become an important source of information regarding what is appropriate and normal behavior within these peer groups. Therefore, the central theme of relational aggression common in popular novels may help explain the association between relational aggression in novels and the use of relational aggression in peer and romantic relationships.
In contrast to expectation and theory, reading physically aggressive material in novels at the multivariate level was not associated with the use of physical aggression in the peer group. This finding goes against a vast amount of research regarding media violence and aggression (See Bushman & Anderson, 2001 for a review). However, when physical aggression in novels was examined without the control variables it was related to physical aggression use, in accordance with theory. It is possible that partaking of physical aggression in novels is also associated with partaking of aggression in other forms of media and that partaking of aggression in other forms of media overpowers the associations with books in a multivariate model approach. Future research should begin to further examine these associations and attempt to separate the effects of physical aggression in novels from other forms of media. It is also possible that the associations between content in novels and physical aggression use may be smaller than other forms of media for several reasons. Below are a few speculative ideas as to why reading media violence may not have the same impact as being exposed to media violence in other mediums. First, compared to books, other forms of media allow for more rehearsal and feedback (Gentile & Gentile, 2008). Television programs are watched weekly, if not daily. Movies are watched repeatedly. Video games require hours of play to even complete the game and then games are usually played repeatedly. Songs are listened to over and over again through the radio, television, and other music outlets. All of these forms of media provide repeated exposure to the same (or at least similar) acts of aggression. However, books are typically read only once. In fact, the majority of adolescents in this study commented on how the identified books were their favorite, but they only read them once. This lack of rehearsal and repetition with the same characters and forms of aggression could make the impact of novels on aggression less clear and strong as other forms of media (Gentile & Gentile, 2008). While some may argue
that series books would allow this repetition, each book within the series is still typically only read once making the repetition in books still smaller than other forms of media. Also the time between the release of each installment tends to be great (typically a year or more) and therefore the effects of reading such behavior may dissipate between installments (Grimes, Anderson, & Bergen, 2008). Taking all of these considerations into account, reading physically aggressive material in novels may not allow for the frequency of exposure and repetition common in other forms of media (Gentile & Gentile, 2008).

Secondly, most of the reported novels that contained very high amounts of physical aggression tended to be fantasy novels (e.g., Percy Jackson, Harry Potter). Though high in physical aggression, almost all of this aggression is fantastical and not realistic. Much physical aggression in these novels involves the use of spells or magic, or is enacted by mythical creatures (e.g., dragons); clearly such aggression is less likely to be imitated when compared to more realistic forms of aggression (e.g., Sherry, 2001), especially because adolescents are developmentally able to distinguish between fantasy and reality (Brooks, 2008). While there is still an association between physically aggressive content in novels and physical aggression use without controlling for physical aggression in other forms of media, it is possible that this association is weaker than other forms of media because of these fantastical depictions.

There may also be a stronger effect of media violence in alternative forms of media due to the visual elements of the portrayal. By definition, physical aggression requires some physical or visual aspect to the behavior. In contrast, relational aggression is much more subtle and does not necessarily require as many physical elements to portray the behavior. On television, movies, and in video games, characters are actually portrayed as hitting or punching others. Such depictions are often very graphic and intense. Conversely, verbal descriptions of physical
violence may not create the same effect as visual portrayals, decreasing the strength of any media effects on real world aggression.

However, when content of novels was examined without the controls physical aggression in novels was related to physical aggression use in the peer group. Perhaps, children who use physical aggression in the peer groups and read physically aggressive novels are also more likely to partake of physical aggression in other forms of media. It is possible that strong associations between physical aggression in other forms of media and physical aggression in novels would limit this association in the anticipated model. However the alternative models continue to suggest that reading physically aggressive behavior in novels is related to physical aggression use in the peer group. Similarly, when physical and relational aggression in novels was examined in a model without control variables they were both associated with normative beliefs about aggression. This supports the general learning model with suggests that as individuals partake of media content this content helps strengthen and change cognitive scripts and schemas in support of such behavior (Anderson & Bushman, 2001).

In contrast to physical aggression and in support of past research and theory, reading prosocial content in novels was related to increased prosocial behavior (at the level of a trend). Typically, novels popular among adolescents contain very prosocial themes. While the physically aggressive material in novels is often portrayed as unjustified and punished, it is likely that the prosocial behaviors are often rewarded and justified. This justification and rewards should lead to stronger associations with actual behavior (Simmons, Stalsworth, & Wentzel, 1999).

Furthermore, similar to relational aggressions, portrayals of prosocial behavior in novels are generally more realistic than portrayals of physical aggression. Similarly, adolescents may be
more likely to relate to a character that helps a friend with a problem or opens a door for a stranger more than a character that is physically battling some mythical creature to save the world. This connection with real life, likely makes the behavior more salient to the adolescent, increasingly the likelihood of internalization of the behavior. (Konijin, Bijvank, & Bushman, 2007; Sherry, 2001). Likewise, prosocial behavior is more socially acceptable than physical aggression, increasing the likelihood that adolescents would enact such behavior in their daily lives (Mares & Underwood, 2001). Further research is needed to clarify and expand on these ideas and potential associations.

Prosocial behavior in novels was also negatively associated with normative beliefs regarding aggressive behavior. This is turn was positively associated with physical and relational aggression and negatively associated with prosocial behavior. Accordingly, reading prosocial content in novels may influence normative beliefs regarding aggression, which in turn may increase the likelihood for prosocial behavior, and decrease the likelihood for aggression. In contrast, reading relational and physical aggression in novels was not related to normative beliefs regarding aggression. This may be a reflection of the age group being studied. It is possible that individuals do not have much exposure to relational or physical aggression in novels until reaching adolescence. In contrast, many children’s books contain prosocial themes (Turner, 2006) leading to a long history with exposure to prosocial behavior in novels. This may increase the likelihood that over time, exposure to such content in novels may influence normative beliefs in adolescence. On the other hand, aggression is not typically present in younger children’s books, and when it is, it is often portrayed in a negative light (Entenman, Murnen, & Hendricks, 2005). Normative beliefs surrounding aggression are developed over time; accordingly, as a result of their age, many of the adolescents in our sample may be experiencing exposure to high
levels of relational or physical aggression in novels for the first time. Since the study was not longitudinal, this is clearly all speculative, and further research is needed to examine these potential associations.

These results have several implications for the real world. We have found that novels do contain aggressive (and prosocial behavior) and that reading such content has some effect on some behaviors (relational aggression and prosocial) but not others (physical aggression). Unlike most other forms of media, covers and summaries of novels do not provide a fair description of the actual content of these novels. In fact, parents and adolescents are left to judge the content of these novels based off a few lines about the overall plot without information regarding any type of content. Television programs, films, music, and video games are all required to provide content warnings to consumers, yet novels have somehow remained immune from this expectation. Some books provide age guidance: however this is typically related to the difficulty of vocabulary and literary components rather than on the actual content of the novel itself.

This leaves parents and readers again assuming that these guidelines mean the presented material is appropriate for this age group, when in fact, this may not be accurate. Indeed, there is some debate among parents, publishers, and authors as to whether such warnings should be implemented in books (e.g., Alsup, 2003). The majority of book buyers say they would support the implementation of some form of content warnings of novels and that adding such guidance would result in them purchasing more novels (Horn, 2008).

Those in opposition to content warnings on novels have argued that such warnings would be a form of censorship and would actually lead to adolescents reading less. This is not to suggest that adolescents should read less or that parents should discourage adolescents from reading their favorite novels, if anything adolescents should be reading more. It is simply
suggested that the content warnings that are so prevalent on other forms of media might be helpful for parents and adolescents in regards to novels. The implementation of content warnings of novels would allow readers and parents alike to make sure that the content being presented to their children in the novels they read are in line with the values and beliefs they are trying to instill in their children. Perhaps the emphasis should no longer be on “good” or “bad” forms of media, but rather the content of all types of media. Clearly multiple forms of media can have both a positive and negative effect (See Bushman & Anderson, 2001 and Gentile et al., 2010) and perhaps it is time to focus not on the medium of the message, but the message itself that each type of media is presenting. While the current study provides mixed results regarding the relationship between content of novels and actual behavior, it does provide evidence that both physically and relationally aggressive content exists in novels popular among adolescents. It is possible that regardless of the associations between content of novels and actual behavior, that parents would not wish their children to be exposed to aggressive content. Given this content, it may be appropriate to inform parents and adolescents regarding this content before they begin reading the novels.

Limitations and Future Research

There are several limitations to the current study. First, the current study did not have a content analysis of prosocial behavior in novels popular among adolescents. Therefore, it was more difficult to show the reliability of adolescents’ ratings of prosocial content in their favorite novels. Future research should examine both the prosocial content of novels popular among adolescents and the accuracy of adolescents’ self-reports of prosocial content in their favorite novels. Likewise, the current study only examined the reliability of adolescent self-report measures of content in regards to novels. Future researchers should examine the appropriateness
of adolescents self-reporting of content in a variety of media such as video games, television, music, and films for relational and physical aggression and prosocial behavior.

Another limitation of the current study was the lack of longitudinal data. This lack of longitudinal data makes it difficult to interpret and capture issues as complex as beliefs and attitudes. Future research should attempt to examine the content of a variety of media and how this content influences beliefs and attitudes across time. Furthermore, researchers should specifically examine the content of novels and the development or change of attitudes and beliefs across multiple time points.

Thirdly, the current study was correlational. This correlational design of the study makes it impossible to examine actual effects and only associations and relationships can be discerned from such methods. While this correlational data is the first step in understanding complex relationships future researchers should examine the relationship between reading aggressive and prosocial behaviors in novels and subsequent behaviors in an experimental research design. This use of experimental designs will allow future researchers to determine if the associations presented are actually a direct result of one another and can help researchers’ establish causality.

Similarly, the correlational design of this study makes it impossible to determine the direction of the associations. It is possible that those who are more relationally aggressive, both with their peers and in their romantic relationships, choose to read more relationally aggressive novels. It is also possible that those who are more prosocial and have more normative beliefs against aggression and in support of prosocial behavior choose to read novels that reflect these beliefs. The use of experimental designs in future research would clarify these associations and the directions of these relationships.
The current study shows that adolescents are reading for leisure and that they are reading consistently. The current study also shows that novels popular among adolescents contain both physical and relational aggression and prosocial behavior. While the associations between reading physical aggression and aggressive behavior are unclear, it is apparent that reading relationally aggressive material in novels is related to relational aggression with peers and within romantic relationships. Similarly, reading prosocial content in novels is trending towards associations with prosocial behavior in the peer group. It seems apparent that content of novels matters and that parents, publishers, and policy makers should consider the potential benefits and risks associated with the content of novels targeted towards adolescents.
References


Coyne, S. M., Ridge, R., Stevens, M., Callister, M., & Stockdale, L. (under review). Backbiting and bloodshed in books: Short term effects of reading physical and relational aggression in literature


Table 1

*Means and Standard Deviations for Behaviors in Books, Actual Behaviors and Age*

<table>
<thead>
<tr>
<th>Variables</th>
<th>11-13 M (SD)</th>
<th>14-15 M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Aggression in Books</td>
<td>3.02 (0.12)</td>
<td>3.23 (0.27)</td>
</tr>
<tr>
<td>Relational Aggression in Books</td>
<td>2.68 (0.11)</td>
<td>2.80 (0.26)</td>
</tr>
<tr>
<td>Prosocial Behavior in Books</td>
<td>2.92 (0.13)</td>
<td>3.33 (0.29)</td>
</tr>
<tr>
<td>Frequency of Reading Books</td>
<td>7.24 (0.15)</td>
<td>5.70 (0.35)</td>
</tr>
<tr>
<td>Normative Beliefs About Aggression</td>
<td>1.66 (0.05)</td>
<td>2.04 (0.10)</td>
</tr>
<tr>
<td>Physical Aggression Use</td>
<td>1.51 (0.05)</td>
<td>2.01 (0.11)</td>
</tr>
<tr>
<td>Relational Aggression Use</td>
<td>1.51 (0.05)</td>
<td>1.78 (0.11)</td>
</tr>
<tr>
<td>Romantic Relational Aggression</td>
<td>1.41 (0.06)</td>
<td>1.60 (0.12)</td>
</tr>
<tr>
<td>Prosocial Behavior</td>
<td>3.91 (0.06)</td>
<td>3.69 (0.13)</td>
</tr>
</tbody>
</table>
Table 2

*Means and SDs for Behaviors in Books, Actual Behaviors and Gender*

<table>
<thead>
<tr>
<th>Variables</th>
<th>Gender</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td></td>
</tr>
<tr>
<td></td>
<td>M (SD)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Aggression in Books</td>
<td>3.12 (0.23)</td>
<td>3.13 (0.20)</td>
<td></td>
</tr>
<tr>
<td>Relational Aggression in Books</td>
<td>2.66 (0.21)</td>
<td>2.82 (0.18)</td>
<td></td>
</tr>
<tr>
<td>Prosocial Behavior in Books</td>
<td>2.96 (0.24)</td>
<td>3.28 (0.21)</td>
<td></td>
</tr>
<tr>
<td>Frequency of Reading Books</td>
<td>6.33 (0.29)</td>
<td>6.60 (0.26)</td>
<td></td>
</tr>
<tr>
<td>Normative Beliefs About Aggression</td>
<td>2.03 (0.08)</td>
<td>1.67 (0.08)</td>
<td></td>
</tr>
<tr>
<td>Physical Aggression Use</td>
<td>1.97 (0.09)</td>
<td>1.55 (0.08)</td>
<td></td>
</tr>
<tr>
<td>Relational Aggression Use</td>
<td>1.76 (0.09)</td>
<td>1.53 (0.09)</td>
<td></td>
</tr>
<tr>
<td>Romantic Relational Aggression</td>
<td>1.54 (0.10)</td>
<td>1.47 (0.09)</td>
<td></td>
</tr>
<tr>
<td>Prosocial Behavior</td>
<td>3.63 (0.11)</td>
<td>3.97 (0.10)</td>
<td></td>
</tr>
</tbody>
</table>
Table 3  

Bivariate Correlations Between Frequency of Reading and Behavior

<table>
<thead>
<tr>
<th></th>
<th>M (SD)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Physical Aggression</td>
<td>1.55 (0.67)</td>
<td>___</td>
<td>.60**</td>
<td>.47**</td>
<td>-.01</td>
</tr>
<tr>
<td>2. Relational Aggression</td>
<td>1.54 (0.68)</td>
<td>___</td>
<td>___</td>
<td>.59**</td>
<td>-.06</td>
</tr>
<tr>
<td>3. Romantic Relational Aggression</td>
<td>1.45 (0.71)</td>
<td>___</td>
<td>___</td>
<td>___</td>
<td>.02</td>
</tr>
<tr>
<td>4. Reading Time</td>
<td>46.81 (61.92)</td>
<td>___</td>
<td>___</td>
<td>___</td>
<td>___</td>
</tr>
</tbody>
</table>

Note: *p<.05, **p<.01
Table 4

*Bivariate Correlations Between Main Study Variable*

<table>
<thead>
<tr>
<th></th>
<th>M (SD)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. PA in Books</td>
<td>3.05 (1.45)</td>
<td><strong>.68</strong></td>
<td><strong>.41</strong></td>
<td><strong>.25</strong></td>
<td><strong>.30</strong></td>
<td><strong>.27</strong></td>
<td><strong>.21</strong></td>
<td>-<strong>.14</strong></td>
<td></td>
</tr>
<tr>
<td>2. RA in Books</td>
<td>2.74 (1.34)</td>
<td></td>
<td><strong>.56</strong></td>
<td><strong>.31</strong></td>
<td><strong>.32</strong></td>
<td><strong>.35</strong></td>
<td><strong>.32</strong></td>
<td>-<strong>.11</strong></td>
<td></td>
</tr>
<tr>
<td>3. Prosocial in Books</td>
<td>3.03 (1.45)</td>
<td></td>
<td></td>
<td>-<strong>.31</strong></td>
<td>-<strong>.27</strong></td>
<td>-<strong>.28</strong></td>
<td>-<strong>.23</strong></td>
<td><strong>.20</strong></td>
<td></td>
</tr>
<tr>
<td>4. Nomative Beliefs</td>
<td>1.69 (0.61)</td>
<td></td>
<td></td>
<td></td>
<td><strong>.56</strong></td>
<td><strong>.52</strong></td>
<td><strong>.49</strong></td>
<td>-<strong>.37</strong></td>
<td></td>
</tr>
<tr>
<td>5. Physical Aggression</td>
<td>1.55 (0.67)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>.17</strong></td>
<td><strong>.11</strong></td>
<td>-<strong>.18</strong></td>
<td></td>
</tr>
<tr>
<td>6. Relational Aggression</td>
<td>1.54 (0.68)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>.59</strong></td>
<td>-<strong>.36</strong></td>
<td></td>
</tr>
<tr>
<td>7. Romantic RA</td>
<td>1.45 (0.77)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-<strong>.34</strong></td>
</tr>
<tr>
<td>8. Prosocial Behavior</td>
<td>3.92 (0.80)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: * p < .05, ** p < .01*
Table 5

*Bivariate Correlations Between Study Variables and Control Variables*

<table>
<thead>
<tr>
<th>Variable</th>
<th>M (SD)</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. PA in Books</td>
<td>3.05 (1.45)</td>
<td>.11</td>
<td>.41**</td>
</tr>
<tr>
<td>2. RA in Books</td>
<td>2.74 (1.34)</td>
<td>.11</td>
<td>.15</td>
</tr>
<tr>
<td>3. Prosocial in Books</td>
<td>3.03 (1.45)</td>
<td>.01</td>
<td>.39**</td>
</tr>
<tr>
<td>4. Normative Beliefs</td>
<td>1.69 (0.61)</td>
<td>-.16</td>
<td>.40*</td>
</tr>
<tr>
<td>5. Physical Aggression</td>
<td>1.55 (0.67)</td>
<td>-.18**</td>
<td>.62**</td>
</tr>
<tr>
<td>6. Relational Aggression</td>
<td>1.54 (0.68)</td>
<td>-.12</td>
<td>.51**</td>
</tr>
<tr>
<td>7. Romantic RA</td>
<td>1.45 (0.77)</td>
<td>-.16*</td>
<td>.19</td>
</tr>
<tr>
<td>8. Prosocial Behavior</td>
<td>3.92 (0.80)</td>
<td>.23**</td>
<td>-.24</td>
</tr>
<tr>
<td>9. Frequency of Reading</td>
<td>34.86 (17.01)</td>
<td>____</td>
<td>-.25</td>
</tr>
<tr>
<td>10. Aggression in Media</td>
<td>20.27 (11.21)</td>
<td>____</td>
<td>____</td>
</tr>
</tbody>
</table>

*Note:* *p < .05, **p < .01*
Figure 1
The General Learning Model
Figure 2
Associations Between Reading Material, Normative Beliefs and Behaviors

Notes: Numbers of the paths represent standardized Beta weights.
Figure 3
Alternative Model 1

Frequency of Reading  Aggression in Media  Prosocial Behavior in Media

Physical Aggression in Books

Relational Aggression in Books

Normative Beliefs About Aggression

Physical Aggression

Relational Aggression

Notes: Numbers of the paths represent standardized Beta weights
Figure 4
Alternative Model 2

Notes: Numbers of the paths represent standardized Beta weights