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Best Friends Forever? The Influence of Technology on High-Quality and Low-Quality Childhood Friendships

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Abstract

This literature review provides a holistic assessment of childhood interaction by investigating the many ways in which new technologies have influenced both high-quality and low-quality childhood friendships. As technology becomes increasingly more prevalent in society and inevitably continues to evolve peer-to-peer communication, traditional approaches to social interaction have adopted entirely new mediums. Children are now being exposed to communication-altering devices younger than ever before, which has profoundly influenced their social relationships. This thesis explores past competing research on the topic of children and technology by explaining the many ways in which technology has both helped children develop high-quality peer relationships, and also accentuated many characteristics of low-quality peer relationships.

Keywords: children, friendships, technology, high-quality, low-quality

Foreword

One of my most vivid early childhood memories transpired when I was 3 years old and my parents hosted a block party. Think stereotypical suburban neighborhood situated on a golf course with an active neighborhood swim team and annual holiday events – this block party fully embraced the "suburbia" cliché. So there I was, with unlimited access to more junk food, sugary soda, and outdoor games than I ever thought possible. I remember standing in my driveway, pondering whether to run around with my sisters or to check-in with the snack table (once again), when suddenly a girl with long, dark hair who looked about my age confidently walked up to me and smiled. I spoke,

"Hi, my name is Molly!"

"Hi, I'm Sydney. Do you want to be friends?"

"Sure!"

And just like that, three-year-old Molly made her very first best friend. From that point on, Sydney and I were inseparable. She only lived four houses away from me, so we did pretty much everything together – rode the bus, played four square during recess, talked about our crushes, ate lunch, rode bikes around our neighborhood, and played with Barbie Dolls. This pattern persisted all throughout elementary school. We talked less during middle school and high school, mostly on birthdays or holidays, but even with the decrease in communication I still considered her to be one of my best friends. Even to

this day, I notice that I am significantly happier when I think about my friendship with Sydney.

Now, at the age of 22, I continue to stay in contact with about ten other individuals from elementary, middle, and high school that I also consider to be my lifelong best friends. My relationships with these individuals are by no means consistent, but are wholeheartedly genuine, positive, and real. I truly consider myself lucky to have experienced such high-quality friendships at such a young age because I know a number of individuals who do not have such positive associations with their past as I do. I cannot help but consider that my high-quality relationship with Sydney had some sort of influence on my ability to establish other best friendships throughout my life. It makes me wonder, what would I be like today if I hadn't become friends with Sydney? Even more, what would I be like today if I stopped being friends with Sydney during middle school or high school?

Although Sydney and I lived only four houses away from one another, we attended separate middle schools and joined distinct social networks, making our daily schedules drastically different. I attribute our ability to ultimately remain friends throughout early childhood largely to technology. For example, I know her home phone number from dialing it so frequently that I can recite it without almost no cognitive effort. I have memorized almost all of the words to the movie *Now and Then* because when our interests changed during adolescence, we found it helpful to bond over motion pictures and television shows. When I received *Dance Dance Revolution* for Christmas one year, we spent so much time in front of my television trying to complete a perfect song that I am actually embarrassed to say how long that phase lasted. Admittedly, many of the

countless childhood memories I have with Sydney are centered around technological innovations (e.g., phones, movies, video games). Without these tools, I genuinely do not know if our high-quality friendship from elementary school would have lasted the 19 years that it has.

       As a result of my incredibly high-quality friendship with Sydney at such a young age, I used this thesis opportunity to explore the characteristics of other high-quality and low-quality childhood friendships to determine how technology has, and will, influence children in their social relationships. Chapter One defines friendship by proposing a number of theories regarding how and why children establish friendships, as well as an overview of the current state of technology within the younger generation. Chapters Two and Three outline various aspects of high-quality and low-quality childhood friendships, respectively, by subdividing the characteristics into verbal behaviors, nonverbal behaviors, and feelings. Moreover, the chapters reveal the influence of technology on each subdivision of friendship. My goals in writing this thesis are to demonstrate the value of high-quality peer relationships at a young age, the cost of low-quality peer relationships at a young age, and the ways in which technology is deeply infused into children's social lives.

Chapter One

Introduction to Childhood Friendship

Person-to-person interaction is a vital factor of healthy human development (Newcomb & Bagwell, 1995). The profound influences of social interaction begin at a young age and can aid in the difficult process of teaching children fundamental tools to succeed later in life (Bagwell, Schmidt, Newcomb & Bukowski, 2001). Friendships of good quality have a number of positive long-term effects, including high academic performance, low feelings of peer-rejection, increased altruistic behavior, and greater ease of attachment in the future (Crick & Bigbee, 1998; Kawabata & Crick, 2015; McGuire & Weisz, 1982). High-quality peer interaction has even been found to help children to identify and understand complex emotions at a young age, plus it provides children with preliminary insight into the concept of social norms (de Rosnay & Hughes, 2006; Emond, 2014). Ultimately, high-quality friendships at a young age can greatly influence development and predict behavior later in life. Since the long-term benefits of high-quality peer interaction begin at a young age, early introduction to such friendships has the potential to expedite the advantageous domino effect of increased self-confidence and higher overall well-being (Bagci, Rutland, Kumashiro, Smith, & Blumberg, 2014; Hartup & Stevens, 1999).

Children have been observed establishing friendships as young as preschool (Howes, 1983). By the age of 6, children are able to identify the difference between a

regular friend and a best friend (Laghi et al., 2014). At this age, however, children identify the discrepancy between regular friends and best friends based almost entirely on their own internal sentiments, not a universal understanding of the term. Laghi et al. (2014) examined childhood friendships by asking 251 six-year-olds to identify their best friend within the classroom in order to measure the levels of reciprocity between classmates. The psychologists found a shocking amount of incompatibility in reciprocity between reported best friends, meaning that many participants who were identified as a best friend did not, in fact, reciprocate those feelings. Clearly, students in this study relied largely on their personal interpretations of friendship when identifying best friends as opposed to noticing common social patterns of reciprocity when doing so. Ultimately, the social cues hinting at mutuality seemed to have very little effect on a students' decision to label an individual as his or her best friend. This means that at the most basic level, strong feelings of interpersonal attachment are somewhat instinctive, requiring little to no education regarding a universal definition of friendship (Schneider, Wiener, & Murphy, 1994). Nevertheless, time and time again, psychologists have attempted to define the true essence of friendship and its impact on human development.

Defining Friendship

The topic of friendship is extremely difficult to explain due to the tremendously complex nature of the field. Schnider et al. (1994) argue that friendship involves everything from "what friends *do, say,* and *feel* in each other's company, as well as the history of their relationship" (p. 325). Friendship combines behaviors, emotions, and social dynamics in a manner that is often difficult to accurately measure, and has been

studied by a number of different social sciences from a range of specializations. Psychologists repeatedly use the term *dyad* when discussing friendship, which implies the mutual effort of two or more parties. Although a step in the right direction, this term limits the context of friendship to just two contributing parties and disregards many other extraneous variables.

Selman, Levitt, and Schultz (1997) procured an initial attempt to generate a skeleton of three basic psychosocial components that characterize and influence friendship: personal understanding of the concept, accruement of relevant interpersonal skills to effectively form friendships, and the ability to invest in another person emotionally in order to value the ensuing friendship. Within their framework, they acknowledge the intrinsic weight of nature and nurture on the development of psychosocial competence while also explaining the concepts as a means to develop the necessary skills, but not a direct pathway to forming companionship. They claim that nature and nurture independently provide people with the resources to comprehend and grasp friendship, and that the combination of the two views creates the link between psychosocial development and social presentation. Undoubtedly, social scientists do agree that friendship is co-constructed between at least two individuals, includes some level of reciprocity for characterization, and extends beyond the simple concepts of nature and nurture (Bagwell & Schmidt, 2011; Schneider, 2000; Selman et al., 1997).

Yet, fundamentally, the field of psychology lacks a consistent multidimensional characterization of friendship. The ability to form significant connections with peers is influenced by a number of different variables, both environmental and psychological, which makes a multidisciplinary definition highly essential (Bronfenbrenner, 2005).

Additionally, friendship can occur between two people or in a group setting, which only muddles the process of defining it due to the sheer complexity of a network system. Still, various psychologists have attempted to accurately define friendship through a number of theories.

Selman's Five-Stage Approach to Friendship

Selman, Jaquette, and Lavin (1977) recognized the need for a multidimensional approach to defining friendship, which led them to generate a sequence of stages regarding social relationships that incorporates both cognitive and social psychological aspects. The beginning stage, labeled as Stage Zero, applies to children between the ages of 3 and 5 years old. It argues that young children are merely capable of articulating the notion of trust in the form of physical capabilities. For instance, "Alan, age 4, said he trusted his best friend, Eric. When asked why, Alan said, 'If I give him my toy, he won't break it . . . he isn't strong enough'" (Selman et al., 1977, p. 268). The next stage, Stage One, explains that children 5 to 11 years old classify relational trust based not only on physical capabilities, but also peer intentions. Continuing with the example of Alan and Eric, Stage One would resemble Alan trusting Eric because Eric normally does what Alan tells him to do. At Stage Two, between the ages of 7 and 14, children stray away from their unilateral definition of trust and evolve their understating to incorporate an aspect of reciprocity. In this phase, exchange and mutuality between individuals is highly stressed in respect to group loyalty. For example, Alan would trust Eric because when Alan does something nice for him, Eric does something nice for Alan in return. Stage Three, applicable to individuals between the ages of 12 years old and young adulthood, reveals

an even more complete classification of trust by encompassing "a sharing in and supporting of each other's intimate and personal concerns" (Selman et al., 1977, p. 269). In this stage, Alan would trust Eric because they are able to share intimate details about their personal lives together. Lastly, Stage Four reveals a dynamic approach to trust, stating that it is a continual process by which individuals co-develop as a result of their stable relationship. Essentially, Alan and Eric would mutually understand the importance of allowing one another to grow independently at times due to their highly durable bond. Ultimately, this stage-like approach to friendship provides insight into its early and adaptable nature.

The Proximity Effect

This theory is grounded in the notion that individuals in close contact with one another are more likely to become well acquainted than individuals distant from one another. Festinger, Schachter and Back (1961) took a close look at the proximity phenomenon by exploring friendship between residents of a two-floor apartment building. Their findings supported this theory in that residents on the same floor were more likely to become friends than residents on different floors. Shortly after, Segal (1974) studied the effects of proximity on the formation of friendships at the Maryland State Police Academy. He found that through the practice of an alphabetical seating arrangement, location and likelihood to initiate a comradeship were strongly correlated. Individuals sitting near one another were considerably more likely to become friends than individuals sitting more distant from one another, likely as a result of their increased

shared contact. Overall, past research does, for the most part, support the notion that vicinity can have profound influence on the potential for people to form connections.

For children, this theory is relevant in a variety of settings. Young children's mobility often depends on transportation provided by an older individual, meaning that proximity may be more binding at a young age than at an older age. With limited ability to travel independently from place to place, children are likely to form friendships with peers close to them in proximity (i.e., neighborhoods, classrooms, sports teams).

Reinforcement-Affect Theory

Byrne and Clore (1970) suggested a marginally enhanced Proximity Effect by stressing the combined forces of both positive affect and reinforcement during social interaction as an explanation for the establishment of friendships. Their theory argues that proximity is simply not sufficient when explaining the positive feelings sparked by friendship because it lacks insight into the quality of the peer interactions. Consequently, they draw from the foundations of classical conditioning to state that frequent interaction that also, and most importantly, produces positive affect is vital in the establishment of friendship. The logic behind this theory is that if individuals consistently feel positive emotions around the same group of peers, they are likely to attribute the positive feelings to those peers more so than the environment. This indirect association of positive affect with peers creates the foundations for friendship.

Similar to the Proximity Effect, the Reinforcement-Affect Theory is likewise as applicable in various contexts. The added benefit to this theory is that it does not merely provide insight into why individuals establish friendships, but also why certain

individuals do not. As children are largely reliant on other people for mobility, this theory might explain why some children fail to establish friendships in certain contexts. For example, if a particular setting sparks negative feelings for a child, (s)he may attribute those negative feelings to the people within the environment as opposed to the environment itself. Therefore, the child might associate the people, not the situation, with undesirability, which would likely have an adverse effect on the potential for friendship in that context.

The Balance Theory

Psychologists have long believed that people cultivate friendships with similar others. The concept of homophily has been studied across a number of different contexts, including gender, physical appearance, racial background, common interests, and age (Carrington, 2015; Clark & Ayers, 1992; Jacoby-Senghor, 2015). The Balance Theory suggests that the reason for the prolonged effect of homophily, which is the flocking together of likeminded people, is that individuals feel it allows them to maintain their own respective principles over time. Fritz Heider (1946; 1958) was one of the first social psychologists to suggest the notion of balance between individuals within a group. His theory shows the evolution of groups through the following instinctual process that drives beliefs, behaviors, and attitudes:

My friend's friend is my friend.

My friend's enemy is my enemy.

My enemy's friend is my enemy.

My enemy's enemy is my friend.

Kahnafiah and Situngkir (2004) then expanded on Heider's theory to devise a balance index, which provides greater insight into this evolutionary process by including entire social networks.

Similarity and balance between friends continues to be supported in various contexts including same-ethnicity friendships and groups of juvenile delinquents (Echols, Graham, Merrill-Palmer, 2013; Jonason, Lyons, & Blanchard, 2015). Curry and Dunbar (2013) found evidence for the broad impact of similarity between individuals beyond simply positive affect. They reported finding a significant relationship between similarity and altruism, showing that individuals with similar interests, pastimes, senses of humor, geographic backgrounds, and moral beliefs tend to act significantly more altruistic towards one another than dissimilar individuals. Moreover, Stone et al. (2013) found a greater likelihood of reciprocated interactions between friends reporting high levels of overall similarity than a low levels of overall similarity. These findings suggest that homogeneity is a large factor in companionship and has noteworthy influence on relational characteristics.

For children, the Balance Theory can have a number of beneficial outcomes on development. First, the Heider's model of friendship demonstrates the mere potential for a social network in children, meaning that similarity with one individual may lead to friendship within a group of individuals, providing the child with a large and supportive peer group. Second, the act of connecting through likeness may further promote certain behaviors (e.g., children who already act altruistically will likely bond with other individuals who also behave in such a manner) which further perpetuates the positive behaviors. Exposure to this extended peer group through the Balance Theory both in a

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high-quality manner and at a young age can ultimately lead to constructive child development in a unified social group.

Current State of Technology in Children's Lives

The world is currently evolving at a rapid rate. Recent technologies have drastically evolved the way in which people interact by proposing an entirely new interface for existence. Children in the world today are developing in a much more technological society than previous generations, causing massive generation gaps. Just 15 years ago, Wikipedia, Facebook, Twitter, Instagram, and YouTube had not yet been invented. Today, people upload 300 hours of new footage to YouTube each minute and over 20 million adolescents actively use Facebook (Robertson, 2014; Underwood & Faris, 2015).

Common Sense Media, a nonprofit that advocates for a safe and educational relationship between children and technology, executed a study in 2013 to take a closer look at the current state of technology in young children's lives. In 2011, they found that 52% of families with an eight-year-old child or younger reported owning at least one mobile device in their house (e.g., smartphones and tablets). In 2013, the study conveyed that 75% of families reported the same statistic (Rideout, 2013). In simply a matter of two years, access to some type of mobile device in the homes of young children ages 8 or under increased nearly 25%. The study also found that children ages 5 through 8 reported using media (e.g., television, DVDs, computers, handheld devices, mobile devices) on average two hours and 21 minutes in a typical day (Rideout, 2013).

The Pew Research Center found that 88% of teens between the ages 13 and 17 years old reported owning some type of mobile phone, with 94% of those teens using their device to go online at least once per day (Lenhart, 2015). The first cell phone using the 2G-network system was created in 1990. Now, cell phones have evolved to using 3G and 4G-networks in just a matter of 25 years. In 2013, six billion people worldwide had access to mobile devices but only 4.5 billion had consistent access to a functioning toilet, meaning that 1.5 billion people had the ability to communicate online through a mobile device but were unable to experience a well-operating restroom facility (*Deputy UN*, 2013). The transition into a technological world is visibly underway and impacts individuals of almost all ages, socioeconomic statuses, and geographic locations. As this transformation continues, a growing number of people will be exposed to new devices that target the evolution of communication by removing physical social context cues from peer interactions (Rice & Love, 1987). As a result of this shift, children are inevitably more "techy" today than ever before.

Friendships now have a completely new medium to exist and develop on, making the concept of online friendships extremely common (Amichai-Hamburger, Kingsbury, Schneider, 2012). Valkenburg and Peter (2011) suggest two possible perspectives regarding online interactions known as the displacement hypothesis and the stimulation hypothesis. The displacement hypothesis contends that online interactions are highly superficial and compromise quality, while the stimulation hypothesis asserts that technology increases both the quality and quantity of peer interactions, which can lead to increased feelings of closeness and intimacy. Competing research portrays the newness

and overall broad implications of the multidimensional association between children, technology, and friendship.

However trivial technology may be, children are inevitably and consistently using digital platforms to connect with one another. A recent study by Underwood and Faris (2015) analyzed peer-to-peer communication on Facebook, Twitter, and Instagram newsfeeds of 216 eight grade girls and boys. They found that 31% of adolescents reported checking social media more than 11 times in a typical school day, and 48% reported the same frequency on weekends. When asked their reasons for loitering on these online platforms, 71% responded, "I want to connect with my friends" and 36% responded, "I want to see if my friends are doing things without me." They also found that 56% of adolescents reported experiencing conflict with a friend online. Evidentially, online platforms can be both beneficial and detrimental for peer-to-peer interaction, but are nonetheless very present within the younger generation.

At this point, the technological shift in society is already very present and nearly unavoidable in the future. Children are largely influenced by this change and are in a position to either procure the benefits that digitalism can offer, or exist dangerously on the new medium. This vulnerable state makes the need to manipulate these new technological tools in a way that ensures healthy childhood development and high-quality peer interaction absolutely vital for a positive future.

Chapter Two

High-Quality Friendships

Despite early exposure to digital devices in today's younger generation, it is still very possible to establish and maintain high-quality friendships. Even popular culture stresses the importance of constructive and encouraging friendships between peers. In the classic animated movie *Toy Story*, Randy Newman and Lyle Lovett (1995) sang about a highly dedicated and supportive friendship during their song, "You've Got a Friend in Me." The lines, "There isn't anything I wouldn't do for you, We stick together, we can see it through, Cause you've got a friend in me" demonstrate the profound level of emotional support involved in a sustainable and promising peer relationship. This tune was so effective in demonstrating a high-quality friendship that it remained the theme song for both *Toy Story 2* in 1999 and *Toy Story 3* in 2010.

In 1999, the widely renowned children's series *SpongeBob SquarePants* released a catchy tune that communicates the holistic nature of high-quality friendships to young children. The characters SpongeBob and Plankton, long-time enemies throughout the show, finally align on the meaning of friendship when they sing, "F is for friends who do stuff together, U is for you and me, N is for anywhere and any time at all, Down here in the deep blue sea!" (Cohen, 1999). This catchy expression of comradery both advocates for whole-hearted commitment between dyads and encourages children to sing along, subtly spreading the definition beyond its original medium. It also indicates that

friendship, can occur between even the most unexpected of people, SpongeBob and Plankton, and in the most unexpected places, "the deep blue sea."

Even the United States Government acknowledged the importance of friendship in 1935 by proclaiming the first Sunday in August every year to be National Friendship Day. On this national holiday, the United States Government encourages citizens to honor and celebrate valued colleagues. While technology quickly seeps into people's daily routines, National Friendship Day reminds society about the value of high-quality peer interactions and the overwhelming influences that both friends and the feelings of friendship can emit. Simply the existence of an entire day dedicated to voicing the significance of close peers fundamentally encourages positive peer interaction within the larger population.

Another executive intervention into friendship occurred in 1997 when the United Nations named the children's character Winnie the Pooh to be the official Ambassador to Friendship. Pooh is represented as a very social, kind-hearted, and genuine character who consistently works to create a positive relationship with all of his friends. In naming him the Ambassador to Friendship, the United Nations provided society with a positive role model for both children and adults to associate with high-quality peer relationships.

The heavy presence of friendship in popular culture suggests its many triumphant and special qualities that can positively impact the lives of those involved. Artists of all varieties express the profound reach that friendship can have on both individuals and the larger population. Since friendship involves both cognitive and behavioral features, the following sections will outline various aspects of high-quality friendships and the current relationship between those factors and recent technologies. The rest of this chapter will

describe the characteristics of high-quality friendships based on Schnider et al.'s (1994)

argument about friendship, which explains that friendship is comprised of what peers

"*do, say,* and *feel* in each other's company" (p. 325).

What Children Do in a High-Quality Friendship

Positive dyadic relationships between peers can be identified through a number of

affirmative and shared actions. Close friends tend to experience reciprocity, such as

trading-off roles such as leader and follower or taking turns on a specific task, more

consistently than distant friends or non-friends, which creates a sense of equality between

the dyads (Brody, Stoneman, & Wheatley, 1984; Hartup; 1989; "National," 2004;

Stoneman, Brody, & MacKinnon, 1984).

Eisenberg, Fabes, and Spinrad (2006) argue that interactions between peers are

distinct from familial interactions because they are, to an extent, voluntary and intended

to benefit the other person by means of prosocial behavior. Padilla-Walker, Fraser, Black,

and Bean (2014) performed a study regarding childhood friendships as a predictor for

prosocial behavior. They measured friendship, sympathy, and prosocial behavior between

friends while controlling for extraneous variables in order to isolate the effects of solely

peer relationships. The study consisted of 467 early adolescents ranging from 11 to 16

years old. In order to test prosocial behavior, the psychologists used a self-report

questionnaire that consisted of nine questions (e.g., "I go out of my way to cheer up my

friends" and "I voluntarily help my friends") in which the participants rated on a one, *not

like me*, to seven, *very much like me*, scale. Outcomes revealed that participants who

reported feeling a close connection with another individual on a measure of friendship

also likely acted more prosocially towards that individual. Additionally, the psychologists discovered a negative association between psychological control and prosocial behavior, such that more psychological control between peers generally led to less prosocial behavior overall. These findings suggest that prosocial behavior may be an accurate predictor for high-quality friendships.

Griese and Buhs (2014) also studied the association between prosocial behavior and quality of childhood friendships. The study consisted of 511 children from the Great Plains region of the United States and took place over a four-year period. Data collection occurred on two separate occasions, and the participants ranged in age from 10 to 12 years old. Each participant completed four measures: a peer victimization peer-report, a prosocial behavior peer-report, a self-report measure of social support from peers, and a self-report measure of loneliness. Each measure asked participants to nominate three students for each question in order to accurately assess the classroom environment. For example, the peer victimization measure asked participants to identify three people in the classroom who "get hit, pushed, and kicked" or "get called bad names, teased, and insulted by other kids." Alternatively, the prosocial behavior measure asked participants to name three peers who "are friendly toward lots of other kids" and who "help other kids the most." The results showed a moderate association between a child's prosocial behavior and loneliness, such that children with more frequent prosocial behavior were likely to report feeling less lonely than children who participated in less prosocial behavior. This outcome suggests that prosocial behavior may, in fact, act as a protective guard for loneliness in children.

In addition to prosocial behavior, Veenstra, Verlinden, Huitsing, Verhulst, and Tiemeier (2013) conducted a study that provides insight into the complexities of both bullying and protective behavior in elementary school-aged children. The sample was comprised of 2,135 children from the first and second grade classes of 22 elementary schools throughout the city of Rotterdam in the Netherlands. It utilized an interactive computer-based program called the PEERS Measure, which evaluated peer acceptance, peer rejection, bullying, victimization, and defense behavior for each participating child. The program asked the participants specific situational questions, provided a visual to align the children with the request, and allowed the children to nominate individuals from their class whom they felt were relevant to the given situation. For instance, peer acceptance and peer rejection were measured through a question in which the participants identified students in the class who they would voluntarily choose to go on a field trip with (peer acceptance), as well as students they would not choose to go on a field trip with (peer rejection). Bullying was measured through peer reports regarding four different contexts of bullying: verbal, material, physical, or relational. Lastly, defending was measured through the single question, "By whom are you defended if you are bullied?" Results showed that children who frequently demonstrated defending behaviors were also high on peer acceptance and low on peer rejection. In other words, individuals who were repeatedly considered to be friends through the peer nomination task were also likely to exhibit consistent defending behaviors. This finding suggests that in addition to participating in prosocial behavior, children involved in high-quality peer relationships also typically protect one another from bullying.

Influence of Technology on What Children Do in a High-Quality Friendship

While technology has drastically evolved the manner in which people communicate, it has by no means destroyed the concept of high-quality peer interaction. Recent digital devices actually present an extraordinary number of benefits to the process of establishing friendships between young children. The technological shift in society proposes many new devices that can empower children with the correct knowledge to interact with peers in a positive manner, as well as experience with identifying and discontinuing low-quality peer interactions. A wide variety of mobile games now exist that provide children with the ability to participate in an interactive world that is centered around teaching the basics of friendship behaviors.

For instance, the game LEGO® Friends animates a group of friends who radiate positive messages for children by consistently acting altruistically and making good decisions, which frames the characters as great role models for young children. This game allows users to assume the identity of a virtual character and virtually contribute to the development of such a high-quality friend group. It provides visuals for encouraging and altruistic behavior that empower children with the proper tools to form high-quality peer relationships in their own social lives.

The LeapFrog Explorer® Learning Game called Pet Pals 2: Best of Friends! is another digital representation of high-quality peer interaction. Although the game is centered around an owner-pet relationship, it still provides players with great insight into appropriate, positive, and encouraging behaviors in the context of a social setting. It entails a free-play environment for children to explore and allows players to receive rewards for accomplishing certain tasks, such as exhibiting qualities of being a good

friend. By consistently receiving rewards for good social behavior, children are exposed to a number of social skills that can ultimately be mirrored in real-life to promote high-quality peer interactions.

Furthermore, anti-bullying games exist through an online medium to teach children how to identify and combat destructive behavior. Herotopia is a web-based game that depicts a world where children are rewarded for combating instances of bullying by being named heroes. Once inside the cyber-world, players are encouraged to interact and combat bullying alongside other subscribed players. It requires players to both identify and stop bullying incidents, while encouraging teamwork as a means to promote anti-bullying behavior.

Digital devices essentially provide children with an alternative medium to behave through, so while technology nearly eliminates the presence of a physical being from interaction, it can promote behavioral learning through virtual characters. Put simply, computer-generated games allow children to absorb and practice features of high-quality peer interaction, which may carry over into their physical interactions.

What Children Say in a High-Quality Friendship

While positive peer friendships largely entail reciprocated prosocial and caring behaviors, the quality of verbal communication between the dyads is also extremely influential when characterizing the value of the friendship overall. Early adolescence is a time in which individuals seek out peers on the basis of who they can share intimate and personal details with, more so than someone who enjoys similar activities (Sullivan, 1953). Linguistic skills create opportunities for peers to learn about and bond with one

another, meaning that effective verbal communication is imperative when establishing peer relationships (Gallagher, 1993). Evidently, conversation and disclosure are extremely powerful when establishing friendships.

Altermatt and Ivers (2011) conducted a study to take a closer look at the powerful effects of verbal communication between peers. They sampled 116 elementary school-aged students from the Midwest with a mean age of about 10 years old. Participants were asked to volunteer for the study with a friend so the friendship pairs would be self-selected. The average reported length of time that the two individuals had been friends before participating in the study was a little over three years. Two weeks before the study, each child participated in a 45-minute long phone interview with a researcher to assess the quality of friendship with their nominated peer. Two weeks later in the lab, both individuals were asked to separately complete two sets of puzzles: one participant was given all solvable puzzles while the other participant received mostly unsolvable puzzles. Following the task, the friends were brought together for a total of seven minutes and observed on their interaction. A questionnaire after this task revealed that children reported significantly more positive affect when they engaged in high levels of achievement-related disclosure with their friend, regardless of the difficulty of the puzzles. This finding suggests the importance of disclosure on subsequent affect between friends. Additionally, the researchers found that when friends reported low levels of conflict during their initial interviews, they were more likely to engage in high levels of on-task related discussion than off-task related discussion. This suggests that high-quality friendships, meaning ones with little to no conflict, can lead to higher positive affect as a result of self-disclosure.

Rose et al. (2012) expanded on previous research detailing the importance of self-disclosure in friendships to identify the distinct expectations of verbal peer interactions for young boys and girls. They conducted four studies on third, fifth, seventh, and ninth grade girls and boys to determine the different disclosure patterns in regards to friendship. One of their most significant findings revealed that girls were overall more likely to participate in self-disclosure than boys. Additionally, girls were more likely than boys to report expected positive outcomes of self-disclosure with peers, saying it would make them feel understood and cared for. Boys generally saw little utility in disclosing personal information with peers. This study demonstrates a clear gender difference in self-disclosure patterns, which suggests distinct verbal behaviors that may characterize high-quality friendships for young boys and girls.

A study by Simpkins, Parke, Flyr and Wild (2006) provides some insight into the different self-disclosure behaviors for boys and girls. They assessed perceptions of friendship qualities in 349 children between third and sixth grade. Participants were instructed to bring a friend with them to each data collection session, which occurred during the spring and fall over the course of four consecutive years. In each session, participants and their friend completed the Friendship Quality Questionnaire (FQQ), which consisted of 40 items and asked participants to rate each item on a zero, *not at all true*, to four, *really true*, scale in regard to their friendship. The data were intended to be analyzed for differences in friendship qualities over the four-year period. One of the most significant results was that both genders were similarly as insightful about their relationships, which contradicts previous work that suggests gender differences in the ability to understand friendship qualities (McNelles & Connolly, 1999). This finding is

significant because it suggests that while boys tend to participate less in self-disclosing behaviors, verbal communication does lead boys to be equally as receptive about friendship qualities as girls. Therefore, both genders participate in self-disclosing behavior in high-quality friendships, even though it may appear relatively less intimate between boys.

Influence of Technology on What Children Say in a High-Quality Friendship

As Vivek Ranadivé (2013) so elegantly said, "Hyperconnectivity means everything is talking: person to person, person to machine, and machine to machine." In this hyper-connected world, people are constantly in reach of one another. Recent digital devices have not only evolved the frequency in which individuals communicate, but also the nature of their communication. Before technology, interaction between peers likely involved verbal dialogue, but with recent digital devices, the experience of talking to someone else has been completely transformed by new mobile and textual forms of communication. Whereas a friend might have traditionally written a letter or discussed a matter in-person with a close peer, friends are now able to instantly communicate through cell phone calls, text messages, Snapchats, Facebook posts, direct messages on Instagram, Twitter tweets, and other social media platforms. Furthermore, new language tools such as emoji's, GIFs, and memes have condensed the experience of verbal interactions by eliminating words from the conversation altogether.

One benefit to new communication technologies is that people now have brand new mediums to reach out and seek help through. Individuals who rarely participate in self-disclosing dialogue during in-person conversations with peers now have the

opportunity to explore a different approach to help-seeking by using new digital means. YikYak, an anonymous social platform that allows users to interact through "up-voting," "down-voting," and commenting, is one example of a digital tool that may assist children in feeling comfortable when seeking advice from others. It is completely run by human-generated textual comments and interface, giving a novel medium to potential support-giving and support-seeking behaviors.

Above all, digital devices have been most effective in simply increasing possible contact between friends with the sheer amount of new platform in which peers can communicate through. In 2015, the Pew Research Center found that 87% of people from various age groups and socioeconomic backgrounds reported having "access to the Internet at least occasionally" ("Communications," 2015). This powerful access provides individuals with limitless opportunities to talk with people from all over the globe. It magnifies the reach of peer contact for children who are highly reliant on others for mobility and transportation. Friendships that used to exist merely in the classroom are now manifested through various devices outside of the academic setting. Bonding that occurred during a children's athletic event can continue through mobile devices even after the fact. Children now have an exponential number of resources to communicate through, and friendships now exist across greater distances than ever before.

What Children Feel in a High-Quality Friendship

In addition to verbal and nonverbal communication, high-quality peer relationships have immense influence over an individual's emotional stability. Not only do participants in dyadic relationships indicate higher fundamental emotional awareness,

but also a higher likelihood of refining their emotional capabilities, both personal and in a social setting, when involved in a high-quality friendship (Laghi et al., 2014). Internal manifestations of friendship demonstrate the extraordinarily powerful influence that it can have on human development.

Betts and Rotenberg (2008) conducted a study that measured the significance of trust across a number of dimensions within dyadic peer relationships. They examined 211 children across two phases of data collection. The participants were chosen from 12 different elementary school classrooms and were, on average, about 6 years old. In the first phase of data collection, participants were given a class roster and asked to rate each person in their class on various measures of trust using a one, *never ever*, to five, *always*, scale. Specifically, the peer trust measure asked the children questions like, "How often each classmate keeps promises he/she has made" and "How often each classmate keeps secrets he/she has been told." For standardization, the questionnaire also provided the children with an operational definition of "keeping a promise" and "keeping a secret." During the second phase of data collection, which occurred one year after the first phase, participants completed the peer trust measure for a second time, as well as a peer nomination task that measured the number of classroom friendships each participant was involved in. Only when peer nominations for friendship were reciprocated would the researchers label the individuals as friends. Results found that young children who generally reported greater feelings of peer trust also had a higher number of friends compared to participants who reported less peer trust. This demonstrates the correlation between trust and friendship, suggesting that trust may be a vital characteristic when establishing peer relationships.

Rotenberg and Boulton (2013) expanded on the significance of peer trust in friend by not only noticing its correlation to quantity of friendships, but also the quality of friendships. They collected data from 505 children in the United Kingdom ranging from 9 to 11 years old. The sample reached four different primary schools in the UK with lower and middle class populations. Participants completed the same peer trust measure as Betts and Rotenberg (2008); an additional trustworthiness measure that provided a comparative rating; a peer preference measure that asked participants to name their three most liked and disliked classmates; a peer victimization measure that asked participants to indicate which classmates fit descriptions for verbal, physical, and relational victims; a measure of social disengagement that asked participants to indicate which classmates fit the description for various types of socially disengaging behaviors; and a final question which measured reciprocity by asking participants to indicate their overall best friend in the class. Results demonstrated that reciprocity between best friends was so strong that both individuals indicated similar levels of liking and trustworthiness. Higher trustworthiness was associated with higher reciprocity, which generally signifies a high-quality friendship.

In addition to high levels of trustworthiness, elevated levels of empathy are also associated with high-quality peer relationships. Hoffman (2000) defined empathy as a sensitive response or reaction to another person's experience sparked by a concern for his or her well-being. In contrast to empathy, Machiavellianism refers to egocentrism, distrust in others, and the notion of viewing others as a means for personal gain. When studying Machiavellianism, individuals can be classified into two groups: high Machs, people who demonstrate Machiavellian behavior, and low Machs, people who do not. To

gain insight into the significance of empathy on the establishment of friendships, Slaughter (2007) executed a study to identify the association between Machiavellian attitudes and quality of childhood friendships. The sample consisted of 64 young children ranging from 5 to 9 years old. Teachers provided data from a 20-item questionnaire regarding each students' observed level of Machiavellian and empathetic behavior. Students also provided data through nominating their most liked classmates, completing a false-beliefs task in which children were asked to infer about a peers' reaction to an ambiguous situation, as well as a self-report measure of empathy. Findings revealed that students who were frequently nominated as a most liked classmate ultimately scored high on the measure of empathy and low on Machiavellianism. Inversely, students who demonstrated high levels of Machiavellian behaviors scored lower on empathy and were also rarely nominated as a most liked classmate by their peers. Essentially, the ability to feel empathetic towards colleagues, even at a young age, is highly correlated with peer acceptance, signifying its value in regard to friendship.

The trustworthiness and empathetic feelings sparked by high-quality peer relationships have even been associated with heightened self-esteem. Guhn, Schonert-Reichl, Gadermann, Hymel, and Hertzman (2013) conducted a study with 2,792 fourth-grade students from 201 different public school classrooms in Vancouver, Canada to uncover the effects of victimization, social relationships with peers, social relationships with adults, and gender as predictors for life satisfaction, self-esteem, anxiety, and depressive symptoms. They found that life satisfaction and self-esteem were both positively correlated with peer connectedness, such that high peer connectedness likely produced high life satisfaction and increased self-esteem. Alternatively, peer

connectedness was negatively correlated with anxiety and depressive symptoms, such that strong peer connectedness likely suggested low anxiety and depressive symptoms. Overall, this study reveals the importance of high-quality peer relationships by demonstrating its many subsequent positive outcomes.

Influence of Technology on What Children Feel in a High-Quality Friendship

Technology has become so engrained in daily life today that it can often be perceived as an extension of the human body. Therefore, it not only impacts the behavioral and communication patterns of peers, but also the emotional well-being of individuals. Digital platforms display information that can greatly influence the severity and duration of certain moods. They have become a means of being and, consequently, have the potential to provoke various sentiments that often resemble those sparked by human interaction.

Paiva et al. (2005) examined the potential for technology to encourage empathetic behavior in children and ultimately found that virtual characters in an interactive learning environment were, in fact, able to produce empathy in 8 to 12 year olds. This study is highly substantial because it demonstrates that digital characters who exist through technological mediums can actually be perceived by children as beings that require empathy like humans do. As children become more and more familiar with video game-like pastimes, this finding suggests that empathy may not be completely lost in the process.

Avokiddo Emotions and Touch and Learn – Emotions are two examples of mobile apps that tailor information regarding basic emotions specifically to children in

the form of interactive games. These apps guide children through the understanding of various emotional states with both verbal and nonverbal cues, as well as a number of clear visuals to associate each sentiment with. They exist on the digital mediums that many children today are becoming increasingly more familiar with, and subtly empower children with empathetic tools to use when developing friendships.

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Chapter Three

Low-Quality Friendships

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Despite the promotion of high-quality peer relationships in popular culture, negativity inherently seeps into many childhood friendships and can even drastically alter overall well-being. While high-quality and supportive friendships at a young age have a wide variety of beneficial short and long-term effects on children, low-quality friendships generally have the opposite effect. Researchers have earnestly attempted to determine the reason why some friendships contain high levels of conflict and others do not, and in the process, have identified a number of characteristics that effectively classify low-quality peer relationships involving young children.

What Children Do in a Low-Quality Friendship

In contrast to the supportive, prosocial, and protective conduct demonstrated in many high-quality peer relationships, low-quality peer relationships tend to be associated with much more negative behavior. Farmer et al. (2002) conducted a study to examine the influence of aggressive behavior on the peer relationships of 948 fourth, fifth, and sixth grade students from Chicago and North Carolina. The sample consisted of 52% girls and 48% boys from 59 different classrooms. Interpersonal competence was measured by the Interpersonal Competence Scale (ICS), which assessed popularity, academic performance, aggression, and internalizing of emotions for each participant. This measure

was completed by teachers (ICS-T) and students (ICS-S), to provide both personal (i.e., self-report) and observational (i.e., teacher-report) data. A peer interpersonal assessment, which asked participants to nominate three classmates for each item, was used in the study to gauge classmates' perceptions of their peers using the following subscales: cooperative, disruptive, acts shy, starts fights, leads well, athletic, gets in trouble, good student, and cool. Finally, a Social Cognitive Map (SCM) was used to map the social networks present within the classroom by asking participants to respond to the question "Are there some kids in your classroom who hang around together a lot? Who are they?" Findings revealed that about 67% of girls and about 79% of boys were affiliated with peer groups that also included aggressive members. This is significant because it demonstrates the high presence of aggressive peers in friend groups, meaning that exposure to such behavior is common, regardless of personal aggression levels. Additionally, the scales used in this study operationally defined aggression using behaviors such as "always argues," "gets in trouble," and "always fights." This conservative definition hardly included all possible forms of aggression, yet participants still reported high exposure to the operationally defined aggression within their regular friend groups, which suggests that a more liberal definition may actually yield a higher statistic.

Jones, Bombieri, Livingstone, and Manstead (2012) expanded on this research to better understand how group-based emotions can predict responses to bullying incidents within the group. Their study consisted of 128 students from various schools in northern Italy. Participants were between the ages of 10 and 13 years old, with 63% being female and 37% male. At the beginning of the study, children were randomly assigned to a group

membership with one of three group norms: competitive, cooperative, or neutral. After establishing a group norm, each group read a scenario that described a bullying incident involving a target, a perpetrator, and a third-party witness. Following the scenario, students completed various questionnaires. The first of these self-report measures asked students to rate their group membership by responding to statements like, "I am happy to be in my group" and "I feel close to others in my group." The next set of items asked participants to make judgments regarding the behavior of the characters in the scenario (i.e., "[Perpetrator's name] is bullying [target's name]"), as well as to perceive blame for the actions in the fictional scene (i.e., "[Perpetrator's name] is to blame"). Then, participants responded to three questions measuring self-reported feelings of pride, anger, and regret to assess their reactions of the scenario. Lastly, participants were asked how they would have behaved if they were present in the fictional scenario. Results found that participants reported different emotions regarding the bullying scenario depending on which group they were randomly assigned to. For example, participants in the group that established a competitive norm and who reported a strong group identification were likely to report higher levels of pride regarding the bullying scenario than anger or regret. Overall, groups that encourage competition tend to view bullying incidents with less harshness than groups that encourage cooperation. This study highlights the strong influence of group norms on children's approaches to handling incidents of bullying, such that a combative peer environment is likely to lead to higher emotional numbness and more acceptance of victimizing behaviors. It is also particularly significant since Farmer et at. (2002) found that more often than not, children are exposed to aggressive and combative behaviors within their regular friend groups.

While bullying and aggression are common behaviors in low-quality childhood friendships, so is a lack of reciprocity between dyads. Olsen, Parra, Cohen, Schoffstall, and Egli (2011) examined the effects of low reciprocity in the friendships of 219 third, fourth, fifth, and sixth grade students. The sample consisted of an even number of boys and girls from middle-income families. Data were collected in two 45-minute-long sessions in the student's classrooms. During each session, the children were provided with a class roster and asked to rate their personal liking for each classmate on a scale of one, *like very little*, to six, *like very much*. Next, they nominated classmates in regard to certain behaviors including sociability, respectfulness, overt aggression, relational aggression, and passive withdrawal. This scale consisted of 42 different behaviors in total and children were instructed to circle the names of their classmates that matched each behavior. Lastly, children were asked to identify all of their friends in the class by circling as many names on their class roster as they saw fit. Researchers then analyzed the data and classified the peer relationships as either mutual, unbalanced, or mixed. Findings revealed that non-mutual peer relationships were negatively correlated with sociometric ratings, sociability, and showing respect. This is significant because it demonstrates that a lack of reciprocity between friends can actually have a profound effect on various factors outside of that specific connection, such as social competence and peer perceptions.

Influence of Technology on What Children Do in a Low-Quality Friendship

Technology has tremendously simplified the entire process of bullying by introducing a new concept known as cyberbullying. This term represents a completely

new form of victimization that can occur on almost any digital device with access to either the Internet or stored data. Cyberbullying is unique from traditional bullying in that it exists on a medium that offers almost unlimited opportunities for contact and endless variations of discourse. The ability to look at, send, and store both pictures and video clips using digital devices has drastically escalated the harmful effects of bullying online, making it almost impossible to escape. Unappealing photos or mindless text messages are now at risk of being spread through various friend and non-friend networks, without known consent. This web of uncertainty can be so detrimental to children's health that it has even been observed initiating suicidal conduct in young children (Patchin & Hinduja, 2006; Smith et al., 2008).

Baas, de Jong, and Drossaert (2013) found that cyberbullying is already highly established within elementary school-aged children, but that one significant ambiguity associated with this new method of bullying is the lack of a homogenous understanding of what it truly means. The 11 and 12 years olds in their sample reported experiencing the following cyberbullying behaviors first-hand: threatening, sometimes in the form of death threats; hacking; masquerading by sending messages under another person's name; publicly making fun of someone; scolding using funny or offending names; discriminating on the basis of ethnicity or sexual orientation; provoking a peer to behave a certain way in school, typically with the goal in mind that they will be punished; stalking; and random bullying, usually out of boredom. This study demonstrates the high frequency of destructive bullying behaviors in young children occuring through recent technological innovations.

Hinduja and Patchin (2014) also revealed some harsh truths about cyberbullying among elementary school-aged children. They sampled 661 students ages 11 to 14 years old in the northeastern U.S. and found that 34.6% of children in the sample had reported being a victim of cyberbullying at least once in their lifetime. If this result were to be generalized for the entire population of 11 to 14 year olds in the United States, one out of every three children would have already experienced cyberbullying in their lifetime. Furthermore, of the children who had experienced cyberbullying, 18.2% fell victim to online victimization two or more times within the last 30 days. These findings demonstrate both how prevalent and frequent this online behavior is within the context of young children.

One issue with this new trend of virtual victimization is that unlike physical bullying, it is fundamentally much less obvious. Removing the body from the incident makes the process of identifying and stopping a cyberbully considerably more complex. In order to discontinue this unfavorable behavior, it is important for both parents and educators to be aware of how their children are interacting online. Additionally, children ought to be instructed on how to deal with cyberbully incidents in order to halt the behavior before it proliferates out of control.

What Children Say in a Low-Quality Friendship

In contrast to reciprocated and supportive self-disclosure, which is characteristic of most high-quality childhood friendships, low-quality friendships tend to involve higher levels of corrupt and antagonistic verbal behavior. This verbal communication does not always assume the form of loud volumes or mean words, rather it involves everything

from content, to intention, to delivery. One common category of unhealthy peer verbal interaction manifests in the form of teasing.

Research by Bosacki, Harwood, and Sumaway (2012) suggests that at a young age, destructive verbal behavior tends to occur between children who already have an established relationship and that the quality of this relationship can determine the severity of the dialogue. Their sample consisted of 89 Canadian children ranging from 4 to 9 years old. During the study, children were given supplies (e.g., paper, pencil) and asked to illustrate a scene depicting teasing. During this task, children typically drew no more than three individuals in their teasing scenario, hinting at the personal and intimate aspects of the verbal exchange. Additionally, participants generally portrayed individuals that they had some degree of a peer relationship with by identifying their names inside speech bubbles. Furthermore, while both genders typically drew a happy expression on the character performing the teasing and a relatively sad expression on the character being teased, boys and girls varied considerably in the content of their drawings. Girls tended to highlight the psychological aspects of teasing by including comments regarding appearance considerably more frequently than boys did. This finding provides evidence for a gender difference of the verbal communication patterns within low-quality friendships.

Yamasaki and Nishida (2009) took a closer look at the effects of different verbal communication patterns on friendship quality by sampling 1581 fourth, fifth, and sixth grade children from Japanese public schools. The study took place during the children's homeroom classes and consisted of two self-report scales: the Proactive-Reactive Aggression Questionnaire for children (PRAC-C) and the Peer Relation Questionnaire

(PRQ). The PRAC-C consisted of 24 items and measured reactive-expressive aggression

("*I easily get into a fight*"), reactive-inexpressive aggression ("*Peers may be making fun

of me*"), and proactive-relational aggression ("*I have asked a friend not to play with a

peer*"). Separately, the PRQ first asked participants to identify their best friend in the

classroom, then proposed a series of 21 questions that measured three different aspects of

peer relationships (e.g., level of mutual understanding, amount of self-disclosure, and

overall similarity), and finally instructed participants through a series of nine questions to

identify their personal social network and their total number of friends within the

classroom. Results showed that reactive-inexpressive aggression, meaning suppression of

feelings with high levels of irritability, was significantly and negatively correlated with

both mutual understanding of friendship and quantity of friendships. This finding

suggests that reactive children who also rarely express their feelings with peers are likely

to have less friends than children who do express their feelings. Put simply, the act of

bottling emotions internally, typically in an aggressive manner, can be extremely

detrimental for peer relationships even at a young age.

Influence of Technology on What Children Say in a Low-Quality Friendship

Recent 4G technologies allow users to interact using broadband, which is quicker

and extends across further distances than past 1G, 2G, and 3G technologies (Kumar, Liu,

Sengupta, & Divya, 2010). As a result of these innovations, communication has

fundamentally become easier. Children now have endless opportunities to connect with

one another and can even have simultaneous conversations using different digital

resources, all while on completely opposite sides of the planet. This heightened ease of

interaction presents an entirely new trend of non-experiential communication, meaning that the sensations and insights typical of traditional person-to-person interactions are becoming less customary.

Plester, Wood, and Bell (2008) conducted a study to examine the influence of technology on children's communication patterns, specifically the use of abbreviations. The sample consisted of 64 English children between the ages of 11 and 12 years old. At the time of the study, 27 participants reported frequently using a mobile device to send text messages, 22 participants reported rather infrequent use of mobile devices for sending text messages, and the remaining 15 participants reported never using a mobile device to send text messages. Initially, participants were given the sentence "I can't wait to see you later tonight, is anyone else going to be there?" and asked to translate the sentence from standard English into the abbreviated language commonly used in text messaging. This translation was scored based on the ratio of textual words to total words used. Next, participants were given the sentence "Hav u cn dose ppl ova dere? I fink 1 of dems my m8s gf" and asked to translate it from text language into standard English. This translation was scored based on correct spelling, grammar, and punctuation. One noteworthy result was that the children in the high text group scored significantly lower on both translations than those in the no text group. Additionally, there was a negative association between number of text messages a child sent each day and their score when translating the phrase from abbreviated language into proper English. These results are critical because they demonstrate the extent to which conversing with peers through digital devices is now a game of abbreviations, and how significant meanings conveyed through traditional, proper English may now be lost in translation – literally.

What Children Feel in a Low-Quality Friendship

Because emotions have a profound influence on actual behavior, the feelings of individuals within dyadic relationships are extremely important when classifying the quality of their friendship. While high-quality peer relationships, for the most part, correlate with more positive emotions (e.g., empathy, trust, peer connectedness, and support), it is no surprise that low-quality peer relationships would have the opposite effect.

Malti, McDonald, Rubin, Rose-Krasnor, and Booth-LaForce (2015) studied 230 fifth-grade students in Washington, D.C. to gain a deeper understanding of the sentiments involved in low-quality peer relationships. The sample was part of a longitudinal study that focused on childhood friendships during the transition from elementary school to middle school. During the study, which took place within the classroom setting, participants were instructed to nominate both their "very best friend" and their "second best friend" by writing down the names of their peers. Additionally, they were instructed to nominate individuals within their class who demonstrated certain aggressive behaviors such as "someone who picks on other kids" or "someone who gets in fights." Next, participants were given a questionnaire with 40 items that measured the quality of friendship between them and their nominated "very best friend." This scale consisted of items such as "_____ and I always pick each other as partners" and "_____ and I make each other feel important and special" that participants rated on a scale of one, *not true at all*, to five, *really true*. Lastly, participants were measured on their understanding of friendship by responding to questions regarding the nature of friendship formation (e.g.,

"Why does a person need a good friend?"), closeness and intimacy (e.g., "What makes a good close friendship last?"), trust and reciprocity (e.g., "What do friends do for each other?"), conflict resolution (e.g., "Is it possible for people to be friends even if they're having arguments?"), and friendship termination (e.g., "What makes friendships break up?"). Findings revealed that personal understandings of friendship were significant predictors of aggressive peer behavior in children. Participants who demonstrated low levels of sophistication in regards to the meaning of friendship generally demonstrated high levels of aggressive behaviors within their peer relationships. This study reveals both the significance of friendship clarity in the formation of childhood friendships, and how a lack of clarity can lead to behaviors that are characteristic of low-quality friendships.

Another significant predictor of low-quality peer relationships is centrality, which is characterized by an individuals' sense of importance relative to other members within the group. Betts and Stiller (2014) examined centrality using a sample of 146 children in the United Kingdom between the ages of 9 and 11 years old. Data collection occurred twice and extended across a three-month period. First, all participants nominated their best friend(s) in the class using a class roster for reference. Next, students completed a social confidence measure that consisted of 17 items in which participants rated on a one, *strongly agree*, to five, *strongly disagree*, scale (e.g., "I keep thoughts to myself"); a measure of social desirability which consisted of 12 statements that participants self-identified as true or false (e.g., "When I make a mistake, I always admit that I am wrong"); a gauge of friendship quality (e.g., "My friend and I spend all our free time together"), the level of conflict between the dyads (e.g., "I can get into fights with my

friend"), supportive behavior (e.g., "My friend helps me when I'm having trouble with something"), feelings of security (e.g., "If I have a problem at school or at home, I can talk to my friend about it"), and closeness (e.g., "I feel happy when I'm with my friend"). Next, participants indicated the extent to which they liked and valued their school environment. Last, participants answered a four-item measure of loneliness (e.g., "I feel alone at school"). At both instances of data collection, centrality was negatively correlated with feelings of loneliness, such that a lower degree of centrality was typically associated with more prominent feelings of loneliness. Additionally, participants who reported low levels of social desirability also indicated significantly lower levels of school liking than participants who reported high levels of social desirability. This is substantial because the school liking scale inquired about a number of different aspects pertaining to a participants' school experience, including attitudes regarding school, happiness in school, thoughts on the value of school, and relationship with school. As a result, the scale likely contained items that were indirectly influenced by peer relationships, meaning that low-quality peer relationships may have influenced participants' considerably poor classroom experiences. Simply put, this study demonstrates that low feelings of both centrality and social desirability are generally associated with low-quality peer relationships and high levels of loneliness.

Influence of Technology on What Children Feel in a Low-Quality Friendship

The younger generation inherently reports higher levels of screen time than any generation before them, hinting at the relatively vast technological impact on today's children. Although the impact may not be completely negative, some aspects of this

increased screen time are difficult to protest. Uhls et al. (2014) discovered that higher

levels of screen time for children led to significantly lower performance on nonverbal

emotional identification tasks, meaning that screen time and the ability to identify

emotional cues were negatively associated. This study suggests that frequent use of

digital devices may numb children to nonverbal emotional cues, which are important in

the establishment of friendships because of their strong associations with empathy.

Greenfield, one of the authors of the study, expressed her concerns regarding this

outcome by saying that, "It might mean they [children] would lose those skills if they

weren't maintaining continual face-to-face interaction" (Summers, 2014). The severity of

this outcome is further escalated by the notion that at infancy, many children are initially

taught emotional recognition skills, the basis for empathetic feelings, by mirroring the

facial expressions of their caregiver. This means that within a matter of years, children

who learned the foundations of empathy through person-to-person interaction are losing

that knack, possibly as a result of screen time (Summers, 2014).

While virtual games may promote empathetic feelings (e.g., Avokiddo Emotions,

Touch and Learn – Emotions), they also produce a false sense of connectivity by

swapping physical bonds for computer-generated ones. High quantities of digital

communication run the risk of inducing social isolation, even with friend networks in

close virtual proximity (Lickerman, 2010). Entirely virtual peer relationships can

encourage the emotions typically characteristic of low-quality friendships, making way

for a lack of emotional aptitude and a deficient understanding of friendship overall.

<center>**Conclusion**</center>

Evidently, the distinction between high-quality and low-quality friendships is apparent, even at an early age. Young children who engage in prosocial and protective behaviors tend to experience high-quality peer relationships, while others who engage in either online or offline bullying generally experience low-quality friendships (Griese & Buhs, 2014; Hinduja & Patchin, 2006; Padilla-Walker et al., 2014; Smith et al., 2008; Veenstra et al., 2013). Friendships that also regularly entail some degree of self-disclosure tend to be of higher quality than friendships involving irregular self-disclosure or even teasing (Altermatt & Ivers, 2011; Bosacki et al., 2012; Simpkins et al., 2006; Yamasaki & Nishida, 2009) Moreover, peers who feel empathetic and supported generally engage in higher quality social relationships than peers who feel perplexed or socially undesired (Betts & Rotenberg, 2008; Betts & Stiller, 2014; Guhn et al., 2013; Malti et al., 2015; Rotenberg & Boulton, 2013; Slaughter, 2007). This evidence reveals the significance of high-quality friendships at a young age in that they generally lead to higher multifaceted well-being later in life.

The challenge now is that of promoting high-quality verbal, nonverbal, and emotional behaviors in young children while also acknowledging the inevitable technological shift in society. A recent study by Common Sense Media found that 82% of children between the ages of 8 and 12 years old reported spending more than two hours on screen media during any given day (Rideout, 2015). This study demonstrates the

extent to which screen media is being implemented into children's lives, underscoring society's obligation to acknowledge this new trend and assist the younger generation to reap the benefits of technology early in development, as opposed to falling victim to its downsides.

Amplified screen-time inevitably reduces face-to-face contact, which poses a number of threats to young children: Smith et al. (2008) associated cyberbullying with increased suicidal tendencies; Plester et al. (2008) linked abbreviated textual communication with more inaccuracies in the English language; and Uhls et al. (2014) connected high amounts of screen time with difficulties identifying nonverbal emotional cues. Meanwhile, recent digital devices have also been found to generate empathy, increase feelings of social connectivity, and encourage routine self-disclosure (Paiva et al., 2005; Valkenburg & Peter, 2007). The conflicting stances on whether recent digital devices are mostly beneficial or mostly detrimental to young children stem from the fact that the overall topic of children and technology is fairly broad. An abundance of extraneous forces determine the impact of technology on both individual and social well-being, making direct causation extremely difficult to produce within empirical studies. Nevertheless, it is evident, that technology has, to some extent, altered the course of human existence. In order for young children to effectively reap the benefits of such devices in both their personal lives and social interactions, I believe that older generations must actively play a part.

Caregivers, I urge you to set the example for your children of how to correctly and safely use technology, especially when establishing and maintaining high-quality friendships. Practice a healthy combination of screen time and face-to-face interaction

with family and peers in order to stress the significance of both types of contact. Show children that it is possible for high-quality friendships to exist in such a digitally-focused world, and model exemplary behavior in your own peer relationships.

Educators, I urge you to incorporate technology into the classroom setting while also emphasizing peer collaboration. As traditional methods of education evolve, I encourage you to embrace the changes to capitalize on the many benefits of technology, including the ease of communication with an influx of information. Furthermore, despite the interconnectedness of society, the classroom is one in particular where the monitoring of digital devices is somewhat anticipated. Embrace this authority and structure lessons that involve both human-to-human collaboration as well as human-to-computer interaction.

Lastly, it seems apparent that traditional theories of friendship formation (e.g., proximity and similarity) are becoming less and less relevant in such modern times. The Internet resolves many of the old challenges associated with physical proximity and since many young children now use technology as a pastime, the likelihood of encountering a peer with similar interests online is relatively high. I encourage the field of psychology regarding children's social relationships to evolve in order to incorporate both online and offline behaviors, therefore defining friendship in terms of both physical and virtual interactions.

References

Altermatt, E. R., & Ivers, I. E. (2011). Friends' responses to children's disclosure of an achievement-related success: An observational study. *Merrill-Palmer Quarterly*, *57*(4), 429-454. doi:10.1353/mpq.2011.001

Amichai-Hamburger, Y., Kingsbury, M., & Schneider, B. (2012). Friendship: An old concept with a new meaning? *Computers in Human Behavior*, *29, 33*-39.

Baas, N., de Jong, M. T., & Drossaert, C. C. (2013). Children's perspectives on cyberbullying: Insights based on participatory research. *Cyberpsychology, Behavior, and Social Networking*, *16(*4), 248-253. doi:10.1089/cyber.2012.0079

Bagci, S. C., Rutland, A., Kumashiro, M., Smith, P. K., & Blumberg, H. (2014). Are minority status children's cross-ethnic friendships beneficial in a multiethnic context? *British Journal of Developmental Psychology*, *32*(1), 107-115. doi:10.1111/bjdp.12028

Bagwell, C. L., Schmidt, M. E., Newcomb, A. F., & Bukowski, W. M. (2001). Friendship and peer rejection as predictors of adult adjustment. *The Role of Friendship in Psychological Adjustment*, 25–49.

Betts, L. R., & Rotenberg, K. J. (2008). A social relations analysis of children's trust in their peers across the early years of school. *Social Development*, *17*(4), 1039-1055. doi:10.1111/j.1467-9507.2008.00479.x

Betts, L. R., & Rotenberg, K. J. (2007). Trustworthiness, friendships and self-control: Factors that contribute to young children's school adjustment. *Infant and Child Development*, *16*(5), 491-508. doi:10.1002/icd.518

Betts, L. R., & Stiller, J. (2014). Centrality in children's best friend networks: The role of

social behaviour. *British Journal of Developmental Psychology*, *32*(1), 34-49. doi:10.1111/bjdp.12020

Bosacki, S., Harwood, D., & Sumaway, C. (2012). Being mean: Children's gendered perceptions of peer teasing. *Journal of Moral Education*, *41*(4), 473-489. doi:10.1080/03057240.2012.690728

Brody, G. H., Stoneman, Z., & Wheatley, P. (1984). Peer interaction in the presence and absence of observers. *Child Development*, *55*(4), 1425-1428. doi:10.2307/1130011

Bronfenbrenner, U. (2005). The developing ecology of human development: Paradigm lost or paradigm regained (1989). In U. Bronfenbrenner, U. Bronfenbrenner (Eds.), *Making Human Beings Human: Bioecological Perspectives on Human Development*, 94-105.

Byrne, D., & Clore, G. L. (1970). A reinforcement model of evaluative responses. *Personality: An International Journal*, *1*(2), 103-128.

Carrington, P. J. (2015). The structure of age homophily in co-offending groups. *Journal Of Contemporary Criminal Justice*, *31*(3), 337-353. doi:10.1177/1043986214553376

Clark, M. L., & Ayers, M. (1992). Friendship similarity during early adolescence: Gender and racial patterns. *The Journal of Psychology: Interdisciplinary and Applied*, *126*(4), 393-405. doi:10.1080/00223980.1992.10543372

Cohen, S. (1999). *SpongeBob SquarePants* [Television Series]. United States: Nickelodeon Animation Studios.

Communications Technology in Emerging and Developing Nations. (2015). *Pew*

   Research Center. Retrieved from http://www.pewglobal.org/2015/03/19/1-

   communications-technology-in-emerging-and-developing-nations/

Crick, N. R., & Bigbee, M. A. (1998). Relational and overt forms of peer victimization:

   A multi-informant approach. *Journal of Consulting and Clinical Psychology, 66,*

   337–347. doi:10.1037/0022-006X .66.2.337

Curry, O., & Dunbar, R. M. (2013). Do birds of a feather flock together?: The

   relationship between similarity and altruism in social networks. *Human Nature*,

   24(3), 336-347. doi:10.1007/s12110-013-9174-z

Deputy UN chief calls for urgent action to tackle global sanitation crisis. (2013, March

   21). Retrieved from

   http://www.un.org/apps/news/story.asp?NewsID=44452#.Vhmcd7QwjzJ

de Rosnay, M., & Hughes, C. (2006). Conversation and theory of mind: Do children talk

   their way to socio-cognitive understanding? *British Journal of Developmental*

   Psychology, 24(1), 7–37. doi:10.1348/ 026151005X82901

Echols, L., & Graham, S. (2013). Birds of a different feather: How do cross-ethnic

   friends flock together? *Merrill-Palmer Quarterly*, *59*(4), 461-488.

   doi:10.1353/mpq.2013.0020

Eisenberg, N., Fabes, R. A., & Spinrad, T. L. (2006). Prosocial development. In W.

   Damon, R. M. Lerner, & N. Eisenberg (Eds.), *Handbook of Child Psychology:*

   Social, Emotional, and Personality Development, *3*(6), 646–718.

Emond, R. (2014). Longing to belong: Children in residential care and their experiences

   of peer relationships at school and in the children's home. *Child and Family*

Social Work, *19*(2), 194-202. doi:10.1111/j.1365-2206.2012.00893.x

Farmer, T. W., Leung, M., Pearl, R., Rodkin, P. C., Cadwallader, T. W., & Van Acker, R.
(2002). Deviant or diverse peer groups? The peer affiliations of aggressive
elementary students. *Journal of Educational Psychology*, *94*(3), 611-620.
doi:10.1037/0022-0663.94.3.611

Festinger, L., Schachter, S., & Back, K. (1950). The spatial ecology of group formation.
In L. Festinger, S. Schachter, & K. W. Back (Eds.), *Social Pressure in Informal
Groups*, 141-161.

Gallagher, T. M. (1993). Language skill and the development of social competence in
school-age children. *Language, Speech, and Hearing Services in Schools*, *24*(4),
199-205.

Griese, E. R., & Buhs, E. S. (2014). Prosocial behavior as a protective factor for
children's peer victimization. *Journal of Youth and Adolescence*, *43*(7), 1052-
1065. doi:10.1007/s10964-013-0046-y

Guhn, M., Schonert-Reichl, K. A., Gadermann, A. M., Hymel, S., & Hertzman, C.
(2013). A population study of victimization, relationships, and well-being in
middle childhood. *Journal of Happiness Studies*, *14*(5), 1529-1541.
doi:10.1007/s10902-012-9393-8

Hartup, W. W. (1989). Behavioral manifestations of children's friendships. In T. J.
Berndt, G. W. Ladd, T. J. Berndt, G. W. Ladd (Eds.), *Peer Relationships in Child
Development*, 46-70. Oxford, England: John Wiley & Sons.

Hartup, W. W., & Stevens, N. (1999). Friendships and adaptation across the life span.
Current Directions in Psychological Science, 8(3), 76-79.

Heider, F. (1946). Attitudes and Cognitive Organization. *Journal of Psychology, 21*, 107-112.

Heider, F. (1958). *The Psychology of Interpersonal Relation*. John Wiley & Sons.

Hinduja, S. & Patchin, J. W. (2014). Cyberbullying victimization. *Cyberbullying Research Center*. Retrieved from www.cyberbullying.us

Howes, C. (1983). Patterns of friendship. *Child Development, 54*, 1041–1053.

Jacoby-Senghor, D. S. (2015). Implicit homophily: Effects of implicit outgroup bias on ingroup affiliation. *Dissertation Abstracts International: Section B: The Sciences and Engineering*, *75*.

Jonason, P. K., Lyons, M., & Blanchard, A. (2015). Birds of a 'bad' feather flock together: The dark triad and mate choice. *Personality and Individual Differences*, 7834-7838. doi:10.1016/j.paid.2015.01.018

Jones, S. E., Bombieri, L., Livingstone, A. G., & Manstead, A. R. (2012). The influence of norms and social identities on children's responses to bullying. *British Journal of Educational Psychology*, *82*(2), 241-256. doi:10.1111/j.2044-8279.2011.02023.x

Kawabata, Y., & Crick, N. R. (2015). Direct and interactive links between cross-ethnic friendships and peer rejection, internalizing symptoms, and academic engagement among ethnically diverse children. *Cultural Diversity and Ethnic Minority Psychology*, *21*(2), 191-200. doi:10.1037/a0038451

Kumar, A., Liu, Y., Sengupta, J., & Divya. (2010). Evolution of mobile wireless communication networks: 1g to 4g. *International Journal of Electronics and Communication Technology, 1*(1), 68-72.

Kupersmidt, J. B., DeRosier, M. E., & Patterson, C. P. (1995). Similarity as the basis for children's friendships: The roles of sociometric status, aggressive and withdrawn behavior, academic achievement and demographic characteristics. *Child Development, 66,* 360–375.

Laghi, F., Baiocco, R., Di Norcia, A., Cannoni, E., Baumgartner, E., & Bombi, A. S. (2014). Emotion understanding, pictorial representations of friendship and reciprocity in school-aged children. *Cognition and Emotion*, *28*(7), 1338-1346. doi:10.1080/02699931.2014.881779

Lenhart, A. (2015). Teens, social media & technology: Overview 2015. *Pew Research Center.* Retrieved on October 4, 2006 from http://www.pewinternet.org/2015/04/09/teens-social-media-technology-2015/

Lickerman, A. (2010). The effect of technology on relationships: The risks of internet addiction. *Psychology Today*. Retrieved from https://www.psychologytoday.com/blog/happiness-in-world/201006/the-effect-technology-relationships

Loke, I. C., Heyman, G. D., Forgie, J., McCarthy, A., & Lee, K. (2011). Children's moral evaluations of reporting the transgressions of peers: Age differences in evaluations of tattling. *Developmental Psychology*, *47*(6), 1757-1762. doi:10.1037/a0025357

Malti, T., McDonald, K., Rubin, K. H., Rose-Krasnor, L., & Booth-LaForce, C. (2015). Developmental trajectories of peer-reported aggressive behavior: The role of friendship understanding, friendship quality, and friends' aggressive behavior. *Psychology of Violence*, *5*(4), 402-410. doi:10.1037/a0039685

McGuire, K. D. & Weisz, J. R. (1982). Social cognition and behavioral correlates of

preadolescent chumship. *Child Development*, *53*, 1478-1484.

McNelles, L., & Connolly, J. (1999). Intimacy between adolescent friends: Age and

gender differences in intimate affect and intimate behaviors. *Journal of Research*

on Adolescence, 9, 143-159.

National Scientific Council on the Developing Child. (2004). *Young Children Develop in*

an Environment of Relationships. Working Paper No. 1.

Newcomb, A. F., & Bagwell, C. L. (1995). Children's friendship relations: A meta-

analytic review. *Psychological Bulletin, 117*, 306–347.

Newman, R., & Lovett, L. (1995). You've got a friend in me. *Toy Story* [Soundtrack].

Los Angeles, United States: Pixar Studios.

Olsen, J. P., Parra, G. R., Cohen, R., Schoffstall, C. L., & Egli, C. J. (2012). Beyond

relationship reciprocity: A consideration of varied forms of children's

relationships. *Personal Relationships*, *19*(1), 72-88. doi:10.1111/j.1475-

6811.2010.01339.x

Padilla-Walker, L. M., Fraser, A. M., Black, B. B., Bean, R. A. (2014). Associations

between friendship, sympathy, and prosocial behavior toward friends. *Journal of*

Research on Adolescence, 25(1), 28-35.

Paiva, A., Dias, J., Sobral, D., Aylett, R., Woods, S., Hall, L., & Zoll, C. (2005).

Learning by feeling: Evoking empathy with synthetic characters. *Applied*

Artificial Intelligence, *19*(3-4), 235-266. doi:10.1080/08839510590910165

Patchin, J., & Hinduja, S. (2006). Bullies move beyond the schoolyard: A preliminary

look at cyberbullying. *Youth Violence and Juvenile Justice*, *4*, 148–169.

Plester, B., Wood, C., & Bell, V. (2008). Txt msg n school literacy: Does texting and

knowledge of text abbreviations adversely affect children's literacy attainment?

Literacy, 42(3), 137-144. doi:10.1111/j.1741-4369.2008.00489.x

Ranadivé, V. (2013). Hyperconnectivity: The future is now. *Forbes*. Retrieved from

http://www.forbes.com/sites/vivekranadive/2013/02/19/hyperconnectivity-the-

future-is-now/

Rideout, V. (2013). Zero to eight: Children's media use in america, 2013. *Common Sense*

Media Research. 9-38. Retrieved from

https://www.commonsensemedia.org/research/zero-to-eight-childrens-media-use-

in-america-2013

Rideout, V. (2015). The common sense census: Media use by tweens and teens. *Common*

Sense Media Research. Retrieved from

https://www.commonsensemedia.org/research/the-common-sense-census-media-

use-by-tweens-and-teens

Robertson, M. R. (2014). 300+ hours uploaded to youtube every minute. Retrieved from

http://www.reelseo.com/youtube-300-hours/

Rose, A. J., Schwartz-Mette, R. A., Smith, R. L., Asher, S. R., Swenson, L. P., Carlson,

W., & Waller, E. M. (2012). How girls and boys expect disclosure about

problems will make them feel: Implications for friendships. *Child Development*,

83(3), 844-863. doi:10.1111/j.1467-8624.2012.01734.x

Rotenberg, K. J., McDougall, P., Boulton, M. J., Vallancourt, T., Fox, C., & Hymel, S.

(2004). Cross sectional relations among trustworthiness, social relationships, and

psychological adjustment in children and early adolescents from the united

kingdom and canada. *Journal of Experimental Child Psychology, 88,* 46–67.

Schneider, B. H. (2000). Friends and enemies: Peer relations in childhood. London:

Arnold.

Schneider, B. H., Wiener, J., & Murphy, K. (1994). Children's friendships: The giant step

beyond peer acceptance. *Journal of Social and Personal Relationships*, *11*(3),

323-340. doi:10.1177/0265407594113001

Segal, M. W. (1974). Alphabet and attraction: An unobtrusive measure of the effect of

propinquity in a field setting. *Journal of Personality and Social Psychology,*

30(5), 654-657. doi:10.1037/h0037446

Selman, R. L., Jaquette, D., & Lavin, D. R. (1977). Interpersonal awareness in children:

Toward an integration of developmental and clinical child psychology. *American*

Journal of Orthopsychiatry, *47*(2), 264-274. doi:10.1111/j.1939-

0025.1977.tb00981.x

Selman, R. L., Levitt, M. Z., & Schultz, L. H. (1997). The friendship framework: Tools

for the assessment of psychosocial development. In R. L. Selman, C. L. Watts, L.

H. Schultz, R. L. Selman, C. L. Watts, L. H. Schultz (Eds.), *Fostering Friendship:*

Pair Therapy for Treatment and Prevention, 31-52.

Singh, R. (1975). Reinforcement, affect, and interpersonal attraction. *Psychologia: An*

International Journal of Psychology in the Orient, *18*(3), 142-148.

Situngkir, H., & Khanafiah, D. (2004). Social balance theory: Revisiting heider's balance

theory for many agents. *Computational Sociology*. Retrieved from

http://cogprints.org/3641/

Slaughter, V. (2011). Early adoption of machiavellian attitudes: Implications for

    children's interpersonal relationships. In C. T. Barry, P. K. Kerig, K. K.

    Stellwagen, T. D. Barry, C. T. Barry, P. K. Kerig, ... T. D. Barry (Eds.),

    Narcissism and Machiavellianism in youth: Implications for the development of

    adaptive and maladaptive behavior (pp. 177-192). Washington, DC, US:

    American Psychological Association. doi:10.1037/12352-010

Smith, P. K., Mahdavi, J., Carvalho, M., Fisher, S., Russell, S., & Tippett, N. (2008).

    Cyberbullying: Its nature and its impact in secondary school pupils. *Journal of*

    Child Psychology and Psychiatry, 49, 276–385.

Stone, L. L., Giletta, M., Brendgen, M., Otten, R., Engels, R. E., & Janssens, J. M.

    (2013). Friendship similarities in internalizing problems in early childhood. *Early*

    Childhood Research Quarterly, *28*(2), 210-217. doi:10.1016/j.ecresq.2012.12.003

Stoneman, Z., Brody, G. H., & MacKinnon, C. (1984). Naturalistic observations of

    children's activities and roles while playing with their siblings and friends. *Child*

    Development, *55*(2), 617-627. doi:10.2307/1129973

Sullivan, H. S. (1953). The Interpersonal Theory of Psychiatry. New York: Norton.

Summers, J. (2014). *Kids say screen time: What does the research say?* Retrieved from

    http://www.npr.org/sections/ed/2014/08/28/343735856/kids-and-screen-time-

    what-does-the-research-say

Uhls, Y. Y., Michikyan, M., Morris, J., Garcia, D., Small, G. W., Zgourou, E., &

    Greenfield, P. M. (2014). Five days at outdoor education camp without screens

    improves preteen skills with nonverbal emotion cues. *Computers in Human*

    Behavior, *39,* 387-392.

Underwood, M. K., Faris, R. (2015). #Beingthirteen: Social media and the hidden world

    of young adolescents' peer culture. Retrieved from

    http://www.cnn.com/2015/10/05/health/being-13-teens-social-media-study/

Valkenburg, P. M., & Peter, J. (2007). Preadolescents' and adolescents' online

    communication and their closeness to friends. *Developmental Psychology, 43*(2),

    267–277. doi:10.1037/0012- 1649.43.2.267.

Veenstra, R., Verlinden, M., Huitsing, G., Verhulst, F. C., & Tiemeier, H. (2013). Behind

    bullying and defending: Same-sex and other-sex relations and their associations

    with acceptance and rejection. *Aggressive Behavior*, *39*(6), 462-471.

Williams, K., & Kennedy, J. H. (2012). Bullying behaviors and attachment styles. *North*

    American Journal of Psychology, *14*(2), 321-338.

Yamasaki, K., & Nishida, N. (2009). The relationship between three types of aggression

    and peer relations in elementary school children. *International Journal of*

    Psychology,*44*(3), 179-186. doi:10.1080/00207590701656770