THE INFLUENCE OF SUPERHERO CHARACTERS ON MORAL JUDGMENT IN

SCHOOL-AGE CHILDREN

BY

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DEDICATION

This dissertation is dedicated to my grandparents, Josephine and Louis D'Amato, who always encouraged me to not "be a donkey" and keep going through school. Even though you're not with us anymore, I want you to know that I finally finished.

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Abstract

Social learning has been shown to have a significant impact on moral development. Research has established that the progression of moral development is consistent and universal. Several factors can impact the rate at which children progress through the moral stages. Children's moral reasoning can be shaped by observations of media characters. Due to their recent resurgence in popular culture and the media, as well as their consistent popularity with children, superheroes have been identified as potential social models of morality. In a sample of 108 fifth grade students, a significant positive correlation was revealed between superhero knowledge and exposure. The sample was divided by gender due to significant differences in superhero knowledge and exposure as well as level of moral judgment. A linear multiple regression for the males approached but did not reach significance. A linear multiple regression for females also failed to reach significance. Limitations of the current study and implications for future research are discussed.

The Influence of Superhero Characters on Moral Judgment

in School-Age Children

Social learning is perhaps one of the most influential mechanisms by which human behavior is acquired. Research has indicated that social learning can influence several important areas of human development. One such area is that of the development of moral reasoning and judgment.

The progression of moral development in children has been firmly established (Kohlberg, 1977; Kohlberg, Levine & Hewer, 1983; Kohlberg, 1984; Crain, 1985; Lapsley, 2006). In addition, the stages of moral development in children have been consistently demonstrated across cultures, indicating that moral development is a universal process (Nisan & Kohlberg, 1982; Snarey, Reimer, & Kohlberg, 1985). Although the order of moral stages has been reliably determined, several factors have been shown to influence a child's rate of progression through the moral stages (Anderson & Cavallaro, 2002; Keasey, 1971; Hoffman & Saltzstein, 1967; Bandura, 1962). Children's moral reasoning can be influenced by various social models, such as parents, peers or even media figures (Bandura & McDonald, 1963; Anderson & Cavallaro, 2002).

Due to their prevalence in the media as well as their consistent popularity with children, superheroes have been recently identified as a potential social model of moral values for children (Martin, 2007). However, the potential relationship between children's exposure to and knowledge of superheroes and their development of moral judgment has not yet been adequately explored. The lens of superheroes could potentially provide a highly interesting, meaningful and easily relatable context through which children can explore, discuss and understand moral dilemmas.

Social Learning

According to Bandura (1962), social learning refers to behaviors that are acquired through observation of others. Behaviors learned vicariously by watching others forms a significant part of each person's behavioral experience (Bandura, 2004). Perhaps one of the most well-known studies to demonstrate how observing behavior can result in acquisition of and imitation of similar behavior was the Bobo Doll study conducted by Albert Bandura and his colleagues in 1961. Bandura, Ross, and Ross (1961) completed a study with 72 nursery school students to investigate whether the children would imitate behavior of aggressive and non-aggressive models. The total sample was made up of 36 boys and 36 girls with an average age of 52 months. The children were divided into eight experimental groups of six children and one control group of 24 children. The children were matched based on previously rated levels of aggressive behaviors and divided evenly among the groups. Half of the experimental groups were to be exposed to an aggressive model while the other half of the groups were to be exposed to a non-aggressive model. The groups were further sub-divided such that the model for half of the groups would be male and the model for the other half of the groups would be female. Each child was escorted into a play room by a female experimenter and were seated at a table with arts and crafts materials. The experimenter then invited the model in and seated them at the opposite end of the room where a small play area was set up with tinker toys, a mallet and an inflated Bobo Doll. Non-aggressive models simply ignored the Bobo Doll and played in a subdued manner with the tinker toys. Aggressive models began with the tinker toys but moved on to aggressive play with the Bobo doll (e.g., hitting it with the mallet, sitting on it, kicking, punching and making aggressive comments) shortly after the experimenter left the room.

After observing the model, the children were taken to another room and allowed to play with a new set of toys (Bandura, Ross, & Ross, 1961). After they had become fully engaged in play, the experimenter directed the children to stop playing because she had decided to save them for the use of other children but that they could play with any of the toys in the next room. The experimenter then led the children to the next room which had a variety of toys (e.g., tea sets, crayons, dolls, trucks) including a Bobo Doll and mallet. The children were allowed to play in this room for 20 minutes and were scored on a variety of aggressive behaviors (e.g., sitting on the doll, hitting it with the mallet, punching, making aggressive comments). The results of the study indicated that the groups exposed to the non-aggressive model were not significantly different from the control group. Specifically, 70% of children in these conditions had zero scores for aggressive behaviors. In contrast, the groups exposed to an aggressive model engaged in significantly more aggressive behaviors relative to the other groups. In addition, children in the group exposed to a non-aggressive male model engaged in significantly less aggressive behavior relative to both the control group and the group exposed to a non-aggressive female model (Bandura, Ross & Ross, 1961). These results may suggest that although children may be likely to imitate observed aggressive behaviors, they may also be likely to imitate observed non-aggressive behaviors as well.

For example, White and Burnam (1975) investigated the effects of modeling on children's generosity with a sample of 192 4th and 5th grade female students. Each child played a concept formation game operated with a push-button apparatus. For each trial, if the child won, they would receive five pennies from a dispenser attached to the game. Each child completed 10 trials of the game and won six times. There was a donation jar near the game with a sign that indicated that the money given would go to needy children. Participants were divided into

groups based on modeling and instruction type. In the permissive instruction groups, the

participants were told that they could donate some of their pennies if they wanted but did not

have to do so. Participants in the constraining instructions group were told that the experimenter

wanted them to donate something each time they won the game. In addition to the instruction

sets, there were two types of models. In the public donation group, the participants took turns

playing the game with the experimenter and watched her donate between zero and four pennies

each time she won. Participants in the private donation group watched the experimenter

demonstrate how the game worked. The experimenter donated between zero and four pennies

each time she won. In both modeling conditions, the experimenter's pennies were dropped into

the jar one at a time so that participants would know how much was being given. For the no

model condition, the experimenter demonstrated the game and returned the pennies to the

dispenser each time she won (White & Burnam, 1975).

White and Burnam (1975) found that, in the private donation condition, the fifth grade

girls donated more than the fourth grade girls. In this condition, the constraining instructions

cued more donations than the permissive instructions. The participants in the modeling

conditions donated more than those in the no model condition. In the public donation condition,

there was a significant effect of modeling such that 40%, 60% and 80% modeling resulted in

significantly more donations than the 0% or no model conditions. As with the private donation

condition, constraining instructions generally resulted in more donations than permissive

instructions. However, constraining instructions in the most generous model condition (80%)

impacted the younger students but not the older ones. Fifth grade participants in the group with

the most generous model and permissive instructions gave the most donations (White & Burnam,

1975). This result may suggest that the older students likely had a better understanding of the

altruistic behavior of donating relative to the younger students. This is to be expected with age and likely more advanced cognitive development.

A primary underlying concept embedded in social learning theory is that of reciprocal determinism (Bandura, 2004). Specifically, behavior, cognition, personal and environmental factors are interwoven and operate with bidirectional influence on each other. However, the proportional influence of each of these factors is not necessarily equal. Behaviors, thoughts and emotions are influenced to varying degrees through factors such as teaching, modeling and social persuasion (Bandura, 2004). The modeling process requires an individual to attend to and remember the behavior in order to reproduce it. However, the individual must have some sort of motivation to increase the likelihood of reproducing the modeled behavior. In other words, observed behaviors that are associated with positive outcomes are more likely to be imitated and repeated whereas behaviors associated with negative outcomes are less likely to be imitated (Bandura, 1962). According to Bandura's theory, there are three types of models. Live models are cases in which a person is demonstrating a specific behavior (Bandura, 1977). Verbal models are cases in which a specific behavior is described or when specific instructions are provided relative to a specific behavior. Finally, symbolic models are those in which behavior is observed through media such as television or movies (Bandura, 1977).

Media & Social Learning

Children have access to an ever-expanding realm of media and technology with which they can interact, including television, games, movies and the internet. Much of the information children learn about the world can come from these various media sources (Larson, 2001; Gerbner, Gross, Morgan, Signorelli, & Shanahan, 2002). Media and technology can provide a large amount of detailed information in an efficient and engaging way. It can also do so in ways

that may avoid difficulties children may have with gaining meaning from text (Kozma, 1994). The accessibility of media for children have made it a potentially powerful learning tool.

Vicarious learning of behavior has been demonstrated, not only through watching and listening to others (live or verbal models), but also through symbolic models in various types of media. Bandura (1965) conducted a study to determine whether children would imitate behavior modeled in film. Sixty-six nursery school students between the ages of 46 and 71 months were divided into three groups. All of the children were told that they would be able to play in a surprise room. However, the experimenter told them that she had some business to attend to before they would be able to play. The experimenter then showed the children in to a room where they were told they would watch television while she was working. The children were shown a film of a model acting aggressively toward a Bobo doll (e.g., sitting on it, punching it in the nose, throwing it around the room) while making antagonistic comments. Each group's film had a different closing scene. For the first group, the model was rewarded for their behavior. The second group watched the model be punished for their behavior and the model received no consequences for their behavior in the film viewed by the third group. During the play time after viewing the film, children in the model punished group imitated significantly fewer aggressive behaviors than either of the other two groups. The children were then offered juice and were told that for each behavior from the movie they imitated they would receive a sticker picture and more juice. The number of imitated responses increased across all three groups. However, despite the addition of motivating reinforcers, children in the model-punished group performed significantly fewer imitated responses relative to the other two groups (Bandura, 1965). Figures and characters within popular culture and the media are an additional source of social models for children.

Unfortunately, much of the recent research on social learning and media emphasizes the potential influence of media on negative behaviors such as aggression, alcohol consumption and use of tobacco. For example, Silvern and Williamson (1987) studied the effects of video games and television on children's levels of aggression and prosocial behavior. A sample of 28 children age four to six years old participated in three sessions in pairs. Pairs were of the same gender and similar age. The first session was a baseline session in which the children were allowed to play freely with provided toys for ten minutes. The second session occurred the following day. Half of the pairs watched a television program and the other half played a video game for six minutes. They were then allowed to play with the toys from the previous day for ten minutes. The third session took place the following day. The pairs again either played a video game or watched a television show, depending on which they had done the previous day. As with the second session, the children were allowed to play with the toys for 10 minutes after watching or playing the game. All of the play sessions were taped and coded for aggression, prosocial behaviors and imaginative play. Statistical analysis revealed a significant increase in aggression after watching television or playing the video game compared to the baseline. There was no significant difference in aggression between television and video game sessions. In addition, boys were significantly more aggressive than girls. There was also a significant decrease in prosocial behavior after the television and video game sessions relative to the baseline (Silvern & Williamson, 1987).

Wood, Wong, and Chachere (1991) completed a meta-analysis of 23 studies on the effect of media violence on aggressive behaviors in children and adolescents. Overall, significant increases in aggressive behavior after viewing violent films were found in 16 of the 23 studies evaluated. Similarly, Anderson and Bushman (2001) completed a meta-analysis of the effects of

violent video games on aggressive behaviors, thoughts, affect and physiological arousal. The examination of 33 studies investigating aggression and video games showed that high video game violence was strongly associated with increased aggression. In addition, an examination of 20 experimental studies of video game violence and aggressive cognition showed that exposure to violent video games reliably results in at least a temporary increase in aggressive cognitions. Although the research is somewhat limited, it was also shown that exposure to violent video games may result in a temporary decrease in prosocial behavior (Anderson & Bushman, 2001).

Similarly, Bushman and Huesmann (2006) completed a meta-analysis of the effects of media violence on aggression. Across studies of violent media, including television, movies, video games, music and comic books, it was found that short-term effects on aggression were more prevalent for adults whereas long-term effects were more prevalent for children (Bushman & Huesmann, 2006). These results indicate that children may be more susceptible to media influence. This may be due to the flexibility and ongoing development of children's cognitive ability and behavioral schemas.

For example, in their 2011 study, Conners-Burrow and McKelvey investigated the impact of media viewing habits on aggression and social skills in preschool children. Data was collected with a sample of 92 preschool children. Each child's mother completed a survey that assessed family media viewing habits including amount of time spent watching television or movies and the categories of programs based on type of program (e.g., cartoon, sitcom) and ratings of movies (e.g., PG, PG-13, R). Preschool teachers were interviewed and asked to rate each child's behaviors including hyperactivity, aggression and social skills. Results indicated that children who watched more age-inappropriate media content showed significantly more hyperactivity and aggressive behaviors as well as significantly lower social skills ratings. The

influence of age-inappropriate media on classroom outcomes was somewhat stronger for boys than for girls (Conners-Burrow & McKelvey, 2011).

More specifically, Gentile, Coyne, and Walsh (2011) examined physical and relational aggression in relation to exposure to media violence. A sample of 430 third through fifth grade students completed a series of surveys. Each child completed three surveys. One survey was a peer nomination procedure in which the students identified peers on the basis of either aggressive or prosocial behaviors. The second survey was a self-report measure assessing demographics and media viewing habits such as favorite television shows, movies and video or computer games along with a violence rating for each one as well as time spent playing or viewing and level of parent involvement. The students also completed a self-report measure of hostile attribution bias. This task presented 10 stories to the students along with four possible reasons for the behavior. Two of the four options indicated hostile intent and two did not. Teachers also completed a survey about each child to provide frequencies of aggressive and prosocial behaviors. Teacher surveys were completed once at the beginning of the school year and again approximately five months later. Gentile and his colleagues (2011) found that exposure to media violence at the beginning of the school year was significantly and positively correlated with physical aggression as well as significantly and negatively correlated with prosocial behaviors after five months. Even after statistically controlling for gender, race, time and parental involvement, exposure to media violence at the beginning of the school year was shown to significantly predict both hostile attribution bias and physical and verbal aggression after five months (Gentile, Coyne, & Walsh, 2011).

Villanti, Boulay, and Juon (2011) examined the influence of media on adolescent tobacco use. Data from the 2004 National Youth Tobacco Survey was examined to estimate the

influence of peer smoking, smoking at home and exposure to tobacco-related media on current and former smoking behavior in early and middle adolescence. Villanti and her colleagues (2011) analyzed the data form a sample of approximately 22,000 adolescents age 10 to 17. The sample was further divided by age into early adolescence (age 10 to 13) and middle adolescence (age 14 to 17). Smoking behavior was measured by self-reported lifetime cigarette use and number of cigarettes smoked in the past month. Peer smoking was measured by self-reported number of friends who smoke. Smoking at home was assessed by a yes/no questions that asked if anyone in the adolescent's home smoked. Exposure to tobacco-related media (both anti-tobacco media and tobacco advertising) assessed the adolescent's exposure to smoking in television, movies, on the internet and through in-store marketing. Villanti and her colleagues found that exposure to tobacco advertising is significantly related to both current and former smoking in both early and middle adolescence. However, it is most strongly related to current smoking in early adolescence, indicating that media may have a greater influence on children age 10 to 13 rather than their older counterparts.

Similarly, Gibbons and his colleagues (2010) examined media as a social influence on adolescent thoughts and behaviors related to alcohol. It was expected that although media effects are more indirect, it operates in the same way as peer influence for adolescents. Data from 9,849 adolescents age 10 to 14 was collected via phone interview. After the initial interview, three follow-up interviews were completed at eight-month intervals. The interview assessed exposure to alcohol in movies as well as peer use of alcohol. The adolescent was required to indicate how many movies involving alcohol use they had seen from a uniquely generated list of 50. Alcohol exposure was calculated by adding the number of minutes of alcohol use in each movie the adolescent had seen. Gibbons and his colleagues (2010) found

that movie alcohol exposure was significantly and positively related to both drinking cognitions and drinking behavior for white adolescents. The relationship between peer influence and alcohol cognitions and use were similar to the influence of movie exposure (Gibbons, et al., 2010). These results indicate that media exposure may have as much social influence as peers.

Although much of the research on social learning through media tends to focus on negative or problematic behaviors, several studies investigate both the negative and positive influence of media. Collins and Getz (1976) compared the effects of a television drama on prosocial behavior and aggression with school-age children and adolescents. A sample of 60 fourth, seventh and tenth grade students watched a 22-minute action-adventure show involving intense personal conflict. The sample was divided into two experimental groups and a control group. Participants in the first group watched the version of the show that was edited to include aggressive behaviors such as fist fighting, confrontation and gunfire). The second group watched the version of the show that had been edited to include prosocial behaviors such as gathering information, collaboration and negotiation. The participants in the control group watched a documentary about the ecology of the African savanna (Collins & Getz, 1976).

Immediately after watching the show, one boy and one girl from each group were chosen randomly to help the experimenter on another project. For this task, the children were taken to a room with a series of lights and buttons. The children were told that they could either help a child doing a sound discrimination task in the next room or make it more difficult for them. A bulb on the machine would light up when the child supposedly doing the task made an error. The child could choose to push one button that would eliminate a distracting sound or another button that would make the noise louder. The children were told that the longer they held the button, the more they would be helping or hurting the child doing the task. Each participant

completed 20 trials on the push-button machine. It was found that the children who had seen the prosocial version of the show demonstrated significantly more and longer helping responses than participants in both the aggressive or control conditions.

In a similar study, Chambers and Ascione (1987) examined the influence of playing violent or prosocial video games on prosocial behavior in a sample of 160 elementary and middle school children. The children were assigned to play either a violent or prosocial game alone or with another child. After filling out a questionnaire with the experimenter, the child played the game for ten minutes. After playing the game, the children were left in a room with a dollar in nickels, a tin for donations for poor children, and a box of pencils that could be sharpened for the research assistant. Prosocial behavior was measured by the number of nickel donations or pencils sharpened. Children who played the aggressive game either by themselves or with another child donated significantly less than children who played the prosocial game by themselves. However, there was so significant difference in helping behavior across the groups (Chambers & Ascione, 1987). It is important to note that the children's exposure to the games was for a very short time. Perhaps due to its more abstract foundation, prosocial influence requires more time than was allowed.

In a two-year longitudinal study, Ostrov, Gentile, and Crick (2006) examined the influence of exposure to educational and violent media on both aggression and prosocial behaviors in preschool children. Parents completed surveys about monitoring their child's media viewing and about their child's exposure to both violent and educational media. Each child was observed eight separate times either during free play in the classroom or on the playground. Trained observers recorded instances of physical aggression (e.g., hitting, kicking, pinching), verbal aggression (e.g., insults, name-calling) and relational aggression (e.g., gossiping, ignoring,

excluding) as well as prosocial behavior (e.g., sharing, helping) during each observation. Teachers also filled out a survey of physical and relational aggression as well as prosocial behavior. Ostrov and his colleagues (2006) found that the children in their sample were more likely to be exposed to educational rather than violent media. They also found that children who watched more television were more likely to exhibit prosocial behaviors relative to children who watched less television. In addition, there was a negative relationship between exposure to educational media and physical aggression for boys. However, for girls, a positive relationship between television viewing and relational aggression was found (Ostrov, Gentile, & Crick, 2006). This result may indicate that even educational media may provide models of relational aggression.

Bushman and Anderson (2009) also studied the influence of exposure to violent video games on helping behavior. Participants were randomly assigned to play either a violent or nonviolent game. After playing the game for 20 minutes, they were asked to rate the video game on several dimensions such as level of fun, action and violence. The participants were then asked to fill out a questionnaire while a fight was staged outside the laboratory with an audio recording. In the recording, it was clear that someone was injured. After the recording of the fight was over, the experimenter timed how long it took for participants to leave the room to help the injured person. While those who played the violent game took longer to respond, there was no significant difference in rate of helping behavior between those who played the violent or nonviolent games (Bushman & Anderson, 2009). This result may indicate that, although exposure to violent media may somewhat desensitize children to violence, it may not inhibit prosocial behaviors.

Richert, Robb, and Smith (2011) completed a review of the literature on how children can socially learn positive behaviors and educational content from on-screen media. Although social partners are typically people from the child's environment such as parents, teachers and peers, the increasing prevalence of media and technology in children's lives may make it an additional social partner from which children can acquire behavior. Overall, screen media may not be as effective of a social model for very young children. However, it can be more effective for preschool and school-age children because at these ages children have developed enough social schemas to be more interactive with on-screen models (Richert, Robb, & Smith, 2011).

Harwood and Weissberg (1987) contended that the use of video can be effective in helping children learn and develop important educational and social skills by presenting information in an engaging way. However, there are several factors than can influence the degree to which children can learn from on-screen media. Research suggests that the influence of a media character is dependent on the degree to which the child identifies and relates to the character. Another factor involved in how a child responds to media characters is their degree of emotional investment. The more a child identifies with a character, the more emotionally invested they become and therefore the character gains credibility as a reliable source of social information (Bandura, 1989; Fisch, 2004; Fisch, Brown, & Cohen, 2001). Given these circumstances, children can develop parasocial relationships with on-screen characters. Specifically, they may begin to interact with characters socially as they would in the real world (Giles, 2002).

Calvert, Strong, Jacobs, and Conger (2007) examined children's viewing of the animated series *Dora the Explorer*. The sample was made up of 131 preschool children. Approximately half of the children were Caucasian and the other half were Hispanic. Calvert and her colleagues

(2007) investigated the effects of gender, ethnicity, identification with the character and interactivity during viewing on children's learning of the program content. The participants were divided into four conditions. The children in all conditions watched the same episode of *Dora the Explorer* on a laptop with an adult in the room with them. The participation condition involved the children watching the original unedited episode while seated next to an adult who participated each time Dora requested the viewers to do or say something. In the observation condition, the episode was edited to remove Dora's comments inviting the child to interact with her. The children watched the episode while seated next to an adult. In the interaction condition, the show stopped periodically and required the child to click with a mouse on the computer screen to continue. In the control condition, the child viewed the edited episode while the adult sat at the back of the room. Each child was asked questions about how much they were like Dora, if they had watched the show before and how much fun it was to watch the show today. During the viewing, each child's behavior was coded for physical and verbal involvement with the show as well as attention. The children completed a questionnaire with an adult at the end of the session to measure how much of the program content they had learned (Calvert, Strong, Jacobs, & Conger, 2007).

Calvert and her colleagues (2007) found that girls were significantly more likely than boys to identify with Dora and rate themselves as more similar to her. In addition, children who interacted more with Dora while she was on-screen were significantly more likely to understand the story and the educational content. The children who identified more with Dora and saw themselves as more like her were more likely to learn a problem solving or divergent thinking strategy from the show (Calvert, Strong, Jacobs, & Conger, 2007). These results are consistent with research indicating that media characters hold more power the more children relate to and

interact with them. Furthermore, these results suggest that on-screen and media characters that are popular and important to children, such as superheroes, may indeed be effective models of social, problem solving and moral behavior.

Moral Development

The development of moral judgment is one area that has been shown to be influenced by social learning. Children first look to adults for direction and as they grow older, they look not for instruction, but rather modeling of moral behaviors. Although there are several theories of moral development, each builds upon the previous one with the underlying foundation of a transition from a focus on the individual to a focus on the greater good.

Piaget's Theory of Moral Development

Jean Piaget was among the first to theorize the development of moral reasoning and judgment in children. According Piaget's theory, moral obligation stems from adult-child as well as child-peer relationships (Piaget, 1948a; Piaget, 1948b; Lapsley, 2006). Piaget proposed a two-stage model of moral development. The first stage, heteronomous morality, is characterized by complete respect for adult authority as well as a lack of reciprocity between child and adult. This stage is also known as morality of constraint (Piaget, 1948a). In this stage, the child's moral duty is obedience and rules are regarded as absolute and inflexible. Furthermore, actions are judged based on material consequences rather than intent. The heteronomous stage corresponds with Piaget's preoperational stage as well as the beginning of the concrete operational stage of cognitive development, which typically encompass children four through ten years of age (Piaget, 1948a; Lapsley, 2006).

In contrast, the second stage of Piaget's moral theory, autonomous morality, is characterized by equality and reciprocity between children and their peers. This stage is also

known as morality of cooperation (Piaget, 1948b). In this stage, rules are accepted but are also seen as flexible if changes can be mutually agreed upon for the good of all involved. In addition, children shift to evaluation of behavior based on the intent behind the action rather than the material consequences of it. The autonomous stage corresponds to the latter part of the concrete operational stage as well as the formal operational stage of cognitive development and typically encompasses children ten years of age through adolescence (Piaget, 1948b; Lapsley, 2006).

Kohlberg's Theory of Moral Development

Kolhberg's theory of moral development is perhaps the most well-known. Kohlberg's work was heavily influenced by that of Piaget. Specifically, Kohlberg's moral stages mirror the stages of cognitive development outlined in Piaget's theory. As a child's cognitive ability evolves from concrete to complex, so too do the characteristics of their moral judgment and reasoning (See Table 1). However, Kohlberg sought to more clearly define and break down the progression of moral thinking and reasoning as children mature and get older. Kohlberg's theory is composed of three levels and six stages. The first level, pre-conventional morality, generally corresponds to Piaget's heteronomous morality and consists of two stages. The first stage, obedience/punishment, is characterized by black and white moral decisions. Rules are absolute and obedience to authority is essential. In the second stage, individualism/exchange, children shift to moral behavior that best suits their own personal interests (Kohlberg, 1977; Kohlberg, 1984; Crain, 1985; Lapsley, 2006).

Conventional morality, Kohlberg's second level of moral development, corresponds to the emergence of Piaget's concept of autonomous morality (Kohlberg, 1977; Kohlberg, 1984; Crain, 1985; Lapsley, 2006). In stage three, interpersonal relationships, children begin to focus on living up to social expectations and being considered 'good' by others. In stage four, social

order, children begin to recognize the concept of society as a whole and adopt laws and social

norms as the primary rules to guide behavior. Post-conventional morality, Kohlberg's third and

final level of moral development, generally corresponds to complete transition into Piaget's

autonomous morality. The fifth stage, social contract/individual rights, is characterized by

recognition that people may have differing values and opinions but that societal rules should be

collectively agreed upon to protect the rights of everyone. Finally, the sixth stage of Kohlberg's

theory, universal principles, refers to internalization of personal principles of justice and ethics,

which may conflict with societal rules (Kohlberg, 1977; Kohlberg, 1984; Crain, 1985; Lapsley,

2006).

Gilligan's Theory of Moral Development

Although Kohlberg replicated the progression of his moral stages in several studies, he

did so with only male participants. Therefore, a considerable controversy has developed about

the potential gender bias in Kohlberg's theory of moral development (Walker, 2006). Gilligan

(1977) proposed that females may experience a different progression of moral reasoning and

developed an alternative theory to account for these potential gender differences in moral

development. Specifically, Gilligan proposed that females tend to begin to recognize and value

social relationships at earlier stages than outlined in Kohlberg's theory. Although it accepts the

names and progression of the levels of moral development from Kohlberg's theory, Gilligan's

theory of moral development proposes two distinct moral orientations: the justice orientation and

the care orientation (Gilligan, 1977; Gilligan & Attanucci, 1988; Walker, 2006). The justice

orientation is more typical of males and generally corresponds to Kohlberg's levels of moral

development. In contrast, the care orientation is more typical of females. In the care orientation,

shifts between levels of moral development are based on the increasing development of the sense

of self. Similar to Kohlberg's theory, Gilligan's pre-conventional level of moral development is

characterized by behavior focused on individual survival, or acting in one's own best interests.

In Gilligan's theory, the transition from the pre-conventional to conventional morality is from

selfishness to a concern and sense of responsibility for others. Conventional morality, in

Gilligan's theory of the care orientation, is based on the belief that 'goodness' is equated with

self-sacrifice for the well-being of others. The transition from conventional to post-conventional

morality is characterized by a shift from goodness as self-sacrifice to recognition of one's own

well-being in relation to others (Gilligan, 1977; Gilligan & Attanucci, 1988; Walker, 2006).

Measurement of Moral Judgment

Several valid and reliable measures of moral judgment have been developed. In

Kohlberg's Moral Judgment Interview (MJI) a trained examiner presents participants with

several scenarios involving moral dilemmas and a series of questions (Colby & Kohlberg, 1987).

Although both reliable and valid, the MJI has an extensive time requirement due to examiner

training and individual interview format.

The Defining Issues Test (DIT) and the Defining Issues Test-2 (DIT-2) require

participants to rate a series of statements related to provided moral dilemmas (Froming &

McColgan, 1979; Rest, 1975; Rest, 1999). The DIT and DIT-2 provides a more time-efficient

way to assess moral judgment and has been shown to be both reliable and valid. Both the DIT

and the DIT-2 are designed for use with adolescents and adults (Froming & McColgan, 1979;

Rest, 1975; Rest, 1999).

Another measure of moral judgment is the Moral Judgment Test (MJT), which assesses

moral judgment competence with ratings of a variety of statements related to presented moral

dilemmas (Lind, 2008). The MJT, in its original German form, has been used with participants

as young as ten years of age. There is also a children's version of the MJT available in German.

An English version of the children's MJT has not yet been produced and validated.

The Sociomoral Reflection Measure – Short Form (SRM-SF) is based on a Kohlbergian theoretical framework of moral development (Gibbs, Basinger, & Fuller, 1992). It is a brief measure of the maturity of moral judgment which seeks to assess how individuals think about a variety of moral dilemmas. The SMR-SF is designed to ascertain the level at which an individual is primarily able to process moral situations. The SRM-SF is made up of 11 items. Each item includes a statement which the participant is asked to rate on a three-point scale (*Not Important, Important, Very Important*) and then to provide a brief explanation for their rating. The SRM-SF can be administered individually or in a group setting. It has been reliably used with participants from school-age to adulthood.

Social Learning & Moral Development

Although the progression of moral stages has been extensively theorized and repeatedly replicated by several researchers, myriad factors have been shown to have an influence on the moral development in children. Some of these factors include family orientation, participation in social activities and parental discipline style (Anderson & Cavallaro, 2002; Keasey, 1971; Hoffman & Saltzstein, 1967). Social learning is an additional factor through which children often learn moral values and behaviors.

Bandura and McDonald (1963) demonstrated that social modeling can influence children's moral judgment with a sample of 165 children. The children's ages ranged from five to eleven years. A pre-test based on Piaget's theory of moral reasoning was administered to determine the children's dominant moral orientation as either objective (focus on material damages of behavior) or subjective (focus on intent behind behavior). The children were

randomly assigned into one of three conditions: model with reinforcement, model only and reinforcement only. In each condition, children were presented with stories about which they were required to make a moral judgment. The model with reinforcement condition, children were provided with an adult model that made a moral judgment consistent with the opposite orientation of the child's dominant orientation determined by the pre-test. In this condition, the child was positively reinforced with an affirmative response from the examiner for adapting their judgments to agree with the model's rather than their own dominant orientation. In the model only condition, the model provided judgments opposite the child's dominant orientation but the child received no reinforcement from the examiner for adopting the model's orientation. In the reinforcement only condition, the child was positively reinforced by the examiner for every judgment that was opposite of their dominant orientation.

A post-test was administered to determine whether the children's dominant moral orientations changed after the treatment period (Bandura & McDonald, 1963). Results demonstrated that children in the model with reinforcement and model only conditions were significantly more likely to change their moral orientation to that of the model. The reinforcement only condition did not result in significant change in moral orientation. These results suggest that the model is the most influential element of the treatment condition rather than the reinforcement (Bandura & McDonald, 1963).

Cowan and his colleagues (1969) completed a study that elaborated on the findings of Bandura & McDonald. Cowan and his colleagues worked with a sample of 80 students between the ages of five and twelve. All participants took part in a pre-test that presented a child with 12 pairs of stories. After each pair of stories, the child was asked to indicate which child was 'naughtier' and why. The participants were divided into four subsamples based on their

responses to the pre-test. Children who identified the child whose actions resulted in a greater

negative consequence as 'naughtier' most of the time were in the low moral judgment group.

Children who identified the child whose behavior was motivated by bad intent most of the time

were in the high moral judgment group. Children who had mixed levels of responses were

divided into tentative high and tentative low groups based on which level comprised the majority

of their responses (Cowan, Langer, Heavenrich, & Nathanson, 1969).

Two weeks after the pre-test, the children were brought back to the experimental room,

where they were told they would be hearing more stories. Each child was told they would be

hearing stories with an adult because the researchers wanted to hear what both children and

adults thought of the stories. After each of the 24 pairs of stories, both participants were asked to

identify which child was 'naughtier' and why. The experimenter provided verbal approval for

all responses for the child and the adult. For children in the low and tentatively low groups, the

adult model provided high level moral responses. In contrast, for children in the high and

tentatively high groups, the model provided low level moral responses. Half of the participants

were given a post-test comprised of 12 story pairs immediately after the adult model left the

room. The other half of the participants were administered the post-test two weeks later (Cowan,

Langer, Heavenrich, & Nathanson, 1969).

Cowan and his colleagues (1969) found that participants' responses in the direction of the

conditioned or modeled response increased from 20% at the pre-test to 60% on the immediate

post-test. The generalization effect of modeling was measured by responses on the delayed post-

test. On the delayed post-test, participants in the low and tentatively low groups, in which the

adult model demonstrated high level moral responses, were significantly more likely to maintain

the conditioning effect seen in the immediate post-test group. In contrast, participants in the high

and tentatively high groups who were administered the delayed post-test showed more high level responses, which were in opposition to the model's responses, relative to participants who took the post-test immediately (Cowan, Langer, Heavenrich, & Nathanson, 1969).

Schleifer and Douglas (1973) investigated the effect of training using a variety of different reinforcement and models techniques on the moral judgment of preschool and school-age children. They utilized a two-study model to compare different types of training and modeling experiences. Participants for the first study were a sample of 22 six-year-old children. Schleifer and Douglas (1973) utilized a series of Piagetian stories in which a child either caused a significant amount of damage accidentally or a small amount of damage intentionally. After a pre-test of moral judgment, the children were divided into three groups: a control group and two training groups. All groups were equated for IQ, age and gender. In the adult reinforcement training group, an adult either corrected immature moral judgments and explained why they were wrong or rewarded mature moral judgments with candy and verbal praise. In the peer model training group, a same-age peer would correct immature responses and provide an appropriate explanation.

The training sessions concluded when the participant had made five consecutive mature judgments. A post-test followed approximately two weeks later in which eight new story pairs were used. Follow-up testing, which included 10 new story pairs, was completed four weeks after the post-test to examine the long-term effect of training (Schleifer & Douglas, 1973). For the sample of 6-year-olds, it was found that the adult reinforcement and peer model trainings were equally effective. Relative to the control group, participants in both training groups made significantly more mature judgments at the post-test as well as the follow-up testing.

In a second study, Schleifer and Douglas (1973) examined the effect of training on moral judgment of stories presented on film. Following a pre-test of moral responses to a set of eight films, rated on a three-point scale, the sample of 22 five to six-year-olds and 14 preschool children was divided into training and control groups that were balanced for IQ, age and gender. After each film was shown, the child was asked what happened, why or how it happened and what they thought of the actor. In the training phase, the experimental group participated in several puppet skits with an adult. Each skit presented either a positive or negative intention followed by some level of material damage. Some of the skits provided scolding for the material damage and some did not. After each skit, the child was asked what happened and asked for a moral judgment of the situation. The adult corrected immature responses and repeated the skit or rewarded mature judgments with candy and verbal praise (Schleifer & Douglas, 1973).

Training sessions were terminated when the child made eight consecutive mature judgments (Schleifer & Douglas, 1973). Post-testing took place approximately two weeks after the training session. During post-testing, the children were shown the eight original films from the pre-test. The school-age participants in the experimental group showed significantly greater improvement in moral judgment relative to the control group. However, it is important to note that over the passage of time, the control group showed some improvement as well. The preschool participants in the experimental group showed significantly more improvement relative to the control group. However, some of the children that received training maintained their original level or moral judgment or showed lower levels at the post-test (Schleifer & Douglas, 1973). This may indicate that although model training can lead to increased maturity of moral judgment, it may not be truly effective unless the child is cognitively ready for the

developmental shift toward mature judgments considering intentionality rather than just material consequences.

In a similar study, Walker and Richards (1976) examined whether children's moral orientation could be influenced by exposure to narrated models. Story pairs were selected from those used in the work of Bandura and McDonald in 1963. The stories were read to the children in groups. After each pair of stories, the children were asked to mark on a paper which child they thought was naughtier. Immature judgments were indicated when the participant chose the child who caused more damage. Mature judgments were indicated when the participant chose the child who caused less damage but had negative intentions. A pre-test which included 12 stories pairs was completed before the sample of 119 first and second grade students between the ages of six and nine were randomly assigned to one of three conditions. In the objective model condition, an immature judgment was narrated by an authority figure in the stories (e.g., parent, teacher). In the subjective model condition, a mature judgment based on motive or intention was narrated by an authority figure in the stories. In the no model condition, no judgments were made by any characters in the stories.

The experimental phase was complete two weeks after the pre-test and involved 12 story pairs (Walker & Richards, 1976). For participants in the modeling conditions, six of the story pairs contained moral judgments by authority figures in the stories and then the participants provided moral judgment responses for the remaining six story pairs. In the no model control group, participants heard 12 story pairs but only provided judgments responses for six. A post-test was completed approximately five minutes after the conclusion of the experimental phase. It was found that participants increased responding in the direction of their model's moral orientation and maintained these response patterns at post-testing. The children were influenced

both forward and backward regarding moral developmental level (Walker & Richards, 1976).

This may indicate that children in primary grades are often between immature and mature moral

thinking and may be more easily influenced by models.

Brody and Henderson (1977) also examined the effects of multiple models and provision

of rationales on the moral judgment of a sample of 90 children between the ages of five and six.

The children were presented with pairs of stories as a pre-test to determine their moral

orientation as mature or immature. In each story pair, one featured a child causing a significant

amount of material damage accidentally while the other featured a child causing minimal

material damage on purpose. After each pair of stories, the participant was asked to identify

which child in the stories was naughtier and why. Mature moral judgment was based on intent

whereas immature moral judgment was based on extent of the material damage (Brody &

Henderson, 1977).

For the experimental phase, Brody and Henderson (1977) assigned participants into eight

treatment conditions and one control group. In the adult and peer mature group, the participant

was exposed to both an adult and a peer model who demonstrated consistent mature moral

judgments. In the adult mature and peer immature group, the participant was exposed to an adult

model who consistently demonstrated mature judgments and a peer model who consistently

demonstrated immature judgments. In the adult and peer inconsistent group, the participant was

exposed to adult and peer models who demonstrated inconsistent mature and immature

judgments. There were two groups for each of the preceding conditions. In one group, the

models provided a rationale for their moral judgment. In other group, the models provided no

reasoning for their judgments. The control group had no models and did not receive any

explanation for moral judgments (Brody & Henderson, 1977).

The experimental phase consisted of 24 story pairs (Brody & Henderson, 1977). The experimenter read the stories to the participants. For participants in the model conditions, the experimenter played the model's responses from a tape recording. Twelve of the stories were responded to by the models and the participant responded to the remaining twelve stories. Upon the conclusion of the experimental phase, the generalization phase took place. Participants were presented with 12 additional story pairs. As with the pre-test and experimental phases, the child was asked to identify the naughtier child and explain their judgment. The children who received models and rationales were shown to make more mature moral judgments than the children in the no rationale and control groups. The adult and peer mature modeling condition was most effective. In addition, children who received rationales continued to make more mature moral judgments in the generalization phase. However, it is important to note that all of the children regardless of modeling and rationale conditions, made some immature moral judgments (Brody & Henderson, 1977). This may indicate that children do not operate exclusively within one moral orientation and perhaps that moral reasoning may be a more flexible and fluid than step-wise process.

Popular Culture and Social Models of Morality

Children are exposed to several social models that may subsequently influence their moral judgment and development (Anderson & Cavallaro, 2002). It has been demonstrated that various forms of popular culture and media, including books, movies, video games and computer games, can have a significant influence on children's moral judgment (Binnedyk & Schonert-Reich, 2002; Carr, 2006; McCrary, 1999; Sherer, 1998). Sherer (1998) provided an example of how the media, in the form of a computer simulation game, has been shown to influence the moral development of a sample of 48 adolescents. A pre-test based on the Piagetian framework

was given to determine level of moral development prior to exposure to the computer game. The sample was randomly assigned to either the game or control group. The adolescents in the game group played the game once a week in hour-long sessions for 20 weeks. The game presented a series of pictures followed by a moral dilemma regarding one of fourteen issues (e.g., friends, family, drugs, money) and four possible solutions. The game's point system was designed to positively reinforce higher-level moral responses. However, there were unexpected scoring patterns built into the game in which students did not receive points for positive responses. After some of the game sessions, students participated in discussion sessions in which they would create their own moral dilemmas and were able to input them into the game during a subsequent game session. At the end of the 20 weeks, a post-test moral measure was administered to determine level of moral development. Relative to the control group, adolescents in the game group attained a higher level of moral reasoning (Sherer, 1998).

Anderson and Cavallaro (2002) asked a sample of 197 children to identify a role model. Thirty-five percent of the children identified a person or character from the media (e.g., actors, professional athletes, superheroes) as their primary role model (Anderson & Cavallaro, 2002). These results indicate that children often look up to and seek to imitate media personalities. Therefore, it is likely that characters and personalities in the media, including superheroes, can potentially have a strong influence on the children's moral and social development.

<div align="center">**Superheroes**</div>

Superheroes in Popular Culture

The first comics in the United States were published in newspapers beginning in 1887 (Bender & Lourie, 1941). These first comics emphasized humorous combinations of words and images (Wright, 2003). The emergence of the superheroes featured in today's comic books

sprang from the adventure comic strips that first appeared in American newspapers as early as the 1890's. These comic strips featured the antics and adventures of a variety of characters. By the late 1930's, newspaper syndicates began publishing and selling their most popular comics in book form. Malcolm Wheeler-Nicholson launched a new comic series called *Detective Comics* in 1937, which would later evolve into the now-popular company name of DC Comics. DC's original comics emphasized mysteries and tales of sinister spies rather than humor. Over the next few years, DC grew into thriving business and ushered in what came to be known as the Golden Age of Comics, which continued until the mid-1950's (Misiroglu & Roach, 2004; Wright, 2003).

The first appearance of Superman was as the feature story in *Action Comics*, published by DC in June 1938. Superman's crime-fighting storylines were quickly popularized and in 1939, *Superman*, became the first comic book entirely devoted to the adventures of a single character (Wright, 2003). The heroic and superhuman actions of Superman seemed to be an invaluable escape from the woes of the Great Depression. Superman provided a hero to save the common man from the evils of greed, corruption and crime (Wright, 2003). The popularity of Superman paved the way for the introduction of several new superheroes. Batman first appeared in 1940. Unlike Superman, Batman did not possess any superhuman abilities. Instead, he was an ordinary man who had taken on a personal war against crime in the midst of a corrupt and dark society (Wright, 2003).

Following the success of DC Comics, rival company Marvel Comics was founded in 1939 and furthered the emerging superhero enterprise (Wright, 2003). As the Great Depression progressed into World War II, the superhero industry continued to grow. Comic books provided a unique avenue of expression for the social and political issues of the day. Although they had

always been somewhat controversial, comic books and superheroes came under even more intense scrutiny in the years following the Second World War. The American public made connections between the rise of crime-based comics and the rise of juvenile delinquency (Bender & Lourie, 1941; Wright, 2003). These negative associations, combined with the strengthened post-war economy and the advent of television entertainment, led to decreasing comic book sales. The country that so desperately needed heroes during the Depression and the War now had a thriving economy and its citizens were contently building new lives in the growing suburbs (Wright, 2003).

The Silver Age of Comics encompasses the period between the mid-1950s and mid-to-late-1960s (Misiroglu & Roach, 2004). In order to combat the rise in popularity of television, comic book companies re-focused on the superhero characters that had brought them to the height of their popularity in the 1930's and 1940's. For example, DC Comics reinvented characters and combined them with the long-standing popular characters of Batman and Superman to form the Justice League of America. Comic book publishers were cautious to avoid the vigilante personas that had resulted in decreased sales and increased controversy following World War II. Instead, publishers ensured that superheroes glorified American virtues and values. Superheroes lived in bustling cities or peaceful suburbs, held respected positions in their communities and respected the established authorities. The Silver Age also saw the resurgence of Marvel Comics, with the introduction The Hulk and Spiderman (Wright, 2003).

The late 1960s through the 1970s can be described as the Bronze Age of Comics (Misiroglu & Roach, 2004). During this time, comic books and superheroes captured the sense of unrest and social upheaval following the Cold War and the Vietnam War. The characters that had been shown to work cooperatively with the law had reached their breaking point and were

expressing the frustration and loss of faith in government and the questioning of society that had

become so prevalent among the youth in America. As they had been in the years during World

War II, superheroes again served as a reflection of the public desire to create justice from the

remains of a society seemingly corrupted by war and ravaged by unrest and upheaval (Wright,

2003).

The period after the late 1970s to early 1980s up to the present can be described as the

Modern Age of Comics (Misiroglu & Roach, 2004). As the unrest of the 1960s and 1970s began

to settle, the comic book industry shifted to a more fan-based form of entertainment. This era

came with a decrease in marketing of comic books but an increase in character licensing.

Although some comic books continued to be published into the 1990s, the majority of the

superhero industry continued to focus on a fan-based market of licensed characters, collectibles,

video games and major motion pictures (Wright, 2003).

The Influence of Superheroes on Children

Although the classic superhero characters (e.g., Batman, Spiderman, Superman) remain

popular with children today, there are several newer and more modern characters that have

become more popular in recent years. Such characters include a wide variety of Disney/Pixar

characters such as Lightning McQueen, The Incredibles and Buzz Lightyear (Gillam & Wooden,

2008). These characters emphasize relatively new traits in a hero, particularly the importance of

friendship and working together. In many of their stories, these heroes try to achieve glory on

their own but fail and come to realize that they can achieve much greater things when they work

cooperatively with others. Another recently popular hero character is Harry Potter. J.K.

Rowling's series of books chronicle Harry's life as he embarks on a classic hero's journey of

self-discovery and the triumph of good over evil (Black, 2003; Sheltrown, 2009). Superheroes

continue to be a safe and creative way for children and adolescents to explore the concepts of justice, power, control and right and wrong as well as working through the insecurities that arise as they struggle to determine who they are and who they strive to become as they move toward adolescence and adulthood.

Despite their long-term popularity in American culture, the potential of superheroes as a social model from the media that has not yet been adequately explored. A superhero can be defined as a character with extraordinary abilities (e.g., superhuman strength, transforming themselves) or one who is capable of seemingly impossible feats (Boyd, 1997; Bauer & Dettore, 1997). Harvey (1996) introduced the idea of the 'superhero formula' that most hero characters tend to follow. Specifically, he or she has some sort of superhuman ability or advanced mental and physical skills which are used in the pursuit of an altruistic mission. In addition, the hero maintains a dual identity of both a civilian and a superhero (Harvey, 1996).

Unfortunately, research has largely focused on the potential negative influence of superheroes on children's behavior (Bauer & Dettore, 1997; Boyatzis, 1997; Boyd, 1997). For example, Boyatzis (1997) explored the relationship between children's aggressive behavior and their exposure to the Power Rangers television show. Seventy to eighty percent of the parents surveyed indicated an increase in aggressive behavior subsequent to their children watching the Power Rangers. Although Boyatzis (1997) acknowledged that the Power Rangers often conveyed positive values (e.g., doing the right thing, helping others), she suggested that the violence of the characters' behaviors likely overshadows the potentially prosocial message of the show. In contrast, McCrary (1999) found that when children identified superheroes as role models, they did so for positive reasons (e.g., helping others, being brave) and did not mention

violence. This research indicates that perhaps the prosocial messages of superheroes can transcend the influence of violence.

Children have imitated the actions of superheroes in their play since their advent in the 1930s. Superhero characters are intriguing for children for a variety of reasons such as the powers they possess and the incredible acts of which they are capable (Bauer & Dettore, 1997). In superhero play, children are allowed to adopt some of these extraordinary abilities. Superhero play is defined as any play in which children pretend to be superhero characters. Although some adults view superhero play as potentially problematic due to its sometimes aggressive themes and often rough and tumble style, there are also several positive aspects of superhero play that should be acknowledged. Superhero play provides children with a way to safely explore their fears, frustrations and insecurities (Boyd, 1997). In addition, superhero play provides a creative, physically active and engaging way for children to explore problem solving, conflict resolution, determining right from wrong and resolving issues regarding power and control (Bauer & Dettore, 1997; Boyd, 1997).

Superheroes as Social Models of Morality

Superheroes are consistently confronted with moral dilemmas. The prevalence of superheroes in children's culture has increased dramatically in recent years (e.g., movies, action figures, books, cartoons, etc.). A simple indication of the influence of superheroes on children's behavior is the popularity of superhero play with young children. Children often engage in pretend play featuring imitation of superhero actions and stories (Rubin & Livesay, 2006; Bauer & Dettore, 1997; Boyd, 1997). Therefore, it is reasonable to consider that the way superheroes deal with issues of right and wrong may influence the development of moral reasoning and judgment in children.

Martin (2007) demonstrated that children often associate superheroes with prosocial behavior and suggested that children's attitudes toward superheroes may be a potential indicator of their level of moral understanding. Forty-two fourth grade students in Massachusetts were asked to complete a questionnaire to assess their familiarity with several popular superheroes (e.g., Batman, Superman, Spiderman, X-Men and Fantastic Four). In addition, the children were asked to rate themselves as well as their favorite superheroes on several items assessing prosocial behaviors (e.g., fairness, forgiveness, tolerance and responsibility). Results indicated that children tended to rate both themselves and their favorite superheroes positively with regard to prosocial behavior. Specifically, significant correlations were found with regard to five of the twelve items (Martin, 2007). These results suggest that children may learn some moral values from superheroes with whom they identify. However, this study has several limitations. The sample size was too small to be able to generalize the results to the population of fourth grade students. In addition, no pilot study was conducted to ascertain what superheroes were currently most popular with the children. Finally, the study did not utilize a measure of moral judgment to assess the children's level of moral reasoning. The current study seeks to address and correct the above-mentioned limitations and expand knowledge regarding the potential influence of superhero characters on the development of moral judgment in school-age children.

Specifically, the present study will assess children's level of exposure to and knowledge of superhero characters identified as most popular by a subsample of the population as well as their level of moral judgment as determined by their scores on a measure of moral judgment that has been established both valid and reliable. In addition, the present study will examine the potential effects of additional variables on children's level of moral judgment (i.e., age and gender). The present study seeks to further explore the potential influence of superheroes as

models of moral behavior for children and determine the relationship between interest in and exposure to superhero characters and level of development of children's moral judgment. It is hypothesized that there will be a positive relationship between the variables such that children with higher levels of exposure to and knowledge of superheroes will be more likely to have higher levels of moral judgment. It is also expected that this relationship will be stronger for males relative to females due to the prevalence of male superhero characters. It is expected that age and moral reasoning will be positively related due to the increase of children's cognitive flexibility and maturity with age.

Method

Pilot Study

Prior to the present study, a pilot study was conducted to identify the most popular superhero characters among fifth grade students. The participants of the pilot study were a subsample of 36 fifth grade students from an upstate New York area school district that encompasses both rural and suburban areas. Support from the district superintendent and informed consent of parents was obtained prior to data collection (See Appendix A). The subsample was made up of a few students from each of the six fifth grade classrooms at the school. The pilot subsample was made up of 19 males and 17 females with a mean age of 126.75 months and an age range of 117 to 136 months.

In the pilot study, students were asked to complete a brief paper and pencil survey at home in which the definition of a superhero was provided. Students were then asked to list their five favorite superhero characters. At the bottom of the paper, students were given the opportunity to write a short response to explain why they chose the specific characters they listed. Specifically, an optional comment area was provided for students to write additional

information about the heroes they selected if they chose to do so. Although some students did

not leave comments, several of those who did provided responses that they liked the listed

characters because they "save people," "help people," "beat bad guys," or "stop crime." Other

written responses were often related to physical or material characteristics such as strength,

bravery, costumes and gadgets. Based on the results of the pilot study, the five superhero

characters listed most frequently were Batman (listed by 24 of 36 students), Spiderman (21), The

Hulk (18), Superman (18) and Iron Man (15). The questions created to assess superhero

knowledge in the present study were based on these five characters.

Participants

Participants in the present study were 112 fifth grade students from six classes at the

same rural-suburban upstate New York area school district where the pilot study was conducted.

The elementary school where data was collected includes students in third through fifth grade.

Total enrollment for the school is approximately 350 students. Enrollment in the current fifth

grade class is approximately 125 students. The majority of students in the district are Caucasian

(96%) with very small numbers of African American (2%), Hispanic (1%), Asian American

(1%) students. Approximately 27% of the student population is eligible for the free or reduced

lunch program (New York State Education Department, 2013). Based on their responses, 108

students, or 96% of the sample, provided valid data that was included in the statistical analysis.

Materials

The present study utilized a computer-based online questionnaire composed of items

related to demographic information, superhero characters and moral reasoning. The

questionnaire was presented via a survey website. Students completed the survey during a

computer lab period at school. A small group of general information questions were included on

the computer survey to serve as distracter items as well as provide basic demographic information about the sample of students (See Appendix B). All measures were compiled into one survey with multiple pages. Each type of question was presented on its own page with a separate set of instructions. The five variables to be included in the statistical analysis for the current study are age, gender, superhero knowledge, exposure to superhero characters and level of moral judgment. At the bottom of each page, students there were buttons to prompt the students to go on to the next page or, in the case of the last page, to submit their responses.

Superhero knowledge inventory.

The Superhero Knowledge Inventory (SKI) was created by the researcher to determine how much detailed information a student knew about the five most popular superhero characters identified in the pilot study (See Appendix C). Superhero knowledge was defined as the total number of correctly answered questions on a test of questions regarding detailed background information about the identified popular superheroes. The SKI assesses superhero knowledge with multiple choice questions about the five most popular superheroes identified in the pilot study (e.g., What is Batman's real name?, Who did Spiderman live with while growing up?, Why did Iron Man build his suit of armor?). There are two items related to each of the five superhero characters, for a total of ten items. For each item, four response choices were provided. A Cronbach's alpha was conducted to assess the reliability of the SKI. The SKI was determined to be a reliable measure of students' superhero knowledge ($\alpha = 0.652$).

Superhero exposure test.

The Superhero Exposure Test (SET) was created by the researcher to assess children's level of exposure to popular superhero characters (See Appendix D). Superhero exposure was defined as the total number of points accrued based on a student's answers to questions about

different ways children may be exposed to popular superheroes (e.g., television, movies, video games, toys, apparel). The SET briefly assesses exposure to superhero characters with three items regarding information on how many superhero items the child owns (e.g., games, toys, apparel, backpack), how many superhero movies the child has seen since the beginning of the school year and whether or not the child would want to see a new superhero movie if one were to come out in the near future. Based on their responses, each child could accrue up to seven points on the SET.

Sociomoral Reflection Measure – Short Form.

The Sociomoral Reflection Measure – Short Form (SRM-SF) was used to assess students' levels of moral judgment in the current study (Gibbs, Basinger, & Fuller, 1992). The SRM-SF was selected for use in the current study due to its documented reliable use with school-age children. In addition, administering the SRM-SF in a group setting allowed for increased time efficiency without a negative impact on the reliability or validity of the resulting data. Furthermore, the SRM-SF assesses moral judgment in a format that was easy for participants to understand and involved subject matter that was approved as appropriate for the age group of the participants in the current study by the elementary school principal.

The SRM-SF elicits a production response (i.e., stage score) to reliably indicate the participant's level of moral judgment in a practical and time efficient manner. The SRM-SF has been established as both reliable and valid. With regard to test-retest correlation, the SRM-SF was highly significant, $r = 0.88$; $p < 0.0001$ (Gibbs, Basinger, & Fuller, 1992). Furthermore, a Cronbach's alpha for split-half reliability was also highly significant ($\alpha = 0.92$). The SRM-SF has also achieved adequate validity. It was also significantly correlated with Kohlberg's original moral measure, the Moral Judgment Interview, $r = 0.69$ (Gibbs, Basinger, & Fuller, 1992). The

current study utilized nine of the 11 items on the SRM-SF (See Appendix E). Two items were eliminated at the request of the elementary school principal. These two items assessed students' thoughts about suicide and responsibility for the life of a stranger. The elementary principal requested that these items be removed due to the potentially strong emotions connected to the content being assessed.

The SRM-SF yields a valid overall score as long as a participant provides scorable responses on at least seven items (Gibbs, Basinger, & Fuller, 1992). The participants in the current study were asked to complete nine items, which allowed for up to two unscorable responses per student to still yield a valid overall score. A response was deemed unscorable when it was unrelated to the given question, simply restated the question or the selected rating without adding ideas, was an incomplete thought or was written in a way in which the reader could not understand the student's meaning. The SMRS, or each student's overall score, was determined by calculating the mathematical average of the stage ratings for their responses on each item.

Participant responses from the SMR-SF were rated by the researcher as well as one of four second raters. The additional scoring team included six adults between the ages of 28 and 62 years. All additional raters completed at least 4 years of post-secondary education. Three of the additional raters hold Bachelors degrees; two hold Masters degrees and one holds a doctoral degree. The additional raters are employed in a variety of fields including information technology, education, property management, banking and law. The additional raters were recruited by the researcher based on their interest in child development and superheroes. The researcher completed the self-training process for scoring provided in the SRM-SF manual, which included a series of individual practice items as well as a series of completed test

protocols in which responses were provided for all 11 items on the SRM-SF. The researchers instructed the additional raters in the same training procedure to ensure accuracy in scoring. If the scores of the researcher and the second rater were not identical, the participant's responses were rated by one of two third raters to determine the most accurate score. If the third scorer did not agree with either of the ratings of the first two raters, the item was scored with the mathematical average of the three ratings for the item in question.

Procedure

Prior to collecting data from the students, the researcher obtained documented support from the school district superintendent and the elementary school principal. Parents of each child were sent an informational letter (See Appendix F) as well as an opt-out consent form which they were asked to sign and return only if they do not want their child to participate (See Appendix G). Students completed the survey activities online during their computer lab time. Upon arriving in each computer lab, the researcher or a colleague (i.e., school psychologist or teacher aide in charge of the computer lab) informed the students that she was conducting a study that requires information from fifth grade students. The students were told that they would be answering some questions on the computer.

The students logged on to their computers and were directed to the survey website. Prior to beginning the survey, the researcher provided general directions for completing the survey (See Appendix H). Each section of the survey was presented on a separate page with its own set of specific instructions. For example, some responses required selecting a multiple choice response while others required the students to type brief responses in text boxes. In addition to instructions, each section of the survey had a reminder for students to raise their hand to ask for help if they did not know what to do. The only identifying information students were asked to

provide was their gender and age. Instead of names, the online survey system assigned each student a participant number at the beginning of their survey. The SET, SKI and SRM-SF, as well as a series of general demographic and personal information questions, were be merged into one computerized survey for participants to complete in one session of approximately 30 minutes.

As recommended by Gibbs and his colleagues (1992), the SRM-SF was presented immediately after the two initial demographic items related to the gender and age of the participant. This was done to minimize any potential interference of the other types of items. The researcher, the students' classroom teacher and a teacher aide remained in the computer lab throughout the period to assist any students who may have questions as they completed the survey. The school psychologist was also present for additional support in the computer lab for two of the six class sections. Students who finished early were directed to play an approved academic game or work on a teacher-provided assignment on their computers until all students are finished. The researched then thanked the students for their participations and provided a small treat for the teachers to pass out to the students when they returned to their classrooms.

Results

Of the 112 students that participated in the current study, 60 were male and 52 were female. The age of students in the sample ranged between 127 and 159 months, with a mean age of 134.5 months (See Table 2). Overall, participants' superhero knowledge ranged between 10 and 100 with a mean SKI score of 63. Exposure to superhero characters ranged from 0 to 7 with a mean of 3.60.

Participants' SRMS on the SRM-SF ranged from 1.19 to 2.89 with a mean of 2.12 (See Table 2). The SRMS is the mathematical average of the stage ratings for each of the presented

items from the SRM-SF on which a participant provided a scorable response. Four participants were eliminated from the current study due to too many unscorable responses on the SRM-SF, resulting in a final total sample of 108 students. Per the SRM-SF manual, a response was deemed unscorable when it was unrelated to the given question, was an incoherent or incomplete thought or if it was a restatement of the given question or importance rating (Gibbs, Basinger, & Fuller, 1992). In order to yield a valid score on the SRM-SF, at least seven scorable responses are required. The four eliminated participants provided unscorable responses on two or more of the nine presented SRM-SF items, and therefore a valid overall score could not be calculated.

A p- level of 0.05 was used in determining significance in all statistical analyses. A Pearson correlation revealed a significant positive relationship between superhero exposure and knowledge for the overall sample of students, $r = 0.508$, $p < 0.001$. This result indicates that children with higher levels of superhero exposure are more likely to have higher levels of superhero knowledge.

Upon further examination of the data, the overall sample was separated into two groups based on participants' gender due to significant differences in superhero knowledge and exposure as well as level of moral judgment (See Table 3). Specifically, the mean level of superhero knowledge ($M = 74.17$; 50.15) was significantly higher for males relative to females, $t(110) = 6.592$, $p < 0.001$. Level of superhero exposure ($M = 4.20$; 2.88) was also significantly higher for males, $t(110) = 3.492$, $p = 0.001$. Finally, mean levels of moral judgment ($M = 2.025$; 2.223) was significantly higher for females, $t(106) = -3.229$, $p = 0.002$. Therefore, separate regression analyses were completed for each gender group.

Analysis of the data from the male subsample revealed three significant positive Pearson correlations (See Table 4). There was a significant positive correlation between superhero

exposure and knowledge, such that higher superhero exposure predicted higher knowledge of superhero characters, $r = 0.338$, $p = 0.005$. There was also a significant positive correlation between age and superhero exposure, indicating that as boys' ages increased so did their level of exposure to superheroes, $r = 0.286$, $p = 0.015$. Finally, there was a significant positive correlation between superhero knowledge and moral judgment such that higher superhero knowledge predicted higher levels of moral judgment, $r = 0.275$, $p = 0.018$.

Linear multiple regression was utilized to demonstrate the potential relationship between superhero knowledge and exposure, and age to students' levels of moral development. For the male subsample, age, superhero knowledge and exposure accounted for 9.4% of the variance in moral judgment, $R^2 = 0.094$ (See Table 5). This model approached but did not reach significance in predicting moral judgment scores, $F(3, 54) = 1.865$, $p = 0.146$. Although it did not reach significance, there was a noticeable trend in the data that SKI scores may be a potential predictor of moral judgment for boys, $\beta = 0.265$, $t(54) = 1.899$, $p = 0.063$. Age and SET scores were not significant predictors of moral judgment.

Analysis of the data from the female subsample revealed a significant positive Pearson correlation between superhero knowledge and exposure, $r = 0.462$, $p < 0.001$ (See Table 6). There was also a trend in the data that may indicate a positive relationship between superhero knowledge and moral judgment such that higher superhero knowledge predicted somewhat higher moral judgment, $r = 0.194$, $p = 0.088$. Age was not significantly related to any of the variables.

Linear multiple regression was also utilized to analyze data from the female subsample (See Table 7). Age, superhero knowledge and exposure accounted for 6.4% of the variance in moral judgment, $R^2 = 0.064$. This model did not reach significance and was not a good fit in

predicting moral judgment, $F(3,46) = 1.051$, $p = 0.379$. However, although not significant, there

was a trend in the data indicating that superhero knowledge may function as a potential predictor

of moral judgment for girls, $\beta = 0.24$, $t(46) = 1.483$, $p = 0.145$. Age and SET scores were not

significant predictors of moral judgment for girls. These results are consistent with the analysis

of the data from the male subsample.

Discussion

Superheroes Influence on Moral Development

Research has established that several factors, including social learning from the media,

can influence children's development of moral judgment. The results of the current study

suggest that superhero characters should be counted among the many factors that can influence

moral judgment in children. The current study showed that superhero knowledge is significantly

and positively correlated for boys. Not only is there a significant correlation between superhero

knowledge and level of moral judgment, the regression analysis in the current study indicated

that nearly 10% of the variance in boys' moral judgment scores and just over 6% of the variance

in girls' moral judgment scores can be accounted for by age and superhero knowledge and

exposure. These trends in the current study may indicate that superheroes do indeed have a

potentially powerful influence on the way that children think and learn about morality. Perhaps

superheroes can be utilized in moral lessons to teach children about difficult moral concepts and

dilemmas. The full extent of this influence needs to be explored with further research.

Moral Development

The sample of participants in the current study yielded a consistent level of moral

development in that that majority of participants' moral judgment, despite differences in age,

was rated within Stage 2. Although this stage of moral thinking is age-appropriate for the

sample, it is important to note that individual participant responses showed a substantial range. For example, a single child's responses sometimes decreased into Stage 1 and increased up to Stage 3 across the nine moral judgment items. This result may indicate that the development or moral thinking may be more of a fluid transition rather than a strict step-wise stage process. There are a number of factors that may influence the level of moral reasoning employed in a given scenario or situation. For example, moral reasoning may depend on variables such as the context of the situation itself, an individual's own personal experiences, parenting style, religious affiliation and peer modeling to name a few. Based on these varying factors, moral judgment may fluctuate across different stages, not only in childhood and adolescence but through adulthood as well.

Superheroes

In the pilot study completed prior to the current study, although many children noted that they liked the superheroes they listed for somewhat negative or superficial qualities, such as their fighting skills, attractiveness, their costume or the gadgets they use, many children also noted prosocial attributes such as helping people, fighting crime, beating the bad guys and doing the right thing. These results show that superheroes continue to be well-liked and popular with school-age children. Furthermore, this qualitative data also indicates that, although superheroes may not always employ the most appropriate means in defeating villains, children are able to see beyond violence and fighting to see the positive outcomes of justice and the greater good.

Not surprisingly, the current study found a significant difference in knowledge of and exposure to superhero characters between males and females. Not only do the majority of superheroes continue to be male, but historically, female superhero characters have been created by male authors and seem to have been developed to appeal more to males than females (Ingalls,

2012). For example, Wonder Woman, who is undoubtedly endowed with superhuman abilities, is also overtly sexy and attractive, suggesting that she was created to appeal to males rather than females. However, more recently female-created superheroes are designed to appeal more to female audiences in that they do not emphasize overt sexuality and attractiveness, but focus instead on characteristics such as intelligence, cooperation and the importance of relationships. These characters are allowed to be both feminine and powerful. In fact, in many instances, modern female superheroes are most powerful when working with those that are important to them (Ingalls, 2012).

There has been a noticeable shift in the portrayal of hero characters in the media. For example, the recent animated Disney movie *Frozen*, the central characters of the story are both female and are able to succeed and save their kingdom by working with and depending on each other. The central male characters in the story were either evil or in need of saving by the princesses. The modern princess and female characters are no longer the damsels in distress of the past. They are strong, skilled, intelligent, capable and do not need saving. They recognize the value of relationships with others and work to nurture and preserve these relationships in addition to fighting for the greater good of their wider world. These new and modern female characters are what today's young girls are shown to look up to. These characters provide an example and an inspiration for young girls to persevere and pursue their goals even though it may not be the easiest road to follow.

Although the majority of superhero characters continue to be male, the expansion of the pool of superheroes in the current study may have allowed further examination of the potential influence of additional female characters. For example, a widening of the superhero pool may have led to the inclusion of strong modern female characters such as the intelligent and

determined young witch, Hermione Granger from J.K. Rowling's *Harry Potter* series or even the brave and cunning tribute, Katniss Everdeen of Suzanne Collins' *The Hunger Games* trilogy. Although these characters may not seem to exactly fit the expected mold of the traditional superhero, they certainly possess special skills and abilities that allow them to conquer seemingly insurmountable obstacles and dangers. These characters embody more modern hero traits such as cooperation and loyalty as well as the more traditional traits of intelligence, strength and seeking justice for the greater good. Adding these types of characters, which research has demonstrated that young girls are more likely to strongly identify with and relate to, may have produced a very different set of data for female participants, therefore likely resulting in much more balanced data set regarding knowledge of and exposure to superhero characters in the current study.

Limitations of the Current Study

One limitation of the current study was that the sample size was relatively small. Not only was the sample limited in size, but also in age and geographical location. Had the sample size been larger and included students with a wider age range from a more geographically diverse area, it likely would have been a more accurate representation of the population of students in late childhood to early adolescence. The larger and more varied sample would have likely allowed for a broader range of moral judgment scores as well as a more comprehensive data set regarding knowledge of and exposure to superhero characters. The most appropriate sample for the current study would have been a large sample of students in grades five through ten from various geographical areas.

Another limitation of the current study was the small number of superheroes on which the SKI was based. Due to limited time and the need for efficiency, only the five most popular

superhero characters were included in the development of the assessment of student superhero knowledge Had the SKI been developed based on a larger pool of superhero characters, it may have generated a more comprehensive and accurate reflection of student knowledge of superheroes. Expanding the pool of superheroes included in the current study may also have helped to provide a more balanced representation of male and female hero characters.

The current study was also limited in the number of variables considered in the regression model. Factors such as number and gender of siblings, parent interest in superheroes, socioeconomic status and ethnicity may also have significant influence on not only children's superhero knowledge and exposure to these characters, but also on the development of their moral judgment.

Future Research & Implications for Practice with Children

Future research should continue to explore various social and media factors that may influence the development of moral judgment in children. The current study demonstrates that superheroes continue to be popular among today's children, particularly for boys. It appears that modern female characters are becoming more popular as well. This may provide a unique avenue through which to influence the way children learn about right and wrong and think about morality. Research has shown that characters in which children are most interested or with whom they most closely relate to have the greatest influence on their thoughts and behaviors. Research has shown that superheroes are certainly among these characters. They have been identified by children as role models, portrayed in children's artwork and imitated in their play. Therefore, superheroes could potentially have a strong influence on shaping moral judgment as well their understanding of concepts such as altruism, justice and cooperation by providing a highly interesting and engaging framework on which to base lessons for children of all ages.

Future researchers may want to employ laboratory studies, perhaps using a model similar to that of Calvert and her colleagues (2007), to more closely examine socially learned behaviors from exposure to various types of superhero media including movies, animated series, comic books and video games. Future researchers may also want to consider investigating the cross-generational influence of superheroes on moral judgment. For example, adults who grew up in the 1970s and 1980s, a time of particular popularity of superheroes, are now having their own children. It would be very interesting to see if these parents have passed on their knowledge of and interest in superheroes to their children by exposing them to superhero media and sharing information about these characters.

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Table 1.

A Comparison of Moral Stage Theories

Age	Piaget				Kohlberg			Gilligan	
	Cognitive		**Moral**						
0 – 2 years	Sensorimotor	▪ Exploration through senses ▪ Beginning of goal-directed behavior ▪ Primitive use of symbols	Heteronomous	▪ Characterized by constraint ▪ Complete respect for adult authority ▪ Egocentrism prevents understanding of adult perspective ▪ Blind obedience ▪ Lack of reciprocity or equality ▪ Moral duty as obedience ▪ Culpability judged by material consequence rather than intent	Preconventional	Obedience/ Punishment	▪ Black & white judgments ▪ Absolute rules ▪ Obedience to authority	Preconventional	▪ Corresponds to Kohlberg's Preconventional level ▪ Personal survival ▪ Acting in one's own well-being ▪ Concern for own personal interest ▪ Pursue what best suits the individual
2 – 7 years	Preoperational	▪ Beginnings of language use & development ▪ Symbolic play ▪ Centration – focus on only one property of an object ▪ Magical thinking ▪ Irreversibility ▪ Egocentrism					Individualism /Exchange	▪ Moral behavior is what best suits own interests		
7 – 11 years	Concrete Operational	▪ Beginning use of logical thinking ▪ Can solve problems related to concrete events and objects ▪ Drawing inferences and making generalizations based on observations ▪ Classification by multiple properties ▪ Begin to recognize thoughts and perceptions of others			Conventional	Interpersonal Relationships	▪ Social expectations ▪ Being viewed as "good" by others	Conventional	▪ Justice orientation continues to correspond to Kohlberg's Conventional Level ▪ Shift away from selfishness ▪ Concern for others ▪ Feeling of responsibility for others ▪ Goodness as self-sacrifice ▪ Care of others over self
						Social Order	▪ Emergence of concept of society ▪ Laws & social norms guide behavior		
11 years to Adult	Formal Operational	▪ Abstract thought ▪ Hypothetical thinking ▪ Deductive reasoning ▪ Trial and error ▪ Logical & methodical problem solving	Autonomous	▪ Characterized by cooperation ▪ Equality ▪ Reciprocity ▪ Rules exist but can be changed by mutual consent ▪ Behavior evaluated by intent rather than material consequence	Post Conventional	Social contract /Individual	▪ Recognition of individual values and rights ▪ Social rules should be agreed upon collectively	Post Conventional	▪ Justice orientation continues to correspond to Kohlberg's Post Conventional Level ▪ Shift away from the idea of self-sacrifice as goodness ▪ Recognition of the importance of one's own well-being in relation to that of others.
						Universal Principles	▪ Internalization of personal principles and values ▪ May conflict with societal rules		

Table 2

Descriptive Statistics of the Sample

Gender	N	Characteristic	Min	Max	Mean	Median	Mode	Standard Deviation	Kurtosis	Skew
Male	60	Age	127	159	135.10	134	135	5.74	4.13	1.55
		SMRS	1.19	2.67	2.02	2.06	2.06	0.35	0.04	-0.34
		SKI	10	100	74.17	70	70	17.10	2.13	-0.96
		SET	1	7	4.2	4	4	1.83	-0.98	0.05
Female	52	Age	127	143	133.88	134	136	4.70	-0.91	0.23
		SMRS	1.43	2.89	2.23	2.22	2.44	0.29	0.31	-0.17
		SKI	10	90	50.15	50	50	21.42	-0.68	0.15
		SET	0	7	2.88	3	3	2.16	-0.71	0.36
Total Sample	112	Age	127	159	134.54	134	132	5.29	3.12	1.17
		SMRS	1.19	2.89	2.13	2.14	2.06	0.34	0.30	-0.42
		SKI	10	100	63.01	70	70	22.61	-0.52	-0.44
		SET	0	7	3.59	4	4	2.09	-0.85	0.05

Note: Age measured in months

Table 3

Independent Samples T-Tests

	Variable	Male Mean	Female Mean	Mean Difference	*T*	*p*
Equal	SMRS	2.025	2.223	-0.202	-3.229	0.002
Variances	SKI	74.17	50.15	24.013	6.592	<0.001
Assumed	SET	4.20	2.88	1.315	3.492	0.001
Equal	SMRS	2.025	2.223	-0.202	-3.279	0.001
Variances Not	SKI	74.17	50.15	24.013	6.488	<0.001
Assumed	SET	4.20	2.88	1.315	3.451	0.001

Table 4

Correlations – Males

		SMRS	Age	SKI	SET
	SMRS	1.000	-0.146	0.275	0.064
Pearson	Age	-0.146	1.000	-0.043	0.286
Correlation	SKI	0.275	-0.043	1.000	0.338
	SET	0.064	0.286	0.338	1.000
	SMRS	-	0.138	0.018	0.316
Significance	Age	0.138	-	0.374	0.015
(1-tailed)	SKI	0.018	0.374	-	0.005
	SET	0.316	0.015	0.005	-

Note: N = 58

Table 5.
Multiple Regression – Males

Model Summary

R	R Square	Adjusted R Square	Standard Error of the Estimate
0.306	0.094	0.044	0.345

ANOVA

Model	Sum of Squares	Df	Mean Square	F	p
Regression	0.667	3	0.222	1.865	0.146
Residual	6.439	54	0.119		
Total	7.106	57			

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	p
	B	Std. Error	β		
(Constant)	2.771	1.168	-	2.373	0.021
Age	-0.009	0.009	-0.138	-1.011	0.317
SKI	0.005	0.003	0.265	1.899	0.063
SET	0.003	0.028	0.014	0.099	0.921

Table 6

Correlations – Females

		SMRS	Age	SKI	SET
Pearson Correlation	SMRS	1.000	0.139	0.194	-0.012
	Age	0.139	1.000	0.047	-0.112
	SKI	0.194	0.047	1.000	0.462
	SET	-0.012	-0.112	0.462	1.000
Significance (1-tailed)	SMRS	-	0.167	0.088	0.466
	Age	0.167	-	0.374	0.220
	SKI	0.088	0.374	-	<0.001
	SET	0.466	0.220	<0.001	-

Note: N = 50

Table 7

Multiple Regression – Females

Model Summary

R	R Square	Adjusted R Square	Standard Error of the Estimate
0.253	0.064	0.003	0.285

ANOVA

Model	Sum of Squares	Df	Mean Square	F	p
Regression	0.257	3	0.086	1.051	0.379
Residual	3.747	46	0.081		
Total	4.004	49			

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	p
	B	Std. Error	β		
(Constant)	1.182	1.159	-	1.020	0.313
Age	0.007	0.009	0.116	0.801	0.427
SKI	0.003	0.002	0.240	1.483	0.145
SET	-0.015	0.022	-0.110	-0.677	0.501

Appendix A

Pilot Study Parent Consent Form

Research Consent Form

Your child's fifth grade class has been selected to participate in a brief research survey. This survey is part of a research project by a local area graduate student who is completing her doctoral dissertation.

This survey is attached to this consent form and will take approximately 5-10 minutes to complete. The survey asks your child to make a list of their favorite superhero characters and briefly indicate why they chose the characters they listed. The purpose of this survey is to determine which characters are currently the most popular with students at your child's age and grade level. Your child will be asked for basic demographic information in addition to their list of superhero characters. Specifically, students will be asked to provide their gender as well as birth month and year. Birth date information will be used only to determine the specific age range of the group of students participating in the survey. Names and any other identifying information are not required.

Parental consent is required for your child to participate in this survey. This survey is completely voluntary and is unrelated to any academic evaluation.

Please indicate below whether you consent to have your child participate in this survey.

_____ **YES**, my child can participate in this research related survey.

_____ **NO**, my child cannot participate in this research related survey.

Please complete this consent and sign this consent form and return it to your child's teacher at your earliest convenience. If you have selected **YES**, please have your child complete the attached survey and return it to their teacher with this consent form by **Friday November 9th**. Thank you!

Child's Name: _____

Teacher: _____

Parent Signature: _____

*If you have any questions regarding this research project, please feel free to contact any of the following:
Elementary Principal (xxx-xxx-xxxx)
Elizabeth Robinson, School Psychology Doctoral Student (xxx-xxx-xxxx)
Dr. Cris Lauback, Dissertation Advisor, Alfred University (607-871-2212)
Dr. Danielle Gagne, Human Subjects Research Committee Chairperson, Alfred University (607-871-2213)

Appendix B

Demographic & General Information Questions

Directions: This survey will ask you to answer different kinds of questions to help me learn more about 5th grade students.   Answer the following questions about yourself. Click the NEXT button to go on to the next page.
.

1. What is your gender?
    a. Male
    b. Female

2. What is your birth month and year?
    Month: _____   Year: _____

Directions: The questions on this page will ask for some information about yourself. Choose the answer that is the most like you. When you have finished the questions, raise your hand so an adult can make sure that you completed all of the questions. Click the SUBMIT button after an adult has checked in with you.

3. What is your favorite subject in school?
    a. ELA
    b. Math
    c. Science
    d. Social Studies
    e. Specials (music, art, PE, computer lab)

4. How many brothers or sisters do you have?
    a. None
    b. 1 or 2
    c. 3 or 4
    d. More than 4

5. What do you most like to do for fun outside of school?
    a. Read books
    b. Watch TV and/or play video games
    c. Spend time with friends and family
    d. Play outside and/or sports

Appendix C

Superhero Knowledge Inventory (SKI)

Directions: The questions on this page are about the superheroes that were the most popular when your class did a short survey in the fall. Choose one answer for each question. If you are not sure, just make your best guess. Raise your hand if you have a question. Make sure you answer all of the questions. Click the NEXT button to go on to the next page.

1. Batman lives in what city?
   a. Chicago
   b. Boston
   c. Gotham
   d. Capitol City

2. What is Batman's real name?
   a. Bryan Wades
   b. Rick Johnson
   c. Wayne Bryce
   d. Bruce Wayne

3. Who did Spiderman live with while he was growing up?
   a. His favorite teacher
   b. His grandparents
   c. His parents
   d. His aunt & uncle

4. What is Spiderman's real name?
   a. Jack Peters
   b. Paul Parkman
   c. Peter Parker
   d. Will Jackson

5. What is Superman's real job when he is not being a superhero?
   a. Accountant
   b. Journalist
   c. Doctor
   d. Architect

6. What is Superman's real name?
   a. Clark Kent
   b. Ken Thomas
   c. Curt Clark
   d. John Smith

7. What is the Hulk's job when he is not being a superhero?
   a. Scientist
   b. Teacher
   c. Lawyer
   d. Author

8. What is the Hulk's real name?
   a. John Benner
   b. Bruce Banner
   c. Ben Bryant
   d. Bob Brennan

9. Why did Iron Man build his suit of armor?
   a. He wanted to learn to fly
   b. He had a chest injury
   c. He wanted a disguise to hide from his enemies
   d. He wanted a way to interact his computers

10. What is Iron Man's real name?
    a. Tommy Star
    b. Tim Stevens
    c. Todd Storm
    d. Tony Stark

Appendix D

Superhero Exposure Test (SET)*

1. How many superhero movies have you seen at the movie theater or at home since school
   started this year?
   a. None
   b. 1-3
   c. 4-6
   d. More than 6

2. How many superhero items do you have at home (like video games, toys, clothes,
   backpacks)?
   a. None
   b. 1-3
   c. 4-6
   d. More than 6

3. If a new superhero movie was coming out in theaters, would you want to see it?
   a. Yes
   b. No

*These items were presented on the page along with the SKI. Therefore, a separate set of
instructions is not included.

Appendix E

Sociomoral Reflection Measure – Short Form (SRM-SF)

Directions: The questions on this page will help me to find out the things you think are important for people to do, and especially why you think these things are important. Please try to help me understand your thinking by writing as much as you can to explain it. Use the best words and sentences to show me what you mean. Make sure you answer all of the questions, especially the "why" questions.

1. Think about when you've made a promise to a friend of yours. How important is it for people to keep promises, if they can, to friends?
           Not Important   Important   Very Important

   Why? (Comment box)

2. What about keeping a promise to a child? How important is it for parents to keep promises to their children?
           Not Important   Important   Very Important

   Why? (Comment box)

3. What about keeping a promise to anyone? How important is it for people to keep promises, if they can, even to someone they hardly know?
           Not Important   Important   Very Important

   Why? (Comment box)

4. In general, how important is it for people to tell the truth?
           Not Important   Important   Very Important

   Why? (Comment box)

5. Think about when you've helped your mother, father or guardian. How important is it for children to help their parents?
           Not Important   Important   Very Important

   Why? (Comment box)

6. Let's say a friend of yours needs help and may even die, and you're the only person who can save him for her. How important is it for a person to save the life of a friend?
           Not Important   Important   Very Important

   Why? (Comment box)

7. What about saving the life of anyone? How important is it for a person (without losing his or her own life) to save the life of a stranger?*

        Not Important   Important   Very Important

Why?

8. How important is it for a person to live even if that person doesn't want to?*

        Not Important   Important   Very Important

Why?

9. How important is it for people not to take things that belong to other people?

        Not Important   Important   Very Important

Why? (Comment box)

10. How important is it for people to obey the law?

        Not Important   Important   Very Important

Why? (Comment box)

11. How important is it for judges to send people who break the law to jail?

        Not Important   Important   Very Important

Why? (Comment box)

*These items were omitted from the SRM-SF prior to data collection at the request of the school administrator due to the particularly sensitive and potentially emotionally upsetting nature of questions.

Appendix F

Parent Letter about Participation in Online Survey

Dear Parents,

My name is Elizabeth Robinson. I had the wonderful opportunity to work as a long-term substitute for the school psychologist at Elementary School last spring. I am also in the process of completing the doctoral program in School Psychology through Alfred University.

My dissertation is the last thing that I need to do to complete my doctoral degree.   However, in order to complete my dissertation research, I need to get input from 5th grade students. My research project has been approved by the Human Subjects Research Committee at Alfred University. The purpose of this committee is to determine whether proposed research projects are appropriate to complete with a specific group of people, in my case, 5th grade students. I have also gotten approval from both the Superintendent of the Central School District, as well as the principal, to have the students at Elementary School participate in my research.

My dissertation focuses on how students think about superhero characters. At this point in my research, I need 5th grade students to complete an online survey made up of a variety of multiple choice questions. You may remember the short survey your child's class was asked to participate in during the fall where they were asked to list their top five favorite superhero characters. Several of the questions on the computer survey are based on the characters determined to be most popular by the 5th grade students at Elementary School. Their answers on the computer survey will help me to gather general demographic data (e.g., age, gender), information about how 5th graders think about a variety of situations as well as their knowledge of and exposure to superhero characters. The survey will be completed during one computer lab period. In order to best complete my research project, I need input from as many 5th grade students as possible.

However, I need parent permission for each child to participate. Attached to this letter is a form that briefly describes the survey and asks whether you would like to opt out of participation for your child. Please return this form only if you <u>DO NOT</u> want your child to participate in the survey. At the bottom of the consent form, I have provided contact information for myself, my dissertation advisor and the chairperson of the research committee at Alfred University. Please do not hesitate to contact any of us if you have any questions about my research.

Thank you!

Elizabeth Robinson

Appendix G

Parent Consent for Final Data Collection

Research Consent Form

Your child's fifth grade class has been selected to participate in a research survey. This survey is part of a research project by a local area graduate student who is completing her doctoral dissertation.

This research project consists of a computer-based survey and will take place during one computer lab period. The survey will ask your child to answer a variety of multiple choice questions in an online survey format. Several of the questions will be related to the superhero characters that were identified by 5th grade students at Elementary School who participated in a brief survey in the fall. The purpose of this survey is to provide information about student knowledge of and exposure to superhero characters as well as general information about 5th grade students and how they think about different situations. The survey also asks for basic demographic information. Specifically, students will be asked to provide their gender as well as birth month and year. Birth date information will be used only to determine the specific age range of the group of students participating in the survey. Names and any other identifying information are not required.

This survey is completely voluntary and is unrelated to any academic evaluation. At the beginning of the computer lab period, you child will be given the opportunity to opt out of participating in the survey.

Please check and sign below if you **WOULD NOT** like your child to participate.

_____ **NO**, my child cannot participate in this research related survey.

PLEASE COMPLETE AND RETURN THIS FORM TO YOUR CHILD'S TEACHER ONLY IF YOU DO NOT WANT YOUR CHILD TO PARTICIPATE. THANK YOU ☺

Child's Name: _____

Teacher: _____

Parent Signature: _____

*If you have any questions regarding this research project, please feel free to contact any of the following:
Elementary Principal (xxx-xxx-xxxx)
Elizabeth Robinson, School Psychology Doctoral Student (xxx-xxx-xxxx)
Dr. Cris Lauback, Dissertation Advisor, Alfred University (607-871-2212)
Dr. Danielle Gagne, Human Subjects Research Committee Chairperson, Alfred University (607-871-2213)

Appendix H

General Directions Prior to Computer Survey

Before each class began working, the researcher gave a brief introduction explaining the nature of the task, general directions and what to do if they had a question.

"Your class will be participating in a research survey for my doctoral dissertation. Your parents were sent a letter and a form about my project. If they returned the form indicating that you are not to participate, the computer lab teacher will give you instructions for what to do while the rest of the class is working on the survey. The survey is set up online for you. There are directions at the top of each page so you know what to do. Some of the questions will be multiple choice items and others will ask you to type a response. The questions are about several different things such as information about yourself, various superheroes and how you think about different situations. Please do your best and write as much as you can. This will help me to get the best information I can. If you have a question while you're working, please raise your hand and someone will come help you. Thank you for your hard work!"