A mixed-methods study of the relationship between children's parasocial relationships with the *Arthur* children's series and empathy

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Abstract

Children's media use has not only risen over the past decade but also evolved to include newer interactive types of media. Significant research on the influence of child media use on development has investigated traditional media like television, however less research has been conducted on the influence of contemporary forms of media like interactive stories or e-books. The following study investigated children's use of an interactive graphic novel (IGN) designed to promote character development in elementary school age children. Specifically, the relationship of children's parasocial relationships (PSRs) with the prosocial children's series *Arthur* and measures of empathy were assessed. Quantitative measures of empathy and PSR were compared for a sample of elementary school age children that participated in a feasibility study of the IGN. Additionally, to assess potential qualitative differences of the influence of PSR, dialogue between two peer dyads recorded during testing of the IGN were coded and compared for frequency of empathy related talk. The dyad with the highest average PSR score and the dyad with the lowest average PSR score were chosen to compare extreme examples of PSR in children. Findings indicated an association between measures of PSR and empathy for older male participants, older female participants and younger male participants but not younger female participants. Analysis of the two selected peer dyads indicated a slight difference in empathy related talk as well as different styles of interaction between the high and low PSR dyads. Implications of interactive media and children's PSR with featured characters on social emotional development are discussed.

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Today, young people are coming of age in a world saturated with new technologies to consume media. Children, on average, now spend more time with digital media such as television, movies, digital games, and interactive stories, than any other waking activity, even school (Rideout, Foehr & Roberts, 2010).

Questions about the influence of media use on children's development have been raised throughout the history of all forms of media including books, radio, and television (Reid-Walsh, 2008). The introduction of interactive media and mobile technology has received similar scrutiny and revived old concerns raised by traditional media use. Much of this attention has focused on the negative outcomes of children's media use. The effects of media on aggressive behavior, gender stereotypes and obesity have been at the center of children's media research. In comparison, research exploring the positive outcomes of children's media use is sparse. One possible positive outcome that has received little attention is the relationship formed between children and the media characters they are exposed to, also known as parasocial relationships (PSRs).

The focus of this study was to uncover the nature of the relationship between children's parasocial relationships with a prosocial media character and measures of empathy. Is the strength of a child's parasocial relationship (PSR) with a prosocial character related to measures of empathy? Furthermore, are differences in the strength of PSR with a prosocial media character reflected in children's verbal discussions during use of an interactive story based on that character in ways that are measureable and discernible?

This study was conducted using data collected through a larger study, the *Arthur Interactive Media Study* (AIMS). AIMS piloted a measure of character in elementary age children, referred to as the Assessment of Character in Elementary Students (ACES). In addition AIMS also tested the feasibility of implementing an interactive graphic novel (IGN). The IGN was designed to promote positive character development in elementary school age children. AIMS was conducted as a partnership between the research organization, the Institute of Applied Research in Youth Development (IARYD) and WGBH, a non-commercial educational Public Broadcasting Service (PBS) member television station. WGBH is the producer of the *Arthur* television series and related interactive products.

The IGN featured a comic book style interface, featuring read along audio prompts with story text. Detailed screenshots of the IGN are presented in Appendix A. Students interacted with the IGN in a cross-age peer dyad, first graders paired with fourth graders and second graders paired with fifth graders. The IGN story line was based on an episode of the children's television series, *Arthur*, and focused on the topic of empathy. At specific points throughout the story, the IGN presented peer dyads with story specific questions that emphasized perspective taking and labeling other's emotions. The use of peer joint-engagement with an interactive media product based on a popular prosocial media character was intended to generate discussion between peer dyads about character related attributes including empathy.

In this study the relationship between the piloted ACES subscale of Empathy and the subscale of Parasocial Relationship with the *Arthur* series was explored. The complete ACES survey is presented in Appendix B. Theory suggests PSR formation

with a media character is mediated by factors similar of face-to-face relationships, including social and physical attractiveness, repeated exposure, and social realism. In other words, PSR with a media character may influence cognitions and behaviors in the same way real relationships do (Giles, 2002; Cohen, 2001; Klimmt, Hartmann & Schram, 2006). While the purpose of this study was largely exploratory in its aim to assess an association between children's PSR with a prosocial media character and measures of empathy, this study hypothesized measures of empathy would be positively related to measures of PSR with the *Arthur* television series. Additionally, it was hypothesized peer dyads with higher collective scores on the PSR measure would also differ qualitatively in the frequency of empathy related dialogue during use of the piloted *Arthur* based IGN.

It is essential that we understand the ways in which media use may influence child development, especially newer forms of interactive media. Media use accounts for a majority of the waking hours of America's youth indicating the prevalence of media use in the lives of today's children (Common Sense Media, 2013). Children and teens use technology for a variety of activities including communication with friends and family, listening to music, exploring personal interests and hobbies, shopping for consumer goods, and even finding romantic partners (Bers & Kazakoff, 2012). Mobile device use has rapidly increased over the past several years, and is now the most widely used technological device worldwide (Schuler, 2009). In 2013 72% of children ages zero to eight years reported having used a mobile device at some time, compared to only 38% in 2011. Daily use of mobile devices among children has also doubled from 8% in 2011 to 17% in 2013 (Common Sense Media, 2013).

It is important to investigate how interactive media differs from traditional media use, especially in relation to child development. Less expensive devices and longer lasting batteries have contributed to the evolution of interactive media. In response the children's media market has grown exponentially. (Bers & Kazakoff, 2012). The influx of child targeted apps, e-books, mobile games, and other digital content has created a market distinguished solely for children (Chiong & Shuler, 2010; Shuler, 2012). This technological dense environment is the norm for today's developing child and supports the need to understand the ways in which interactive media may differ from traditional media.

Although use of traditional screen based media among children, like television and film, has not witnessed the same increase as interactive media, traditional media continues to be a dominant presence in children's lives. In 2011, approximately 80% of American families reported having cable or satellite television (Barron et al., 2011). Thus, reports indicating increases in overall media use suggest that rather than displacing the dominant medium of television and film, interactive media have supplemented it (Shuler, 2007).

Outcomes from traditional media use among adults and children are understood to be a complex interaction of multiple factors including characteristics of the media consumer and characteristics of the media content. The introduction of interactive media products has created additional factors to consider. The boundary between watching television and the use of other devices has blurred. Technologies that were once separate, most notably television and computer use, have now converged (Gutnick, Robb, Takeuchi, Kotler, 2010). Further research is needed to investigate the potential for a

synergistic effect from the use of traditional and interactive media. Working to

understand the relationship between different factors specific to child media use will help

inform and guide the development and application of children's media that supports

positive youth development.

Literature Review

This review will first present the literature regarding the concept of PSR and its

value within child development. Second, the theoretical perspectives of PSR and

empathy that guide this research will be introduced. Next, the implications of varying

definitions of "prosocial" within children's media along with the gaining importance of

interactive media will be reviewed. Finally, through a synthesis of the conceptual,

theoretical and empirical perspectives reviewed, research hypotheses will be presented

with a study design to investigate the relationship between children's PSR with a

prosocial media character and measures of empathy.

Parasocial Relationships

The concept of parasocial relationship (PSR) was originally articulated by Horton

and Strauss (1957) in a study investigating parasocial interactions (PSI), a media user's

response to a mediated persona in which the media user treats the persona as a familiar

other (Horton & Whol, 1956). PSR described a pattern of enduring PSI responses to a

persona that continued beyond immediate media exposure (Horton & Strauss, 1957). PSI

is seen as having contributed to the development of PSR and involves similar processes

used in real world social interactions (Giles, 2002). Unlike PSI, PSR endures beyond a

single media exposure. In other words, PSR with a media persona is much like a friendship that extends beyond face-to-face communication (Schramm & Wirth, 2010).

The development of PSR in children is of special interest for several reasons. First, various production techniques that have been associated with increased PSI are frequently used in children's media. Production techniques that make personas appear as if they are in a direct social interaction with the viewer have been associated with increased PSI. Direct audience address by a media character has been linked to increases in trust and a sense of personal relationship between media personas and adult viewers and influences the development of PSR (Horton & Whol, 1956, Horton & Strauss, 1957). Formal features, such as direct audience address, have been identified as specific production techniques that influence children's attention and engagement during media use. Additional formal features include the use of bright colors, close-ups on faces, and the use of female voices (Huston, et. al. 1981).

When formal features are used in the production of media, children are more likely to respond to characters by replying with their own words and actions (Crawley et al., 1999). Relevant to the present study, the *Arthur* series utilizes production techniques shown to increase PSI and aid in reflection and recapitulation of the content. Each episode begins with a character addressing the audience about an issue or situation they are experiencing followed by a narrative incorporating that issue or situation. This use of 'preplay' clips helps attune viewers to the message or lesson of familiar content and also promotes PSI (Huston et al, 1981). Unlike many shows *Arthur* is also presented in a context easily comprehended by a young child without the need of an adult present. Children can easily understand the lesson of the program without adult guidance.

Second, the development of PSR in children is of special interest because the rapid increase in media and the diversity of supporting technologies has developed an immersive culture of transmedia. Transmedia, literally meaning 'across media', is a term developed to describe the relationship or combination of relationships that may exist between different media platforms (Herr, Stephenson, Alper & Rilley, 2013). Transmedia expands the process of story telling across a number of different media platforms including television, social media and mobile entertainment. This approach has become a regular practice in children's media. The same character or series may persist across multiple media platforms thus increasing children's exposure to that character. In light of the increased use of the transmedia approach in children's entertainment, the influence of media characters on children's development notes special consideration.

Third, past studies have demonstrated associations between children's PSI and PSR with popular media characters and different behaviors including food preferences, story comprehension, and the ability to learn specific tasks (Howard-Gola, Richards, Lauricella & Calvert, 2013; Lauricella, Gola, Calvert, 2011; Calvert, Strong, Jacobs, 2007; Kotler-Schiffman & Hanson, 2012; Linebarger, McMenamin, Jennings & Moses, 2010). For example, research in the field of child obesity has investigated the influence of popular media characters on children's food preferences (Kotler-Schiffman & Hanson, 2012). In one such study researchers investigated young children's food choices when offered a snack associated with a familiar media character from the television show *Sesame Street* compared to a food associated with an unknown character of similar appearance (i.e., color and shape). Results showed the popular *Sesame Street* media

characters did influence children's preference of one food over another. The effect was strongest when food choices were between sugary or salty snacks. However, branding of healthy snacks with a known media character over junk food branded with an unknown character did not significantly change the appeal of the healthier snacks. When comparing branding of healthy snacks against other healthy snacks popular media characters did influence children's food preference as well as the amount of the healthy snack eaten.

In a study by Calvert, Strong, and Jacobs (2007), the effects of media characters on children's active involvement and comprehension of a story were investigated. Specifically, this study examined the influence of the program *Dora the Explorer,* featuring a Hispanic character, *Dora*, on children's comprehension of story content. The authors found children who actively responded to the media character, a behavioral response of PSI, were more likely to understand important program content than children who did not verbally respond while observing the program.

Howard-Gola and colleagues (2013) investigated the role of PSI in toddlers' learning of seriation, an early mathematical skill related to S.T.E.M curriculum, presented through video by a media character. The purpose of this study was to examine whether increasing social meaningfulness of a character influenced learning the seriation task. Children were assigned to one of three conditions: familiarized character condition, unfamiliarized character condition, or a no-exposure, control group. Children in the familiarized condition were given opportunities to engage in play with a doll version of the video media character for the three months leading up to the seriation task test. For children in the familiarized condition, intensity of PSI was measured by coding the

frequency of behaviors in which children treated the doll as a person. These behaviors included prosocial nurturant behaviors (e.g. 'feeding the doll' and 'putting the doll to sleep') as well as referring to the character by name. Children of both the familiarized and unfamiliarized condition were shown a video of the same character demonstrating how to seriate five plastic nesting cups in order from smallest to largest. Children were then presented with similar cups and given two minutes to complete the seriation task. Children in the no-exposure condition did not watch the video and only received the five nesting cups to play with during the two-minute period. Children were videotaped during the seriation task and coded based on performance in the task. Results indicated children in the familiarized condition performed better than the unfamilarized and no-exposure condition. The findings of this study are comparable to a previous study of similar nature in which the seriation task was presented by a familiar character, *Elmo* of *Sesame Street,* or an unfamiliar Taiwanese media character (Lauricella, Gola, Calvert, 2011). However, the former study by Howard-Gola, Richards, Lauricella and Calvert (2013), was able to control for PSI intensity by using a character unfamiliar to American children. The results of both studies suggest PSI can increase learning and prosocial behaviors and demonstrate the importance of further investigating parasocial processes.

Some studies have reported age and gender differences in PSI and PSR development. Studies investigating PSI and PSR in children, adolescents and adults have reported differences across age groups. Children are more likely to develop PSR with same sex characters while adolescents tend to develop PSRs with characters of the opposite sex (Hoffner, 2007). Developmental research has suggested children's identification with same sex and opposite sex characters shifts with age. Gender

differences also exist in children's perceptions of their favorite characters, in which PSR is more likely to develop. In a study interviewing seven to twelve year-olds about their perceptions of the different traits related to their favorite media character, Hoffner (1996) reported girls were more likely to choose an opposite-sex character as their favorite character than boys. Girls were also found to develop stronger parasocial relationships than boys (Hoffner, 1996; 2007). Hoffner's investigation revealed a difference in the pattern of traits reported by girls and boys for their favorite media character. Intelligence predicted PSI strength for male characters (chosen as favorite characters by both boys and girls), however attractiveness was the only predictor of PSI with female characters (only chosen as favorite characters by girls) (1996). It is noted however, these gender differences could reflect the nature of gender misrepresentation in television. Male characters not only account for more on screen roles but also more diverse roles. Age and gender related differences regarding PSI and PSR, thus constitutes an area for address in future research.

The use of formal features in children's media, the increasing trend towards transmedia use, and past research on children's PSI and PSR suggests familiar children's characters can affect children's thoughts, learning outcomes and behaviors further supports the need for more research on children's PSI and PSR. The focus of this study was to elucidate the relationship between PSR with a prosocial media character and measures of empathy.

Theories of Parasocial Interactions and Parasocial Relationships

Many different social science disciplines have been involved in parasocial research including communications, social psychology, media psychology, and film

studies. As a result different definitions of these concepts have developed. Klimmt,

Hartmann & Schramm (2006) have proposed a two level process-based model of

parasocial processes that distinguishes between PSI and PSR and is the definition applied

for this proposal. These authors suggest PSI describes how viewers perceive and respond

to media characters *during exposure* (Klimmt, Hartmann & Schramm, 2006; Horton &

Wohl, 1956). PSI is the perceived relationship an individual has with a media persona

and occurs with every exposure to a persona.

Alternatively, PSR describes a cross-situational relationship the viewer holds with

a persona (Schramm & Wirth, 2010). PSI that occurs between a viewer and a persona

may lead to a PSR with that persona which continues to influence the viewer's thoughts,

emotions and behavior after media exposure. PSR is able to influence motivations for

media consumption, media selection processes and PSI processes during future media

exposures (Schramm & Wirth, 2010).

The two level process model of PSI (Klimmt et al, 2006) outlines potential

factors that may contribute to the development of PSI including specific cognitive,

affective, and behavioral characteristics. (Klimmt, Hartmann & Schramm, 2006). The

development of PSI is considered an interaction between characteristics of the viewer and

characteristics of the media persona. Viewer variables such as genre preferences,

interaction motivation, and personality traits like empathy readiness, shyness,

extraversion, and self-confidence can influence the intensity of PSI (Klimmt et al, 2006).

Characteristics of media personas that strengthen PSI and the development of PSR

include the obtrusiveness and persistence with which a character is portrayed on screen,

the character's use of direct audience address, and the character's perceived physical and social attractiveness.

Empathy

While the definition of the concept of empathy in empirical work has evolved, the present study adopts the definition of empathy as "the ability to understand and share in another's emotional state or context" (Cohen & Strayer, 1996). Two distinct components of empathy have been defined including affective and cognitive empathy. The term "affective empathy" has been used to describe an individual's emotional response to another's affective state. In other words, affective empathy is the ability to recognize and appropriately react to another person's emotions. Cognitive empathy, on the other hand, is defined by perspective taking or the ability to take another person's perspective and feel their emotions. The importance of perspective taking in the development of nonegocentric behavior has been stressed in child development (Piaget, 1932). Furthermore, the ability to anticipate and understand the needs of others has been found to promote the development of rewarding relationships with others (Cohen & Strayer, 1996). Additionally, empathy has been linked to both social competence and character related behaviors that are valued by society (Eisenberg, Fabes & Spinrad, 2007).

Just what the most appropriate method to assess and measure empathy in children is has been debated in the literature. The most common approaches to empathy assessment include picture/story assessment procedures, self report questionnaires and parent/teacher reports. Picture/story assessment procedures present children with a brief story often supplemented by pictures depicting a hypothetical protagonist in an emotionally- laden situation. After each story the child is requested to report how he or

she feels. Respondents are considered to have responded empathically if they report similar emotions as the character. Although picture/story assessment procedures are the most common method of empathy assessment in children this method has been criticized for not effectively creating an empathy- evoking situation. Asking children how they feel may also be vulnerable to demand characteristics from respondents (Eisenberg & Lennon, 1983). Self- report measures have also been implemented in the study of empathy. Children's ability to understand emotions, which develops with age, have raised concern over the use of self-report measures of empathy in younger populations (Eisenberg & Faber, 1990). Some self-report measures have also been criticized for being susceptible to variables other than empathy including emotional arousal and personal distress (1990). Furthermore, self-report measures may be vulnerable to demand characteristics. Children's responses may reflect their perceptions of what they think the measures are trying to assess, rather than their true behavior. Parent/teacher reports have been used with child populations with reported success. However, in many studies using parent/teacher reports variances were found in reports between raters (Eisenberg & Miller, 1987).

Similar to empathy, PSRs have been associated with viewer's increased awareness and shared perspective of a media character's emotions. Considering the similarity in processes between PSRs with media characters and real social relationships the relationship between PSR and empathy in children could further elucidate the development of empathy and character related behaviors in children.

Prosocial Media Content

The term "prosocial" within the field of children's media has been debated among media producers, policy makers, and researchers, but continues to lack a clear definition (Strasburger, 2009). According to the Federal Communications Commission (FCC), the definition of prosocial media includes educational content intended to promote academic achievement. Early research on children's prosocial media has mainly focused on this definition covering topics like early literacy skills and school-readiness (Fisch, Truglio & Cole, 1999; Wright & Huston, 1995).

Social-emotional programs that teach viewers life lessons about personal feelings and interpersonal relationships have also been described as prosocial media. Under this definition prosocial media content is socially beneficial and promotes social emotional learning (SEL). SEL focused content aims to promote behaviors such as cooperation, helping, sharing, and friendliness. These programs focus on lessons about social interactions and emotions. A number of studies have found that much broadcast material especially for preschool aged children and especially shown on PBS, contain a significant amount of prosocial content. An analysis of children's programming broadcasted over one composite week in a major U.S. city revealed fifty percent of broadcasted shows displayed at least one social emotional lesson (Mares & Woodard, 2001).

Interestingly, a content analysis of prosocial television programs watched by children, found prosocial content frequently appeared in the context of aggression (Mares & Woodard, 2001). A content analysis of regular cartoons and prosocial cartoons (those with a moral message apparent to the researcher), found both types of cartoons displayed equal numbers of aggressive acts (Leiss & Reinhart, 1980). Findings that prosocial

lessons are often depicted within contexts of aggression poses interesting questions about the effects of such content as new research has suggested PSI can occur with negative as well as positive characters (Dibble & Rosaen, 2011).

Similarly, empathy has typically been linked to prosocial interactions and behaviors but new recent has suggested otherwise. A review of prosocial and antisocial video game use has suggested empathy may have differential effects depending on the context (Happ, Melzer, & Seffgen, 2014). In a study testing whether empathy moderated the effects of violent video games, inducing empathy in participants had differential results depending on the nature of the game played. Empathy induction had positive effects (decreased antisocial behavior and increased prosocial behavior) when participants played a positive character in a violent video game and had negative effects (increased antisocial behavior and reduced prosocial behavior) when participants played an antisocial character in a similarly violent video game. These findings question the unconditional positive reputation of empathy and call attention to the need for further inquiry into the outcomes of empathy and media consumption.

Interactive Media

In both form and function, the media environment children grow up in has changed drastically over the past 10 years (Common Sense Media, 2013). A trickledown effect from adult usage combined with the falling price of digital technologies has resulted in children of all ages becoming regular consumers of digital media (Gutnick, Robb, Takeuchi, & Kotler, 2010). The revolution in children's digital media consumption has also spurred a new market of interactive media products exclusively for children including apps, digital games, and interactive stories. The introduction of smart

mobile devices, most notably the iPhone in 2007, has revolutionized the children's digital media environment. A multi-million dollar interactive media business has since emerged, including a lucrative market targeting children and early education curriculum (Choing & Shuler, 2010; Common Sense Media, 2011).

In light of the increasing use of interactive digital media among children, such as interactive stories and digital games, it is important to address the notion of joint media engagement (JME) and the concept interactive media. The term JME was coined to extend the original concept of co-viewing, the practice of watching media with others, beyond the medium of television (Stevens & Penuel, 2010). Early research on co-viewing suggested children may learn more from educational media when it is viewed with an adult. Co-viewing has also been recommended as a strategy for parents to help mitigate the negative effects of media in children (2010). On the other hand, JME refers to the spontaneous and designed experiences of people using contemporary media together and describes forms of social engagement not visible within media itself (Takeuchi, & Stevens, 2011). JME can happen anytime, anywhere when multiple individuals become involved in media use. This includes viewing, playing, reading, and creating together with media.

In the field of educational technology and social emotional development, JME is a promising new concept for the advancement of developmentally appropriate technology in childhood. The shared attention and interaction with media in real time is a powerful resource not found in other popular media activities such as social media. When JME occurs between a younger individual and an older individual, opportunities for learning can be enhanced for the younger viewer through joint attention and meaning making

offered by the older individual during media exposure (Takeuchi & Stevens, 2011). Research on JME has mainly focused on media use between parents and children, but JME can also occur between teachers, siblings, and peers. Until now, media use has been viewed as a singular engagement. However in light of JME, the stereotypical notion of people using media in isolation must be reconsidered.

The rise of mobile devices suggests the next generation of digital media will emphasis portability and 24/7 connectivity. This mobile technology, coupled with JME, could optimize opportunities to promote development in childhood, both cognitively and socially (Gutnick, Robb, Takechi & Kotler, 2010; NAEYC & Fred Rogers Center, 2012). The notion of JME has important implications not only for the way people use and learn from media but also the design of future media products and measurement of media use. While the influence of JME is beyond the scope of this study, it is an important factor to be considered in future research.

Research Questions and Hypotheses

The present study aims to address the relationship between PSR and empathy in elementary age children. It is hypothesized measures of empathy will be positively related to measures of PSR with the *Arthur* television series in a sample of elementary school age children. Additionally, it is hypothesized children with higher scores on measures of PSR will have a higher frequency of empathy related dialogue during use of the piloted *Arthur* based IGN. Changes in the availability and production of children's media including the use of formal features in production and a transmedia approach to content, support the need to further investigate the role of media characters in children's social emotional development. Questions over

the presence of PSI with both positive and negative characters and differential effects of empathy in varied contexts further support this inquiry.

Method

The present study implemented a mix-methods design using data collected from the larger AIMS project. The interactive graphic novel created was based on the *Arthur* episode, "So Funny I Forgot to Laugh". This episode highlights themes of empathy and perspective taking as the story follows the main character, *Arthur*, who repeatedly teases another character. The perspectives of three characters (Arthur, Sue Ellen, and Buster) are revealed throughout the story and highlight the perspectives of victim, bully and bystander in bullying situations. The story shows how individuals can feel differently about the same event. Due to the episode's focus on empathy and perspective taking, these concepts are expected to be present in peer dyad dialogue during the IGN session of the intervention.

The IGN format was comparable to a narrated children's e-book. Screenshots taken from the *Arthur* television episode were used to visual depict the story. Animated character speech bubbles presented the story text, while character voice overs narrated the story text. At four different points during the story, the IGN paused narration and asked the viewers four questions related to the story, for a total of 16 questions. At the conclusion of the IGN viewers were given the opportunity to choose an ending to the story. Three possible story endings were available each varying in appropriateness as a possible resolution to the bullying situation depicted in the story.

Data collected from participating schools included self-report survey data assessing various attributes of character and video recorded observations of peer dyads

during use of the IGN. Peer dyad interactions with the IGN were recorded using handheld video recording devices placed in front of each peer dyad prior to the arrival of students. The peer dyad conversations were professionally transcribed from the video recorded observations. Peer dyad dialogue was then coded by trained coders from IAYRD for discussion related to empathy including instances of perspective taking, labeling character affect, and empathetic concern. Full details of the methodology of overall AIMS project are available through additional reports (e.g., Bowers, Hilliard, Stacey, Greenman, Wartella, Doering, & Lerner, in preparation). Accordingly, only features of the methodology pertinent to the proposed study are presented.

Quantitative and qualitative data were integrated to explore the relationship between children's PSR with the *Arthur* series and indicators of empathy. Quantitative data assessing PSR and empathy were obtained through a self-report survey. Through this data a quantitative analysis of the relationship between PSR and attributes of empathy in elementary school age children was conducted. Qualitative analysis of the peer dyad dialogue during exposure to the IGN was used to address the second hypothesis that peer dialogue during use of the IGN would differ qualitatively between children with higher and lower PSR scores.

Participants

Participants of the study included children who had consented to participate in the larger AIMS project. Participants included elementary school age children from a public school district in Western Massachusetts serving approximately 4,000 students in grades PK through 12. The participants included 94 first and second grade students (here on referred to as 'Little Buddies') and 107 fourth and fifth grade students (here on referred

to as 'Big Buddies'). Students came from two participating elementary schools within the district. The two elementary schools were comparable on student-teacher ratio and student ethnic demographics. According to Massachusetts State Department of Education records, approximately 70.7% of students were recorded as Caucasian, 16.5% Hispanic, 3.6% African American, 6.1% Asian and 3% as other. Approximately 55% of students were reported to be from low-income families and 25% were not native English speakers.

Procedure

The larger AIMS project within which the present study obtained data for analysis received IRB approval prior to implementation. For each school participating in the research study, teachers or school personnel obtained parental consent for participation through an information packet sent home with each child in participating classrooms. Packets contained a letter explaining AIMS and respective consent forms. All students within each classroom participated in the curriculum; however, data were only collected from consented students. For the sake of ease in video recorded data collection, consented 'Little Buddy' participants were paired with other consented 'Big Buddy' participants for the IGN portion of the curriculum. Prior to implementing the curriculum with students, teachers participated in a training session facilitated by Tufts researchers. During this training session, teachers were introduced to the curriculum content, project timeline, and were given opportunities to interact with the IGN. The intervention was conducted with students over the course of three sessions, each lasting 30 to 40 minutes. Each session was conducted with the assistance of Tufts University researchers and is described below in Table 1.

Table 1. Description of IGN session activities and approximate duration.

Session Number	Session Title	Description of Session Activities
Session One 35-40 minutes	Meet & Greet	- Students draw self-portraits - Students meet their respective buddy and exchange portraits* *Big Buddies only:* - students review IGN and guidelines of being a 'Big Buddy'
Session Two 35-40 minutes	Interactive Graphic Novel	- Students view story presented in the IGN - Students discuss and answer prompted questions at specific points in story - Students interact with choice of three different story endings and discuss each outcome
Session Three 30-35 minutes	Discussion Session	- Teachers facilitate review and discussion of IGN - Peer dyads exchange feedback about IGN - Students complete ACES survey in class

* Some teachers choose to divide Session One into two sessions due to scheduling limitations; students drew self-portraits followed by meeting their buddy in a separate session.

'Big Buddy' participants completed the ACES survey independently during class time. Due to concerns regarding variation in reading ability and scheduling constraints, 'Little Buddies' were assisted with the survey by either (a) having questions read aloud to them by a teacher or (b) having questions read aloud to them by their 'Big Buddy'.

Measures

Quantitative Measures

To investigate the initial research question, the proposed study will conduct a quantitative analysis of data collected from the piloted ACES survey, specifically the subscales of empathy and parasocial relationship. The initial pool of items piloted for the ACES survey included 46-items based on prior reliable and valid measures of attributes of character including joy, empathy, generosity, forgiveness, honesty, creativity, emotional regulation, humility, and future-mindedness (e.g., Brady et al., 2009; Bryant, 1982; Davis, 1980; Kasser, 2005; Runco, Plucker, Lim, 2001; Smith & Hill, 2009;

Warren, 2009). Of the 46 items piloted, eight items on the empathy subscale and eight

items on the PSR subscale were determined of good fit through confirmatory analysis and

are reported in the present study. These measures are described in detail below. Unless

otherwise noted, all scales were adapted for a 5-point Likert scale format to maintain

response consistency. Responses ranged from *1=Not at all* to *5=Exactly*.

Parasocial Relationship (PSR).

Strength of PSR was measured by items adapted from two sources. Two items

used in a previous study of PSI in children (Tian & Hoffner, 2010) were included. These

items assessed an individual's general tendency for PSI with any media persona. Items

included "*I feel like the story characters are like people in my own life*" and "*I think that I*

am like one of the characters in a story." Six items from the Parasocial Interaction Scale

developed by Rubin and Perse (1987) were adapted to assess PSR strength with the

Arthur series. Statements on the scale were modified from their original format

addressing soap opera characters to suit the nature of the proposed investigation (e.g.

changing 'soap opera' for '*Arthur*'). Sample items included "*I wish I could be more like*

Arthur and his friends," and "*I look forward to watching Arthur on TV.*"

It should be noted, while both sources that comprise the PSR subscale of the

ACES survey were originally designed as measures of PSI, more current work has

suggested the selected measures may be better utilized when researchers are interested in

capturing PSR with media characters (Klimmt et al., 2006; Dibble & Rosen, 2011).

Recent theoretical inquiry has called for a distinction of the nuances associated with a

collection of viewer PSI responses. Accordingly, the selected measures were adapted to

assess PSR. The Cronbach's alpha for the ACES PSR subscale was, $\alpha =. 86$. The scores

on these eight items were averaged to generate a single PSR score. A higher score indicated stronger PSR with the *Arthur* character.

Empathy.

To measure empathy 12 items from two scales were adapted for use. Eight items were taken from the empathy component of the Bryant Empathy Scale for Children (Bryant, 1982). The Bryant Empathy Scale is designed to provide a simple one-dimensional measure of empathy. Sample items include "I *get upset when I see a child being hurt*" and "*When I see someone being teased, I feel sorry for them*".

Four items from the Feeling and Thinking Scale (Garton & Gringart, 2005) were also adapted for the ACES empathy subscale. The Feeling and Thinking scale is a developmentally-appropriate version of the Interpersonal Reactivity Index (Davis. 1980). This scale is designed to measure constructs of empathy including perspective taking and empathetic concern. Items selected represent two factors of empathy, cognitive empathy and affective empathy. Sample items included "*I get worried and upset when I see someone who needs help*" and "*I want to help people who are treated badly.*" The Cronbach's alpha for the ACES empathy subscale was, $\alpha =. 90$. The scores of the adapted items of the ACES empathy subscale were averaged to generate a single empathy score. A higher score indicated higher levels of empathy.

Case Study Measures

A case study using qualitative data from selected transcripts of peer dyad dialogue recorded during the IGN session of the intervention was conducted to investigate the second research question. Transcripts of the selected dyads were coded for three

components of empathy that have been identified in the literature; (1) the ability to take

another's perspective, (2) the ability to label affect, and (3) the ability to experience the

emotions of others (Hoffman, 1984;). These codes were developed and refined as part of

the larger AIMS project. The full codebook used within the AIMS project is available in

Appendix C. These core components of empathy have been linked to the development of

character related behavior in previous studies (Eisenberg & Miller, 1987). Table 2

provides definitions and examples of each code used to assess the category of empathy

within this study.

Table 2. Definitions and examples of codes used to assess empathy in qualitative analysis.

Code Name	Definition	Example
Labeling Affect	Response reflect emotions being identified or named	*"I think Sue Ellen feels mad."*
Perspective Taking	Response reflects ability to take the points of views of others	*"I think he thinks it's not funny anymore. He stops laughing a couple more after."*
Empathetic Concern	Responses reflect that participants are emotionally connected to a character	*"I think she should go away from Arthur. Arthur's starting to be pretty mean."*

Ongoing discussion among IARYD researchers was conducted to refine the codes

to most appropriately describe the data. The dyads selected for qualitative analysis

within this study served as the training dyads for coding within the larger AIMS study.

These dyads were coded across several group meetings until consensus on the codes

applied was reached among the group.

Analysis

Quantitative Data Analysis

Prior to analysis the data was checked for correctness including patterns of missing data that may have skewed the results of statistical analysis. To assess the relationship between PSR and empathy, a composite score of each subscale was created by averaging the items of the two subscales, creating a separate score for both PSR and empathy.

Case Study Analysis

Transcripts of recorded dyads were selected for case study analysis based on the average composite PSR score of each dyad. Due to the limited number of items on the PSR scale only peer dyads with complete responses on the PSR scale of the survey were included. Of the remaining dyads, the dyad with the highest average PSR score and the dyad with the lowest average PSR score were chosen for qualitative analysis. The reward to this 'extreme' approach of case study research, including use of opposite or outlier status, is the ability to highlight the most unusual variations of the phenomena under investigation (Jahnukainen, 2010).

Frequency of codes within the empathy coding category were calculated for the two selected peer dyads. The collective frequency of empathy related dialogue (i.e. perspective taking, labeling affect, and empathetic concern) was calculated as a percentage of the total number of coding opportunities present within the IGN. Thirty coding opportunities were identified and the percentage of empathy related dialogue was calculated by dividing the number of times an empathy code was present by the number of coding opportunities (30). As noted by Sandelowski (2001), calculating percentages is

one helpful tool for identifying possible patterns in qualitative data and developing new questions.

Results

Quantitative Results

Correlational analysis was conducted to assess whether the demographic characteristics of age, gender, and school attended were related to the study variables in ways that might call for splitting the sample. Age was measured by buddy status. No relationship was found for school attended, however, age (r = .14, p < .05) and gender (r = -.15, p < .05) did weakly but significantly correlate with empathy. As such, the sample was split by age and gender for the quantitative analysis. Table 3 provides a summary of the means, standard deviations, and correlation coefficients of the four groups.

Table 3. Means, standard deviations and correlation coefficients of empathy and PSR for male and female Little Buddy and Big Buddy participants.

Participants	PSR (M,SD)	Empathy (M, SD)	r=	.p
Females (*n*=110)				
Little Buddy	(3.27, 1.03) *n*=57	(4.13, .60) *n*=56	.24	.08
Big Buddy	(2.94, .96) *n*=52	(4.26, .63) *n*=50	.37*	.009
Males (*n*=93)				
Little Buddy	(3.07, 1.13) *n*=37	(3.68, .95) *n*=37	.43*	.008
Big Buddy	(2.93, 1.04) *n*=55	(4.07, .76) *n*=56	.41*	.002

Note. *p<.01. *Little Buddy participants included first and second graders. Big Buddy participants included fourth and fifth graders. PSR=Parasocial Relationship*

Overall descriptive analysis of PSR scores revealed 'Big Buddies' (M=2.93, SD=1.01) had a lower mean PSR than 'Little Buddies' (M=3.19, SD=1.07). Females (M=3.12, SD=1.01) had a greater mean PSR than males (M=2.98, SD=1.08). Female 'Little Buddies' had the highest mean PSR (M=3.27, SD=1.03). Male 'Big Buddies' had the lowest mean PSR (M=2.93, SD=1.04) however this difference was only slightly lower than the mean PSR for female 'Big Buddies' (M=2.94, SD=.98). These findings are consistent with previous studies which found younger children form stronger attachments than older children and that girls generally develop stronger attachments than boys (Hoffner, 1996, 2007).

Descriptive analysis of empathy scores revealed 'Big Buddies' (M=4.16, SD=.70) had a higher mean empathy score than 'Little Buddies' (M=3.95, SD=.79). Females overall (M=4.19, SD=.61) had a higher mean empathy score than males (M=3.91, SD=.86). Female 'Big Buddies' has the highest mean empathy score (M=4.26, SD=.63), while male 'Little Buddies' had the lowest mean empathy score (M=3.68, SD=.95).

The first research question of this study queried whether participants' PSR scores were associated with empathy scores. Correlational analysis indicated a significant association between PSR and empathy in male 'Big Buddy' participants (r =.41, p < .01), male 'Little Buddy' participants (r =.43, p < .01), and female 'Big Buddy' participants (r =.37, p <. 01). No significant association was found between empathy and PSR for female 'Little Buddy' participants. These findings did support the first research hypothesis that PSR scores and empathy scores are associated, however, these findings suggest this association is not consistent across all children. Additional variables, including child age and gender may influence the association between PSR and empathy.

Case Study Results

Of 203 participants that completed the ACES survey, within the selected sample there was corresponding video recorded data for 17 dyads. Of those 17 dyads, nine dyads met the eligibility criteria for case study analysis. Seven dyads were discarded due to lack of full response rate on the PSR subscale and one dyad was discarded due to consent issues. Of the remaining nine dyads, the average PSR score of the each dyad was calculated using the composite PSR for the 'Little Buddy' and 'Big Buddy' of each dyad. The dyad with the highest PSR score and the dyad with the lowest PSR score were selected for further analysis. The following provides a descriptive summary of the results of each buddy within the two selected dyads as well as results from the analysis of the frequency empathy related dialogue within each dyad.

High PSR Dyad

The dyad with the highest average PSR score (M= 4.69, SD=.27) included two female participants. As expected the mean empathy scores for both the 'Little Buddy' (M=4.25) and the 'Big Buddy' (M=5) of the high PSR dyad were higher than the average score of the overall sample.

To determine if the scores on PSR and empathy of the participants of the high PSR dyad differed significantly from the overall sample, a Mahalanobis distance statistic was calculated. The Mahalanobis distance can be used to determine outliers of a sample that is not normally distributed. Contrary to the hypothesis of the second research question, both the 'Little Buddy' (χ^2 (2, *n*=93) = 1.47, p=.48) and 'Big Buddy' (χ^2 (2, *n*=105) = 3.93, p=.14) did not differ significantly from the sample (χ^2 cut off = 5.99).

Analysis of the frequency of empathy related dialogue found the high PSR dyad had empathy relevant discussion during interaction with the IGN forty percent (40%) of the time. Out of 30 coding opportunities, 12 coding opportunities featured dialogue relevant to the concept of empathy.

Low PSR Dyad

The dyad with the lowest average PSR score (M= 1.17, SD=1.07) included of two male participants. The mean PSR score of the 'Little Buddy' was (M=1.88) and the mean PSR score of the 'Big Buddy' was (M=1.63). Interestingly, the mean empathy scores for both the 'Little Buddy' (M=5) and the 'Big Buddy' (M=4.5) of the low PSR dyad were higher than the average score of the overall sample.

To determine if the scores on PSR and empathy of the participants of the low PSR dyad differed significantly from the sample, a Mahalanobis distance statistic was calculated. Both the male 'Little Buddy' (χ^2 (2, n=93) = 4.92, p=.09) and male 'Big Buddy' (χ^2 (2, n=105) = 2.23, p=.33) did not differ significantly from the sample (χ^2 cut off = 5.99).

Analysis of the frequency of empathy related dialogue found the low PSR dyad had empathy relevant discussion during interaction with the IGN forty-three percent (43%) of the time. Out of 30 coding opportunities, 13 coding opportunities featured dialogue relevant to the concept of empathy.

Contrary to the hypothesis of the second research question, higher PSR scores were not associated with greater frequency of empathy dialogue between peer dyads. However, the difference in frequency of empathy related dialogue between these two

dyads was slight, with the low PSR dyad exceeding the high PSR dyad by only one

coding opportunity or three percent (3%) of the time.

However, review of the dialogue between peers within each dyad revealed a

noticeable difference in the style of interaction between these two dyads not revealed

within the empathy coding analysis. While the interaction between the peers of the high

PSR dyad included exchange of feedback about the IGN story, the interaction between

the peers of the low PSR dyad was characterized by more question and answer style

engagement led exclusively by the 'Big Buddy'. To demonstrate this difference, Table 4

provides a sample of excerpts taken from each transcript at the same point in the IGN.

Table 4. Sample dialogue excerpts from transcripts of High PSR dyad and Low PSR dyad.

Scene in IGN	High PSR Dyad	Low PSR Dyad
Scene 2 Questions	BB: How do you think he is acting towards her? LB: I think he's acting to her like she's a puppy, but she's not a puppy. See, Arthur thinks she's a dog- he's treating her like a dog. BB: He's acting like it. LB: She's not a dog. She's a person, not a dog. BB: I know.	BB: What is he acting like she is? LB: A real dog. He's trying to humiliate her. BB: Do you think she's mad right now or… LB: Yeah. BB: She's joking around? LB: She's mad right now.
Scene 3 Question 3	BB: What will Buster think about the picture? What do you think? LB: I think he won't laugh, and he'll do something to Arthur. BB: Like? LB: Do it to him.	BB: What would Buster think about the picture? LB: He's feel about the picture that that's not funny anymore BB: That he needs to stop? LB: Yeah
Scene 7 Question 4	BB: What would you tell Buster to do?	BB: What can you tell Buster to do?

	LB: I would tell Buster to tell him not to do that anymore and stop. BB: Maybe I would tell Buster to say – to tell Buster to take the letter from Sue Ellen and then to go show the letter to Mr. Ratburn, their teacher.	LB: To stand up to Arthur and really tell him to write a good apology letter. BB: You think he's gonna do that? LB: um, yeah, but -

Note. LB = 'Little Buddy', BB = 'Big Buddy';

These examples help elucidate differences in peer interactions between the two dyads not revealed by the empathy coding analysis. These differences include the 'Big Buddy' responses to 'Little Buddy' comments (questions versus elaboration), the use of open-ended versus close-ended questions, and use of character names over pronouns. The interaction within the high PSR dyad featured a give and take between the two participants in which each participant both asked questions, answered questions and made declarative statements regarding the content of the IGN. On the other hand the low PSR dyad consisted mainly of questions directed to the 'Little Buddy'. Limited cross discussion about the IGN content occurred within the low PSR dyad.

Discussion

Review of the empirical literature on children's PSR with media characters suggests familiar media characters may play a role in the development of children's food preferences, comprehension and learning of new material. The purpose of the present research study was to explore the potential for a relationship between children's PSR with a prosocial media character and measures of empathy in elementary school aged children. The findings of the present study integrated quantitative and qualitative data to

explore these two concepts. Discussion of the findings of each analysis will be presented followed by a synthesis of the combined results.

Quantitative Results: ACES Survey

The correlational analysis of PRS and empathy in a sample of participants within the AIMS project suggested a relationship may exist between children's PSR with a prosocial character and measures of empathy. A positive association between PSR and empathy was found in older male participants, younger male participants, and older female participants. However, no relationship was found between PSR with the *Arthur* television series and empathy for younger female participants.

According to the literature girls, unlike boys, are more likely to develop PSR with characters of both genders. Furthermore, girls have been found to generally develop stronger PSR than boys (Hoffner, 1996, 2007). Gender differences in PSR may have been reflected in the analysis of the present study. The gender of the main character of the *Arthur* television series and thus the IGN piloted in the present study may have influenced the development of PSR differently between male and female participants. Although the IGN featured characters of both genders, more male characters were featured in the story and the lead role of the IGN story was a male character. The disparity of female lead roles in media has long been a topic of controversy in the entertainment industry and may hold significant importance for children, especially children developing in a media saturated environment (Hoffner, 1996, 2007). Future studies on PSR in children should consider investigating the relationship between empathy and PSR of a children's series that features a leading female character.

Studies investigating empathy have suggested similar differences between genders (Eisenberg & Lennon, 1983). In a study of six and seven year-olds, researchers found the similarity between the gender of the participant and the gender of the characters used in a narrative stimulus intended to invoke empathy influence the results. Children interviewed by same-sex researchers also tended to score higher on measures of empathy than when interviewed by opposite-sex researchers (Feshbach & Roe, 1968). However, additional research has also suggested gender differences in empathy are inconsistent and may be a function of the method of measurement used (Eisenberg & Lennon, 1983). The impact of the IGN's focus on a male character should be considered when interpreting the results of the present study. While the effects of a character's gender on the development of PSR have been investigated, future studies should also consider further investigating the role of character gender in relation to children's PSR and empathy related behaviors.

In the present study gender differences in PSR and empathy could explain a significant correlation between PSR and empathy in male and female participants, but it does not explain why a significant association between PSR and empathy was found in older female participants. In children and adults alike, media exposure and accompanying PSI responses has been suggested to influence the development of PSR (Bond & Calvert, 2014; Klimmt, Hartmann & Schramm, 2006). Differences in exposure to the IGN between older participants and younger participants in the present study may have influenced the findings. A significant association in older participants may be due to differences in exposure to the IGN and thus the media characters depicted. 'Big Buddies' had two opportunities to interact with the IGN; once to become familiar with the IGN before meeting their respective 'Little Buddy' and again with their 'Little

Buddy' during the second session of the curriculum. 'Little Buddies' on the other hand, only interacted with the IGN once. What about sample size?

The ubiquitous nature of today's media environment makes controlling for exposure to a popular children's media character difficult. Future studies should carefully consider variances in media exposure between participants. Measurement of exposure should also consider children's involvement with consumer products featuring popular media characters such as toys, household goods, and apparel as this form of character exposure has also been suggested to influence the development of PSR (Bond & Calvert, 2014).

It is also important to consider the implications of the correlational nature of the present study. While these findings indicate a relationship between PSR with the *Arthur* television series and empathy in some children, the direction of this relationship is unclear. Future experimental studies should consider investigating the nature of this relationship as this information has important implications for the use of PSR in promoting positive development in youth. If PSR predicts empathy, PSR may influence empathy in ways similar to real social relationships. However, if empathy predicts PSR, the impact of narrative based interventions intended to promote character development may be more effective for individuals that demonstrate higher levels versus lower levels of empathy.

Qualitative Results: Frequency of Empathy Related Peer Discussion

The qualitative analysis of the present study selected two dyads on opposing ends of the range of average peer dyad PSR scores. The two selected dyads were coded for

empathy related dialogue and the frequency of empathy related dialogue during interaction with the IGN was then calculated.

Results of the qualitative analysis were contrary to the hypothesis of the second research question which suggested a peer dyad with high PSR for the *Arthur* television series would have greater frequency of empathy related dialogue than a peer dyad with low PSR. The low PSR dyad in the qualitative analysis had a greater frequency of empathy related dialogue than the high PSR dyad. However the difference between the two selected dyads was minor varying by only one code, equal to three percent (3%) of the overall discussion.

Several influencing factors could help explain these results. Previous research on children's attention and engagement to narrative information found that children invest less time in material that is highly comprehensible (Bickham, Wright & Huston, 2001). In other words, children that already knew the plot of the story featured in the IGN may have attended less to the narrative. It is not unlikely that participants that scored higher on the measures of PSR with the *Arthur* television show may have previously seen the *Arthur* episode the IGN was based on and thus were more familiar with the plot of the IGN than participants with lower PSR scores. This difference may have been reflected in the dialogue between the pairs.

Results of the qualitative analysis may have also been influenced by differences in the distribution of control over interactions with the IGN between the selected peer dyads. In a study in which children were exposed to a computer-based story that varied in the amount of control children had over the visual and verbal content, children who controlled the story demonstrated more attention and involvement than those who

watched an adult control the story (Calvert, Strong & Gallagher, 2005). Differences in

how 'Little Buddies' and 'Big Buddies' shared control over interaction with the IGN (e.g.

use of mouse to make selections within the IGN) may have influenced individual

attention and involvement, including the frequency of peer empathy related dialogue.

The low PSR dyad may have more equally distributed control of the IGN thus

influencing attention and involvement with the IGN content.

Considering PSR is theorized to be influenced by PSI responses which is a type of

engagement with media (Hartmann & Kilmmt, 2005; Hartmann et al 2004; Klimmt et

al 2006) differences in control between the selected dyads may have influenced the

qualitative results of this study. Interestingly, the study by Calvert, Strong and Gallagher

(2005) found control did not have an effect on children's memory of visual or verbal

content. Future studies on interactive media should include within their design methods

to evaluate the distribution of control between individuals jointly engaged with a media

product to further elucidate the nature and influences of different media interaction styles

among multiple users.

Findings from the case study analysis also indicate differences in PSR may be

reflected in the interaction and discussion among individuals jointly engaged with an

interactive media product. These findings suggest differences in media affects between

children may be better investigated using behavioral or observational methods rather than

traditional assessment measures used in the study of media affects on adults. Future

research should develop and investigate the feasibility of such measures in the study of

child media use.

Synthesis of Quantitative and Qualitative Results

Alone the quantitative and qualitative results of the present study suggest contradictory conclusions. However integration of both methods of analysis revealed important findings about the nature of PSR and empathy in young children. Results of the quantitative analysis revealed a positive association between PSR and empathy in both younger and older male participants as well as older female participants. Interestingly, the low PSR dyad consisted of two male participants. Contrary to the hypothesis of the qualitative analysis the low dyad had a greater frequency of empathy related dialogue. The finding that a dyad of two male participants had greater empathy related dialogue than two female participants appears consistent with the findings of the quantitative analysis. Without integration of the results of the quantitative analysis, the qualitative findings would clearly be of less significance.

Study Limitations

All research occurs within specific limitations, the present study not withstanding. Several limitations of the study design should be consider. First, the present study did not account for differences in native language or reading ability between participants. School population data from the present study indicated twenty-five percent (25%) of the sample population spoke English as a second language. Although, steps were taken to avoid issues due to variances in individual reading ability, such as including audio prompts in the IGN and completing the survey with assistance of a teacher or older peer, differences in comprehension could have influenced the results. Furthermore, limited information was collected from participants on additional factors that have been suggested by the literature to influence PSR including level of prior exposure to the

television series *Arthur*, general levels of media use, engagement with *Arthur* related toys, and parental encouragement of viewing *Arthur* (Bond & Calvert, 2014; Klimmt, Hartmann & Scrahmm, 2006, Lauricella, Howard Gola & Calvert, 2011). Finally, the exploratory nature of this study investigated a small sample size selected from a limited population of children. While the results indicate an association between PSR and empathy for some children, these results cannot be generalized to the overall population.

In addition to limitations due to the design of this study, various conceptual and measurement issues with both variables, PSR and empathy, present important limitations that should be considered when reviewing the results of the present study. Attention to issues in the measurement of empathy in children is apparent from the literature on the subject (Eisenberg & Miller, 1987). Specific to the present study are issues with the use of self-report indices of empathy in children. As with all self-report measures social desirability bias is of high concern. In addition, the use of self-report measures to assess empathy in young children has been criticized due to children's difficulty in accurately communicating their emotional states, an ability that develops with age (Eisenberg & Fabes, 1990).

The study of PSR in children is a nascent field and likewise encounters similar conceptual issues. The most notable concern is the distinction between PSI and PSR. The failure of earlier studies to distinguish between these two concepts has stalled further research about parasocial phenomenon in both adults and children. While this study integrates theory that defines these two concepts as distinct, the most appropriate methodological approach to measuring PSI and PSR is still unclear.

A final limitation of this study to consider is the possible influence of the interactive format of the IGN used in this study. To date, studies investigating the concept of PSR have focused almost exclusively on the medium of television. Some studies that have focuse on PSR in adults have also investigated video games. To date no studies investigating children's PSR have focused on contemporary forms of interactive media like interactive stories. Children, like adults, use interactivity to bolster relationships in the real world as well as with media characters (Bond & Calvert, 2014). Studies have shown children who physically or verbally interact when prompted by a television character are more likely to understand key story content (Calvert, Strong, Jacobs & Conger, 2007). However differences in the nature of user interaction between television and contemporary forms of media, such as the IGN piloted in this study, may have influenced parasocial responses in ways that differ from passive forms of media use. Furthermore the influence of joint-media engagement coupled with differences between peer scaffolding styles between older and younger participants may have played a role. It is important for future research to address the differences between traditional forms of media use that have been the subject of previous research on children's PSR and the more contemporary forms of interactive media use.

Conclusions

From the present study the following conclusions can be drawn. First, the focus of future research must address issues with the conceptual definitions and related measures intended to assess concepts of media use such as PSR. Special attention should be given to operationalize the definitions of concepts of interest. Of related importance is the method of assessment used to measure such concepts. This is especially important

when addressing the study of children. Limitations due to comprehension and verbal ability in children are a concern when implementing interview and self-report measures. Behavioral and observational assessments offer a probable alternative to more traditional methods of assessment such as paper and pencil surveys. The transfer of traditional methodological approaches to more contemporary fields of inquiry such as the study of media and human development have also been criticized for being an inappropriate approach for fully assessing the effects of these complex interactions.

Similarly, changes in the way individuals use media calls for a reconceptualization of how researchers measure media use and its effects. Media and technology use have commonly been viewed as activities conducted in isolation. However, future measurement in the field of media must step away from this stereotype to develop measures that also address the full spectrum of media use including co-viewing and joint media engagement. The need to develop new measures is important in order to better understand not only nuances in traditional media use but also the use of interactive media. Developing appropriate measures to address interactive media can help researchers and practitioners optimize children's media use in developmentally appropriate ways.

In addition, future research in children's media use must consider the influence of varying factors within the context of media and its use. This includes both factors related to the individual media consumer but also the media consumed. Future research must aim to assess the differences associated with gender, age, and frequency of media use. Differences in the characteristics of media must also be considered. This includes the content of media consumed as well as the nature of the interaction between consumer and

media. The rise of interactive forms of media and new approaches to media use such as joint media engagement are two examples of how the study of media use among children and adults alike must strive to define and understand the different contexts of media use.

The introduction of interactive media is still in its infancy and will no doubt continue to evolve as new technologies and uses of media develop. The use of interactive technology and its affect on child development are yet to be fully understood. Perhaps it is the mere novelty of contemporary media that has the greatest affect. Overtime familiarity with interactive media may change the ways in which it influences in the lives of developing children. To the same extent media researchers must also closely examine the role iconic children's media characters may play during child development and across the lifespan, especially their ability to promote PSI and PSR. By examining how different contexts of media use promote development within different individuals the field of child media research and production and progress towards understanding what approaches works best and for whom.

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Appendix A IGN Screen Shots

Hello There!
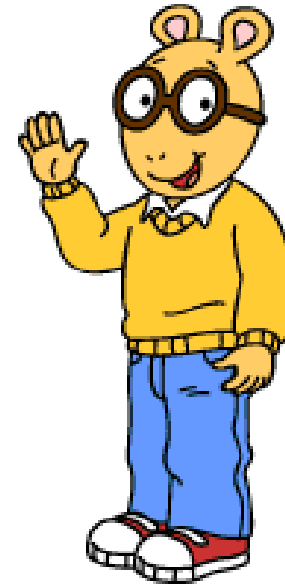
Today's Date: _____

My Birthday is: _____

My School is: _____

My Teacher is: _____

I am a: ☐ Boy ☐ Girl

These are some questions about what <u>you</u> think and what <u>you</u> are like. What's great is that there are **no wrong answers! Whatever you think is just fine.**

Please read each question carefully and put a circle around the words that are most like you.

If you don't know an answer, that's okay. You can circle "I don't know" on the other side of the bold line below. Please ask for help if you don't know what a word means.

Let's try some practice questions.

IS THIS LIKE YOU?						
1. I like ice cream.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
2. I like to clean my room.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know

IS THIS LIKE YOU?						
1. I am happy.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
2. I smile a lot.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
3. I am cheerful.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
4. I am kind to other kids.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
5. I say nice things about other people.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know

Is this like you?						I don't know
1. When I want something, I try different ways to get it.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
2. I can ask for help from others.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
3. When I am having trouble, I ask for help.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
4. I am good at making plans.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
5. I am a hard worker.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know

Is this like you?

1. When my friends are upset, I try to make them feel better.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
2. I'm nice to other kids without being told.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
3. I like to play with kids who are different from me.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
4. I am friendly to new kids.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
5. I like to share with my friends.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know

IS THIS LIKE YOU?						
1. I can be counted on to tell the truth.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
2. If I borrow something, I'll return it.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
3. Other people can trust me.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
4. I tell the truth, even when it isn't easy.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
5. I take responsibility when I make a mistake.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
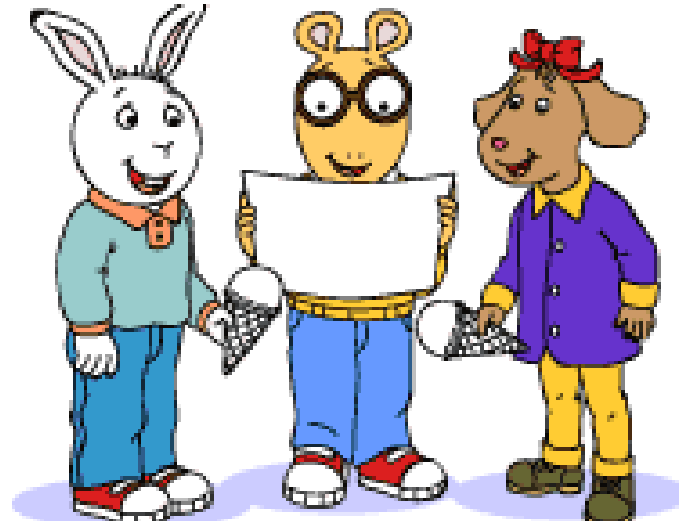
IS THIS LIKE YOU?						
1. I help others.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
2. When someone is sad, I try to make them feel better.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
3. I offer help, even if someone doesn't ask me.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
4. I help people in my family.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
5. I help my friends.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
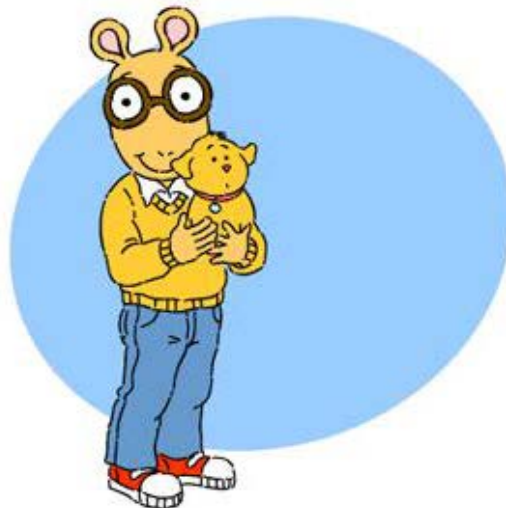
IS THIS LIKE YOU?

1. I like sharing my things with other people.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
2. I give things to people who need them.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
3. I do extra things to help my friends and family.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
4. It makes me happy to give to my friends.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
5. I tell my family how much I love them.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know

Is this like you?						
1. I get sad when I see another child who can't find anyone to play with.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
2. I get upset when I see another child being hurt.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
3. Sometimes I cry when I watch TV or a movie.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
4. When I see someone being teased, I feel sorry for them.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
5. I feel sorry for people who don't have things I have.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know

Is this like you?						
1. I feel sad when other children are upset.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
2. Seeing another child who is crying makes me feel like crying.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
3. I feel sorry for other children who are sad or in trouble.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
4. I stay upset with others who have hurt me.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
5. When my friends or family are sad, I am extra nice to them.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know

IS THIS LIKE YOU?						
1. I get worried and upset when I see someone who needs help.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
2. When reading a story, I imagine what the people in the story are thinking.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
3. I think about other people's feelings before I say mean things.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
4. I feel like the characters from a TV show or book are like people in my own life.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
5. I think that I am like one of the characters on a TV show or in a book.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
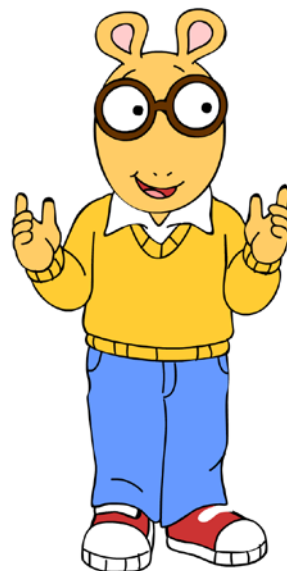
Is THIS LIKE YOU?						
1. I want to help people who are treated badly.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
2. I have ideas about how to make things better.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
3. I feel connected to other people.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
4. I feel loved.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
5. I feel love for others.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know

IS THIS LIKE YOU?						
1. I want to make the world a better place to live in.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
2. I think all people should be treated fairly.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
3. I help children I don't know at my school.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
4. I think everyone should take care of the earth.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
5. I believe everyone should take care of each other.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
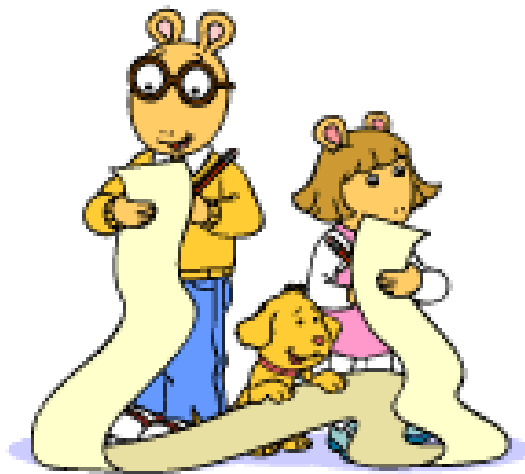
Is this like you?						
1. I have many wild ideas.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
2. I get excited by my new ideas.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
3. I come up with ideas to solve problems.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
4. Friends ask me to help them solve problems.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
5. I have ideas about new inventions.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know

Is this like you?						
1. I get mad when I lose.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
2. I get mad when other kids are rewarded and I am not.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
3. I feel good when others ask for my help.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
4. I am a "good" winner.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know

Is THIS LIKE YOU?						
1. I watch the Arthur TV show.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
2. I read Arthur books.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
3. I knew about Arthur before these activities.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
4. I look forward to watching Arthur on TV.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
5. I like to do the things that Arthur and his friends do.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
6. I wish I could be more like Arthur and his friends.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know

WHAT WOULD YOU DO IF YOUR FRIEND WAS MEAN TO YOU?						
"IF MY FRIEND WAS MEAN TO ME…"						
1. I would forgive them if they showed that they were sorry.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
2. It would be easy for me to forgive them.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
3. It would be hard for me to let go of my anger.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
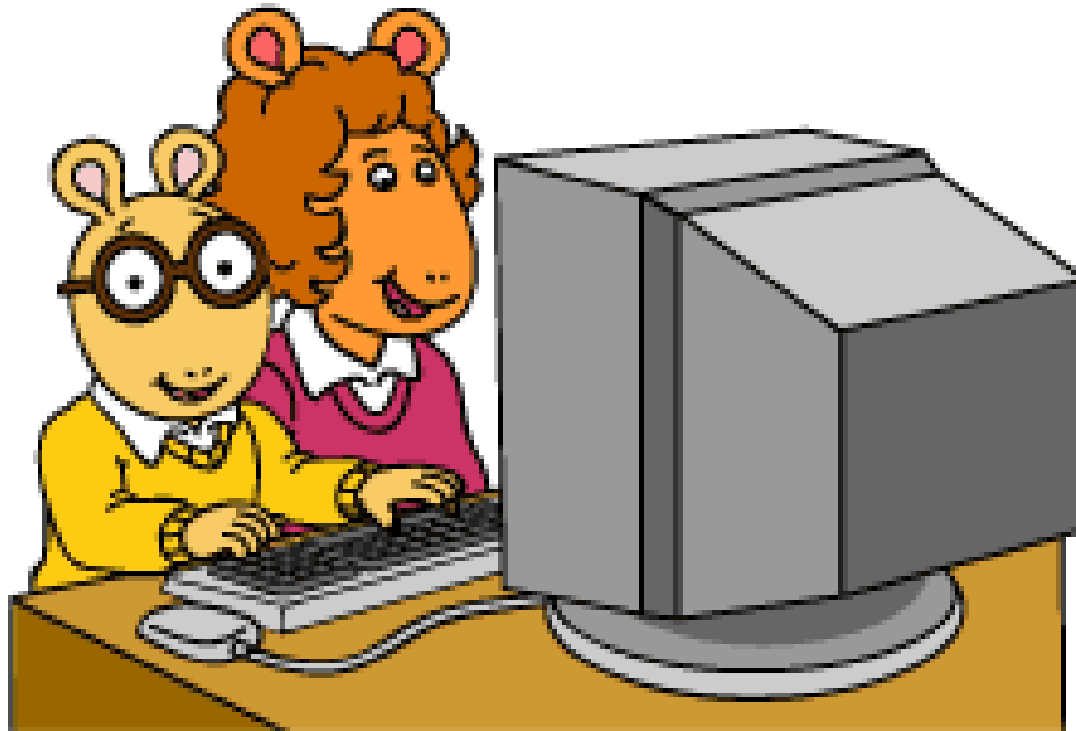
THINK ABOUT YOUR FUTURE. WHAT WILL YOUR LIFE BE LIKE WHEN YOU GROW UP? "WHEN I GROW UP…"						
1. I will be healthy.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
2. I will have a happy family.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know
3. People will think I am a good person.	Not at all	A little bit	Kind of	A lot	Exactly	I don't know

You finished!
Thank you!
☺

Central Themes in Children's Interactions in Arthur IGN "So Funny I Forgot to Laugh"

Introduction: This coding system is designed to assess youth participants' responses to questions and situations presented as part of the Arthur IGN novel "So Funny I Forgot to Laugh" for language reflective of eight character virtues – creativity, forgiveness, future mindedness, generosity, honesty, humility, joy, and love.

Outline of this Manual:

1. Conceptual Definitions of Virtues
2. Content coding
3. Unit of analysis ("what constitutes a statement")
4. Assignment of codes within a written statement
5. Overview of POTENTIAL Content Codes

1. Conceptual Definitions of the Virtues

These definitions are the ones we provided at JTF's request. These are not the exhaustive definitions, and our definitions have changed somewhat since these initial conceptions. However, these definitions provide an appropriate foundation for coding

Creativity. Creativity involves the production of original, useful, and appropriate solutions to problems of relatively high complexity (Besemer & O'Quin, 1999; Lubart, 2001; Runco & Jaeger, 2012). Creativity involves divergent thinking – the capacity to generate multiple alternative solutions as opposed to the one correct solution (e.g., Christensen, Guilford, & Wilson, 1957). Divergent thinking can be assessed for fluency (number of responses), flexibility (category shifts in responses), originality (uniqueness of response), and elaboration (refinement of responses) (e.g., Mumford, Marks, Connelly, Zaccaro, & Johnson, 1998; Sternberg & O'Hara, 1999).

Forgiveness. Forgiveness refers to one's willingness to release resentment and retaliation toward those who may have caused one harm (Hargrave, 1994), restoring relationship trust and healing inner emotional wounds (DiBlasio & Proctor, 1993).

Future mindedness. Future mindedness has components that are cognitive (e.g., the extent to which one thinks about the future), attitudinal (e.g., the extent to which one prefers long-term,
as opposed to short-term, goals), and motivational (e.g., the extent to which one formulates plans to achieve long-term goals). The mostly widely used model of future orientation (Steinberg et al., 2009) has three components: time perspective, anticipation of future consequences, and planning ahead.

Generosity. Generosity concerns the extent to which individuals share their time (e.g., through uncompensated behavioral or emotional investments), money, and possessions. Generous people are willing to give away or share their possessions and money, and they

make life choices that help other people even if their own personal well-being (e.g., financial resources) is diminished (Kasser, 2005).

Honesty. Peterson and Seligman (2004) define honesty as a core virtue of character and involves "speaking the truth and presenting oneself in a genuine way." Honesty entails being genuine, sincere, and willing to take responsibility for one's actions.

Humility. Davis, Worthington, and Hook (2010) define humility as being composed of the following four elements: "(1) other-orientedness in one's relationships with others, rather than selfishness; (2) the tendency to express positive other oriented emotions in one's relationships (e.g., empathy, compassion, sympathy, and love); (3) the ability to regulate self-oriented emotions, such as pride or excitement about one's accomplishments, in socially acceptable ways; and (4) having an accurate view of self" (p. 248).

Joy. Joy is defined within the tradition of subjective well-being (Deci & Ryan, 2008; Diener, 1984; Keyes, Shmotkin, & Ryff, 2002). Operationally, subjective well-being is most often interpreted to mean experiencing a high level of positive affect, a low level of negative affect, and a high degree of satisfaction with one's situation or life.

Love. Love involves an individual wishing each and all (i.e., all people and the whole of humanity) to have freedom and joy and, in turn, for each and all to be relieved of their pain and suffering (Warren, 2009).

2. Content Coding

The goal of this coding system is to assess the substance of participating dyads' conversations in response to questions and situations presented via a digital comic book story and to assign codes based on the information and ideas participants express in their comments. This approach differs from global approaches to free-response coding since only the *content* of participants' written statements will be assessed, and the social and emotional context of the statements will not be examined (This component will be included another coding manual). Therefore, the current approach focuses primarily on *what* information/ideas the participant writes.

The main assumption in this methodological approach is that participants' spoken responses reflect their beliefs, conceptualizations, *or* thinking about what is occurring in the story. Thus, the present system is designed to assess how children think about the characters, the situations presented, and their own experiences with similar situations.

3. Unit of analysis: What Constitutes a Statement?

Participants were asked to respond to the following 4 sets of 4 questions:

Scene 1 Question 1 Why do you think Arthur made the dog jokes? How do you know?

Scene 1 Question 2 Do you think Sue Ellen was upset? How do you know?
Scene 1 Question 3 Did Buster like the jokes? How do you know?
Scene 1 Question 4 Do you think Arthur will keep making dog jokes? Why do you think that?

Scene 2 Question 1 Why does Arthur keep making dog jokes?
Scene 2 Question 2 How does Sue Ellen feel about the jokes? How do you know?
Scene 2 Question 3 How does Buster feel about the jokes now?
Scene 2 Question 4 What would you tell Arthur to do? Why?

Scene 3 Question 1 Why do you think Arthur made that picture?
Scene 3 Question 2 How do you think Sue Ellen felt when she found the picture?
Scene 3 Question 3 What do you think Buster will think about the picture?
Scene 3 Question 4 What are some things Sue Ellen could do to stop Arthur's teasing?

Scene 4 Question 1 Why do you think Arthur wrote his letter like that?
Scene 4 Question 2 How do you think Sue Ellen felt when she read the letter?
Scene 4 Question 3 Will Buster think that Arthur's letter was a good apology letter? Why?
Scene 4 Question 4 Is there anything you could tell Buster to do? Why?

There are also 9 scenes that compose the story
Scene 1: At Lockers
Scene 2: Cafeteria 1
Scene 3: Sheepdog Appreciation Day Picture on Locker
Scene 4: With Mr. Ratburn
Scene 5: At the Sugar Bowl
Scene 6: Home with Letter
Scene 7: Playground Reading Letter
Scene 8: Silent Treatment in Cafeteria
Scene 9: Outside of School

The story ends with 3 possible story endings presented.

Ending _1 "What should _____ do? Make a choice and see what happens."

Each story ending is followed by a question (Total of 3).

Ending _2 "Do you think _____ made a good decision? Why?" Let's see what else _____ could have done. Click to go back to the Choices."
Ending _3 "Do you think _____ made a good decision? Why?" Let's what else _____ could have done. Click to go back to the Choices."
Ending _4 "Now that you have seen what happened because of Arthur's decision, which decision do you think was the best? Why?"

Dyads from earlier testing answered 4 wrap up questions at the end of the comic from an early version of the IGN:

Wrap Up _1 Is it important to apologize to someone else if you hurt THEIR feelings? Why?
Wrap Up _2 Is it hard to forgive someone if they hurt YOUR feelings? Why?
Wrap Up _3 How would you FEEL if your friend was BEING BULLIED?
Wrap Up _4 How would you FEEL if your friend was BEING A BULLY?

Adding these possible response opportunities gives us **36**. Therefore you will code each of these 36 statements for evidence of the character virtues.   This can be done on copies of the transcripts, but you must then input this information into an excel spreadsheet (See the template. Save each Dyad as a new spreadsheet).

There is a large amount of heterogeneity in the responses provided by participants because researchers have less control over how participants choose to interpret a given topic/question *and* researchers are also unable to interject to allow participants an opportunity to explain ambiguous statements. Thus, the fact that participants vary in the amount of "codable" material presented must be taken into consideration (as exemplified by the variety of *potential* themes/codes outlined in section 4). This variability will also be evident in the excel spreadsheets as some spreadsheets will be 100s of rows in length versus ones that may just be 36 rows in length.

4. Assignment of codes within a spoken statement

After reading each response opportunity, coders will assess whether the statements contains any codable material, that is, whether or not the participants expressed any relevant information about the character virtues within the statement. Three rules apply:

A. Some statements will contain no codable material (i.e., placed in "Random" category).
B. The member of the dyad (Little Buddy or Big Buddy) made the statement must be recorded.
C. Individuals can be assigned multiple codes within a given response.

5. Overview of POTENTIAL Content Codes

The exact types of content that will be coded within each statement are discussed in the following "Themes/Potential Codes Description" table.

Themes/Potential Codes Descriptions

	Code Category	**Description**	**Example**
1a.	I don't know/no response	Participants do not respond or say "I don't know…"	
1b.	Random	Includes "uncodable" answers OR answers that do not fit in a previous category. Answers that do not fit in a previous category may be used to create new, additional categories for future waves of coding.	
		Creativity	
2a.	Multiple solutions	Responses in this category reflect that respondent generated multiple ideas/solutions to situation	
2b.	Novelty	Participant's response was novel/unique. No one else responded in a similar manner	
2c.	Excitement	Responses reflect excitement with ideas that are produced	
		Forgiveness	
3a.	Say Sorry	Responses in this category include phrase "say sorry" or apologize	
3b.	Importance of apologizing	Responses in this category indicate importance of apologizing	Dyad 9 *Little Buddy:* I think the best choice was the last one because he should say sorry. *Big Buddy:* Mm-hm, That was a good one. Yeah, the one where he said sorry. Yeah, I think that was better because then they became friends again. *Big Buddy:* I think it's very important to say sorry to people if you make them feel bad

			because – *Little Buddy:* Yeah, you should say sorry when you make someone feel bad. You should say sorry to them if you make them again. *Big Buddy:* Yeah, you should.
3c.	Consequences for Apologizer	Responses in this category indicate what might happen to perpetrator if he does or does not apologize	
3d.	Consequences for Forgiver/Receiver	Responses in this category indicate what might happen to victim if perpetrator does or does not apologize	Dyad 7 *IGN:* Do you think Arthur made a good decision? *BB:* Yes. Because… *LB:* Why? *BB:* Because, um, he didn't her hurt feelings and he made her feelings better. *LB:* I agree.
3e.	Difficulty of Forgiveness	Responses reflect how hard it may be to forgive and/or to ask for forgiveness	Dyad 9 *Little Buddy:* It is kind of hard because they run away from you. Like they might be mad at you, they could be made at me. *Big Buddy:* I think it's hard to forgive someone if they hurt your feelings because I think that you're angry at the person because they're being mean to you. So I think it might be the person – it might be hard to say, forgive someone that was mean to you. You feel like that they did something bad to you, so it might be hard to say, it's okay.

		Future Mindedness	
4a.	Consequences	Responses reflect consideration of consequences for actions	Dyad 9 *Little Buddy:* He does need to stop. If he did it to everybody, then he might make a lot of people sad. *Little Buddy:* And probably people will stop being his friend, especially Sue Ellen.
4b.	Planning for action	Responses reflect making a possible plan to meet some end or resolve a future issue	Dyad 35 *Little Buddy:* I think she should tell.
4c.	Long-term picture	Responses reflect an emphasis for long-term outcomes over short-term outcomes/gains	
4d.	Hope	Responses reflect positive outlook for future	
4e.	Thinking ahead	Reponses reflect thinking ahead and stating predictions or projections of possible outcomes	Dyad 35 *Little Buddy:* I think he's going to tell a couple more, and then stop.
		Generosity	
5a.	Sharing	Responses reflect importance of sharing one's resources	
5b.	Altruism	Responses reflect helping another/giving to another at one's one expense or without regard for one's own well-being.	
5c.	Concern for Less-fortunate	Responses reflect importance of helping out those who are in need	
		Honesty	
6a.	Telling the truth	Responses reflect the importance of telling the truth	
6b.	Taking responsibility	Responses reflect the importance of taking	

		responsibility for your actions	
6c.	Being true to oneself	Responses reflect the importance of realizing who you are a person or performing actions that reflect your beliefs	
	Humility		
7a.	Labeling affect	Responses are emotions being identified or named	Dyad 7 *Big Buddy:* I think Sue Ellen feels mad. *Little Buddy:* Angry. *BB:* Mad, mad, mad and sad, embarrassed.
7b.	Perspective taking	Responses reflect participant's ability to take the points of views of other people	Dyad 7 *Big Buddy:* How does Buster feel about the joke now? *Little Buddy:* He feels, um, he feels like really funny because he thinks it's funny because he keeps saying hahaha. So maybe he thinks it's funny *BB:* I think he stopped a little. I think, um, when he was laughing, first he was laughing really hard, like really loud and now he's like haha and then I think he thinks it's not funny no more, he stops laughing a couple more after.
7c.	Empathic concern/emotional responsiveness	Responses reflect that participants are emotionally connected to a character and are upset at what is going on story. Alternatively, responses reflect feeling as a character in the story feels or taking their place (eg – 'standing in their shoes').	Dyad 9 *Big Buddy:* Do you think he should stop and it would be better? *Little Buddy:* I think she should go away from Arthur. Arthur's starting to be pretty mean. He won't stop. He's just trying to – like he's just trying to say he'll stop.

			Big Buddy: I know some people like that. Like they will stop for the next like five minutes, and then they start again. *Little Buddy:* Yeah.
7d.	Admitting Mistakes	Responses reflect action of admitting mistakes, importance of admitting mistakes or consequences of admitting mistakes (or of not admitting mistakes)	Dyad 9 Oh, that's kind of rude. So he's basically saying, he basically just said that Sue Ellen can't take a joke but he was being mean in that part of the letter. He was apologizing, but then he just made fun of her in the letter again, just afterwards. Let's see. *Big Buddy [Boy]:* Over reacting? He just said she was over-reacting. Such a jerk. Oh dear. I'm not speaking to her. Oh, now they're – now they're not going to be his friends too.
7e.	Pride	Responses refer to confidence, pride, boasting, bragging, etc.	
7f.	Openness	Responses reflect openness to others' ideas, experiences as well as new ideas or experiences	
7g	Learn from Others	Responses reflect that participants or characters have learned from another's words or actions.	
7h.	Self-worth	Responses reflect recognition that person or character has inherent worth or is willing to stand up for him or herself	
7i.	Envy/Jealousy	Responses reflect negative feelings towards others'	

		success	
7j.	Sympathy	Responses reflect sympathy or feeling sorry/bad for another	
Joy			
8a.	Happiness	Responses reflect being happy/feeling good about oneself; high well-being.	
8b.	Sad is bad	Responses reflect consequences of being sad, pessimistic	
8c.	Optimism	Responses reflect looking for good in every situation	
Love			
9a.	Care for Others	Responses reflect helping others, being kind to others, caring for others	
9b.	Value of All	Responses reflect worth and respect of each person, role person has to play in life	
9c.	Hope for Others	Responses reflect positive feelings toward good outcomes for all	
9d.	Connection	Responses reflect connection to others/among others	
9e.	Fairness	Responses reflect treating all people fairly	
Other Codes			
10a.	Labeling bad behavior	Responses reflect a behavior as bad, mean, or not nice; labeling behavior as inappropriate	
10b.	Stop	Responses reflect telling characters to stop a behavior	Dyad 35 *Big Buddy:* Say please stop it.