CHAPTER 6

Piaget and Pokémon

What Can Theories of Developmental Psychology Tell Us about Children and Media?

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For more than fifty years, researchers have explored ways in which people use different forms of media, and how the media—primarily television, films, and video games—are likely to affect their beliefs, attitudes, emotional responses, and behaviors. Much of this research shows that children of different ages use and are affected by media differently (Scantlin, 2011; Wartella & Robb, 2011). The explosion of digital media technologies over the past decade (including apps, Internet sites, and social media) has led to a much more complex media diet beginning in early childhood as well as a dramatic increase in the amount of time children and teens spend using media, both in and outside of school (Common Sense Media, 2013; Rideout, Foehr, & Roberts, 2010). The debut of the iPad in 2010, in particular—with its touch screen technology and advanced interactive capabilities—caused a transformation in the nature of media use by young children, especially in terms of learning and education (Buckleitner, 2015; Vasquez & Felderman, 2013).

Media use by individuals of all ages, in fact, has become increasingly interactive and individualized. Favorite characters and programs can be viewed across multiple platforms at all times of the day and with running commentary on social media by children, teens and adults who view them. *Pokémon*, for example, debuted in the early 1990s as a video game and later as a popular anime TV show featuring Trainers who control pocket monsters with special powers. Its media franchise now includes more than 800 Pokémon characters appearing on trading cards, feature films, children's books, fandom sites, YouTube videos, Macy's parade floats and popular apps like Pokémon Go!. The impact of popular media like Pokémon on children, therefore, is much more complex than just the result of watching a TV show or movie, making research on the effects of media much more challenging.

Theories of developmental psychology can help us interpret this increasingly complex media world of children and teens by identifying potential mechanisms explaining why those effects may occur, and by guiding our predictions about who is most at risk for specific effects. They also help to explain how children make sense of media content, and how their understanding changes with age. Finally, in the absence of a credible mechanism or theoretical explanation for how two variables are related, developmental theories can help to separate real causal relationships from spurious ones.

Generally speaking, most developmental theories can be organized into three main categories: those that emphasize the development of acquired *behaviors*, those that emphasize the development of *cognition* (e.g., attention, learning, memory, understanding), and those that emphasize the development of *personality and emotions*. Theories of *moral development* (including moral reasoning and the development of a conscience) reflect a combination of those components, and are especially relevant to studying media effects.

Which theoretical approach you use to explain a given set of data or observations depends partly on your own view of human development and partly on the nature of the question under consideration. Theories differ in their emphasis on cognition, for example. If you are interested in how children understand (or misunderstand) what they see on television, then all of the cognitive theories will be applicable to that question; many other theories (e.g., behaviorism or Freud's psychosexual theory) have little to say about thinking or understanding. In addition, some developmental theories describe qualitative changes that occur during specific and predictable stages of development (e.g., Piaget's theory), whereas others portray a more gradual process of changes that occur with age (e.g., social learning and information-processing theories). Finally, some theories emphasize the importance of innate, biological, or unconscious influences ("nature"), while others stress the importance of environmental influences ("nurture"); the latter are most useful for studying children and media.

Developmental Theories and Children's Learning

One of the key issues of interest in the study of children and media has to do with learning: *how* children learn a given behavior, idea, or piece of information, and *what factors play a role* in whether a given child will be likely to learn something from a particular media example?

Generally speaking, there are four basic ways in which children can learn and "key issues" that affect the likelihood of learning for each.

1. *Direct experience.* This primarily reflects learning through *operant conditioning*, where the child actually *does* the behavior and experiences some consequence. If they are rewarded (reinforced), then they should be more likely to repeat the behavior again; if they are corrected or punished, then they should be *less* likely to repeat it. The key issue has to do with the nature of the reward or punishment—what will work for this particular individual? Effective reinforcers for young children are usually different from those that work for older children or teens. For example, young children are likely to be heavily influenced by praise or criticism from their parents and other family members, while teens might be more heavily influenced by feedback from their peers.

2. *Observational learning.* This involves learning by watching someone else do the behavior and then imitating them (or deciding *not* to imitate that behavior because of negative con-

sequences experienced by that person). Here the key issue involves the extent to which you identify with the person observed, see yourself as similar to them, and/or want to be like them; in other words, is that person a *role model*? Again, this is likely to vary for children of different ages (and different sexes); younger children typically identify with and look up to their same-sex parents and older siblings, while older children and teens often model their behavior after peers and figures from popular culture.

3. *Symbolic learning.* For older children, adolescents, and adults, most of our learning comes through written or spoken language; we are often told to do (or not to do) something, and why. Symbolic learning can also occur through visual symbols that convey a message (e.g., on traffic signs, websites, or apps). There are two key issues in this case: 1) the child's prior understanding and fluency with the language or symbols used to convey the information; and 2) the credibility of the source; how much do you trust them or believe that they are telling the truth?

4. *Cognitive learning.* In this case learning is based on information and cognitive skills that the child already has and their attempts to achieve a successful outcome or conclusion. With cognitive learning, there are a number of key issues that come into play, including developmental stage (age), cognitive abilities, prior information available, and educational experiences.

How do these four ways of learning relate to children and media? Until relatively recently, *learning through direct experience* had only limited application because traditional media (like television and films) didn't directly reinforce (reward or punish) children for their behaviors. The exception was video games, where active participation is coupled with rewards for successful actions; this can have strong educational benefits when the focus of the game involves skill development, but has also been shown to increase aggression and anti-social behavior when the game incorporates violence and a "first person shooter" component (Keil, 2014; Swing & Anderson, 2008). Today, however, with increasing use of interactive digital media (especially computer games and apps) beginning in early childhood, learning from direct experience plays an important role through immediate feedback designed to reinforce the child's actions or indicate that their strategies and actions were not successful (Robb & Lauricella, 2015). Furthermore, with complex media phenomena like Pokémon, children (and even adults) engage in direct experience learning as they capture, train and fight with Pokémon characters, sharing strategies and experiences with competitors and friends.

Even for traditional media, however, direct experience learning is reflected in the positive or negative responses from parents and/or peers to something a child does (or says) after learning it on TV, which might well influence the likelihood of it occurring again. Children are also influenced by whether the media characters they see are rewarded or punished for their actions; numerous content analyses have noted that violent actions often go unpunished or are even rewarded, making it more likely for children to conclude that aggression is a good thing (Bushman & Huesmann, 2001). Of course parents may also, intentionally or unintentionally, reward certain kinds of media use (for example, reading) and punish or set restrictions on other kinds (for example, "screen time").

Observational learning easily applies to media's influence on children, and is discussed in more detail in the section on social learning theories below. *Symbolic learning* and *cognitive learning* also apply, especially with respect to children's use of media for information, ideas,

and skill development (e.g., through books, news, educational TV shows and apps). They also reflect developmental differences in children's interpretation of media messages and their understanding of the media in general. These theories apply to adolescents and adults too, of course, as reflected in recent concerns about the ability of social media users to be able to distinguish between actual (credible) news and "fake news" reports on social media sites (Stanford History Education Group, 2016), underscoring the importance of ongoing media literacy education.

All of these types of learning, therefore, can be viewed in the context of learning from and through mediated experiences. They also serve as important mediators in media effects and are reflected in the specific developmental theories discussed below.

Social Learning (Social Cognitive) Theories

Developed by Albert Bandura, *social learning theory* was initially grounded in behaviorism, emphasizing behaviors that children could and would imitate from observing role models in their social environment and a gradual, continuous process of developmental change (Bandura, 1977). Unlike traditional behavioral theorists, however, Bandura believed that behavior is due to more than just the influence of the environment; it also reflects children's observations and interpretations of what they see and the individuals (or characters) with whom they identify most strongly. Social learning theory predicts that children are more likely to imitate people they admire, those who are rewarded for their actions, and those similar to themselves.

Over time, Bandura increasingly emphasized the importance of cognition, including the roles of individual choice and interpretation in determining a person's modeled behaviors. Now called *social cognitive theory* (Bandura, 2002), it is not a stage theory of development (like Piaget's), although it does include the concept that social cognitive processes change with age. Role models for young children are not the same as those for adolescents, and while young children often directly and immediately imitate what they see, adolescents and adults are more likely to observe and remember a given behavior that can be demonstrated later if the appropriate situation arises. Both children and adults may also learn what *not* to do from observing the behaviors of others, especially by paying attention to the consequences of their actions in the situation observed.

Before television and movies, children's role models were limited to people they saw in their everyday lives (e.g., parents, older siblings, other family members, people in the neighborhood, teachers). Today, television and other audiovisual media provide a wide range of exciting and intriguing role models for children and teens, including real people, characters who are played by live actors, superheroes, and cartoon characters. Once television and movies became part of children's daily lives, the potential for social cognitive learning through observation and imitation of the behaviors of media characters skyrocketed.

But *would* children imitate mediated portrayals of behaviors in the same way they imitated behaviors they saw performed by real people in their own world? Bandura's earliest and most famous series of studies on this topic (Bandura, Ross, & Ross, 1963) demonstrated that they could and would imitate specific aggressive behaviors shown on television (for example, kicking a "bobo doll"), and that their imitation of a "cartoon" character (in this case, a person dressed as a cat) was almost as high as imitation of a real person. This is a particularly important finding, given children's frequent viewing of cartoons, and it has been supported by subsequent studies of imitation of cartoon violence (Bushman & Huesmann, 2001).

Social cognitive theory would also predict that children will learn prosocial behaviors from viewing media portrayals as well as antisocial behaviors, and indeed that is supported by research (Dorr, Rabin, & Irlen, 2002; Mares, Palmer, & Sullivan, 2011). It also means that children may learn what *not* to do from cartoons and other media. However, such learning may only be effective if there are realistic consequences shown for an action; if the Coyote is fine again after falling off a cliff or being hit on the head with an anvil in the *Looney Tunes* Road Runner cartoons, then children may well be drawing inaccurate conclusions.

An important tenet of social cognitive theory involves the relationship between the observer (child) and the observed (media character), especially how much the child identifies with the character and sees him or her as a role model. By the age of three or four, children have developed gender awareness and gender constancy (that is, understanding that gender is permanent regardless of changes in hair, clothing, or activities), after which gender is often an important mediator of social cognitive learning. Research has shown that boys are much more likely to choose role models who are male (especially powerful ones), while girls are more likely to select both male and female role models (Anderson & Cavallaro, 2002; Hust & Brown, 2011). The same studies have found that African-American and White children are most likely to pick role models of the same race as themselves, while Latino and Asian-American children are most likely to pick White role models (possibly because there are far fewer portrayals of Latino and Asian characters on children's television). Interestingly, while the Pokémon franchise is located in Japan, the Pokémon Trainers aren't identifiably Asian in appearance or speaking style, and while the main character (Ash Ketchum) is male, the Trainers include both males and females with different skin and hair colors, many with their own fandom sites.

Cognitive-Developmental Theories

While Swiss psychologist Jean Piaget actually died long before *Pokémon* debuted in the 1990s, his *cognitive-developmental theory* has important applications for the study of children's understanding of media, especially regarding the limitations in cognitive reasoning abilities of young children. Piaget's theory argues that children actively construct their understanding of the world through the ongoing processes of *assimilation* (incorporating new information into existing knowledge) and *accommodation* (reorganizing ways of understanding to take into account new information) (Arnett, 2012).

Unlike social cognitive theory, cognitive-developmental theories describe children's development as occurring in a series of stages, with dramatic and abrupt shifts in the quality of children's thinking as they move from one stage to the next. As children develop, their understanding of the world doesn't just gradually improve; it is qualitatively *different* than before. Piaget believed that this process unfolds naturally, with all children proceeding through these stages in the same order and at roughly the same ages. While his approach reflects many biological concepts of maturation, he did not believe that cognitive development was entirely genetically based. Instead he emphasized the child's own role in developing cognitive *schemes* (ways of knowing or action patterns) by actively exploring, manipulating, and making sense of his or her environment (Crain, 2011).

Piagetian theory includes four stages of cognitive development that always occur in the same sequence (Singer & Revenson, 1996), although the exact age at which children move from one stage to the next may vary:

1. The *sensori-motor stage* (birth to two years), in which infants and toddlers get information through their senses and manipulation of objects; by age two, children have developed an internal representation of schemes including the capability for deferred imitation, an understanding of object permanence, basic grasp of cause and effect, the beginnings of language, and self-awareness.

2. The *preoperational stage* (two to seven years), during which there is rapid growth and re-organization of understanding and symbolic thought, but the child's thinking is illogical and his or her approach to problem-solving is unsystematic; during the early part of this stage, the child's thinking is often *egocentric* (marked by an inability to take into account other perspectives than his or her own) and *animistic* (attributing human motivation and characteristics to inanimate objects), and they have difficulty distinguishing between fantasy and reality.

3. The *concrete operational stage* (seven to twelve years), in which children can demonstrate the ability to mentally manipulate objects and are able to consider more than one dimension of an object and different perspectives, but are still limited to applying this understanding to concrete (rather than abstract) examples.

4. The *formal operational stage* (twelve years and older), in which most adolescents can demonstrate abstract thinking, hypothetical-deductive reasoning, and systematic approaches to problem-solving.

Most of the media research using a Piagetian framework has focused on the cognitive limitations of preoperational thinking, especially for children under the age of four or five who have a difficult time fully grasping the nature of media and their content. One classic study showed that two- and three-year-old children often believe that the TV characters lived inside the TV set (Noble, 1975), while another found that three-year-old children interpreted a television image of a glass of water as more similar to real life (where the water would spill out if you turned it upside down) than to a photograph of a glass of water (where it wouldn't) (Flavell, Flavell, Green, & Korfmacher, 1990).

Research on children's understanding of fantasy versus reality indicates that while children as young as two or three can both engage in fantasy play and understand that it is only pretense, they are much more confused by whether something is real or make-believe on television (Davies, 1997). This has been explored in a number of important realms, including children's consumer behavior (Young, 2011) and the impact of media violence (Wilson, 2011). Research on media and children's fears shows that young children are most afraid of characters and scenes that *look* scary (like monsters and witches), while older children are more afraid of realistic scenes and situations could actually happen (Cantor, 2001).

Other preoperational limitations are reflected in the study of children's *theory of mind*—understanding their own mental processes and those of other people (Flavell, 2004). Preschoolers tend to believe that other people know and see what they know, and have difficulty understanding concepts like *false beliefs* (believing something that is not actually true) or *dreams* (which are often believed to be real). They also have difficulty with what is known as the *appearance-reality distinction* (understanding the difference between what something seems to be and what it actually is). It is not surprising, then, that young children are often confused by media storylines that emphasize secret knowledge or characters who appear to be good (or look nice on the outside) but are really bad, and vice versa.

Information Processing and Educational Theories

Information-processing theories focus primarily on memory and attention (using a computer-based model of data input/output, and storage), and while they do not predict unique ways of processing information by children of different ages, developmental studies have shown that younger children do attend to and remember information less well than older children. For example, young children are less likely to pay attention to the central or important information, instead attending to irrelevant or idiosyncratic aspects of a situation (Santrock, 2015). They are also less likely to be able to recall detailed information about something they have been taught or experienced.

Studies of children's attention to and comprehension of television confirm the importance of these developmental limitations (Barr, 2011). Young children often miss the salient information that's important for the story to make sense and may recall only unrelated pieces of information that were interesting to them rather than the main points of the story. They are also more likely to attend to unusual auditory or visual features (for example, special visual effects, funny voices, sound effects) even when they are unrelated to the main story.

Information-processing theories also emphasize the importance of information that is already available to the individual (from learning and prior experience) as a mediator of understanding and interpretation; using the computer model, an individual can only process information in the context of information she or he already has stored. Interpretation of a TV storyline, then, will be influenced by *explicit knowledge:* what the child already knows about the common structure of stories, the "formal features" of television (that is, the meaning of special visual or auditory effects), and the characters in the program. In the complex *Pokémon* stories, children familiar with the characters and premise may have a better understanding than children (or even adults) not familiar with the show. However, understanding will also be influenced by the child's *implicit knowledge:* knowledge about the real world and inferences drawn about interscene relationships and character motivations. It is this latter category that often puts children at a disadvantage (Collins, 1981; Condry, 1989).

Information processing also helps to explain how children develop beliefs and ideas (including erroneous ones) about a topic. Their beliefs are likely to be based on inaccurate sources such as advertising or fictional media stories; children are less likely to question fictional stories because they don't have the training or real-world knowledge to judge their credibility. This is similar to cultivation theory in communications (Gerbner, Gross, Morgan, & Signorielli, 1994), which predicts that heavy viewers who "mainstream" themselves into the world of television are more likely to incorporate information from television (even fictional television) into their beliefs about the real world. It is also reflective of cognitive script theory (Valkenburg, 2004), which deals with the ways children develop expectations about how to act in certain situations based on "scripts" they have seen in real life and the media.

Information-processing theory also helps to explain children's learning of educational content from television. Some children's television producers, such as Sesame Workshop, carefully base their program content on research about children's learning. The importance of reinforcing concepts and understanding by using explicit and concrete examples with sufficient repetition, for example, has been demonstrated by research on the effectiveness of programs like *Sesame Street* (Fisch & Truglio, 2001) and educational digital technologies (Vasquez & Felderman, 2013). These same techniques have been used in media literacy curricula aimed at improving

children's understanding of the purpose of TV commercials and misleading messages about nutrition (Rogow & Scheibe, 2016), and a broader understanding of how media messages are constructed (Hobbs & Cooper Moore, 2013; Scheibe & Rogow, 2012).

Parents and early childhood educators have increasingly found that the new interactive digital technologies can support early literacy education (Guernsey & Levine, 2015; Vasquez & Felderman, 2013) and aid in children's learning across multiple disciplines (Donahue, 2015). Even Montessori approaches to early childhood education—which have traditionally viewed all media (except for books) as harmful for children's development—have begun to incorporate elements of digital technologies, concluding that the interactivity of apps and other educational digital media allow children to explore their worlds in ways that even Maria Montessori would likely appreciate (Buckleitner, 2015).

Theories of Moral Development

Piaget proposed stages of moral reasoning that are also relevant to the understanding of media effects (Crain, 2011). During the preoperational stage, children's reasoning reflects moral *heteronomy*, which is grounded in blind adherence to rules that are immutable, a sense of immanent justice (that is, that wrong-doers will always be caught and punished), and judgments of right and wrong that focus on the consequences of the action. Older children, especially after the age of ten, exhibit moral *autonomy*; they understand that rules can be changed and that wrong-doers might not be discovered, and base moral judgments more on the individual's *intentions* rather than the consequences of the action. Young children, then, may easily misinterpret the moral lessons found in media stories that are centered on judgments about an actor's intentions, or when someone breaks the rules in order to achieve a more positive and just outcome.

Lawrence Kohlberg's theory of moral reasoning is probably the most well-known theory of moral development (Crain, 2011; Keil, 2014). He laid out six stages of moral reasoning that gradually develop across childhood and adolescence, occurring in three levels:

- *Preconventional Reasoning*, where children's judgments of right and wrong relate solely to themselves, including fear of punishment (Stage 1, What will happen to me?) and achievement of rewards (Stage 2, What's in it for me?).
- *Conventional Reasoning*, where children's judgments of right and wrong are based on the conventions and expectations of their family, social group and society, including wanting to please others (Stage 3, What will people think of me?) and follow the rules (Stage 4, What if everyone did it?).
- *Postconventional Reasoning*, where children's judgments of right and wrong go beyond their own self-interest and expectations of others to weigh the costs and benefits of an action (Stage 5, What is best for the common good?) and to develop their own moral compass (Stage 6, What are my personal moral principles?). This high level of moral integrity and reasoning is sometimes associated with certain media characters, like Atticus Finch in *To Kill a Mockingbird* (Esquith, 2007).

Kohlberg's theory has been used to explore the impact of television (Rosenkoetter, 2001), especially with respect to moral dilemmas incorporated into programs aimed at children and teens. Much like social learning theory and social scripts described earlier, the moral lessons

children are likely to take away from these shows will depend on the actions of the characters they most identify with (usually the "good guys" or main characters); if they lie, steal, cheat, or hurt people—even "bad guys"—to win or get what they want, then Stage 1 or 2 moral reasoning are reflected. If, on the other hand, media content reinforces empathy, fair play, and working to achieve a common goal, higher levels of moral reasoning will be supported.

With the rise of the Internet and social media, these moral issues take on even greater importance. Cyberbullying—harassing or humiliating someone through digital media like chat rooms or text messages with rumors, doctored photographs, and hateful comments—is growing among older children and teens, often with devastating consequences. The anonymity of the attacker(s) bypasses the feelings of guilt and empathy that may be triggered in a real-world encounter, and the potential for quickly reaching a wide audience of peers can serve to reward the cyberbully and further isolate their victims (Keil, 2014).

Summary and Conclusions

In 1978 former FCC commissioner Nicholas Johnson said, "All television is educational television. The question is: what is it teaching?" (Condry, 1989). Today, the same question can be posed regarding the wide range of media that are central to children's lives (Donahue, 2015; Swing & Anderson, 2008). Developmental theories are key to answering this question, emphasizing the age and unique nature of the child who is being taught. Unfortunately, with few exceptions (e.g., Arnett, 2012; Keil, 2014), developmental psychology textbooks still include surprisingly little content about issues related to media use and effects in relation to cognitive development and learning. The explosion of interactive digital media created for and used by young children is likely to change that, as well as the landscape of research on children and media in general.

Discussion Questions

1. Which developmental theories could be used to explain the influence of *Pokémon* on children's beliefs, attitudes, behaviors, and emotions, and what would each one predict? Would those same theories apply to the influence of educational children's TV programs (like *Sesame Street*) or movies (like *Frozen* or *Zootopia*)?

2. Think about another effect of media content on children's learning that you have heard about. Which of the four ways in which children learn would be most applicable to explaining this effect, and why? How would the "key issues" help determine whether a given child would be likely to learn that behavior or information from a particular media experience?

3. Based on the developmental theories presented in this chapter, what types of media might have the strongest impact on children's aggression and other behaviors? On their knowledge and beliefs? How will this vary depending on the child's age or gender?

4. How have new digital media formats (including apps, computer games, Internet sites, and social media) changed the ways in which children are affected by media, and which

developmental theories are most useful in explaining those impacts?

Exercises

1. Watch two half-hour children's TV shows, one that is educational or emphasizes pro-social lessons (on PBS, Disney Playhouse or Nick Jr.) and one that that features good guys vs. bad guys. Identify which characters might be role models for children, including whether they would be more appealing to boys or girls (or both), and/or children from a particular age group. What behaviors might children be likely to imitate from these programs, and why?

2. Watch several TV programs or movies aimed at children and young teens. Take notes on the gender messages that are included (including those in the commercials shown during the TV shows, if any). Based on the messages you saw, what kind of conclusions might children draw about what it means to be a boy or a girl?

3. Preview an educational video game, computer game or app that is designed for young children (ages 2–6). Identify ways in which the app or game is designed to appeal to children from this age group, and the techniques that are used to promote children's learning. Identify the developmental theories that would be reflected in children's use of the game or app, and the type(s) of learning that would occur as they use it.

References

Anderson, K. J., & Cavallaro, D. (2002). Parents or pop culture? Children's heroes and role models. *Childhood Education, 79*, 161–168. doi:10.1080/00094056.202.10522728

Arnett, J. (2012). *Human development: A cultural approach.* Boston, MA: Pearson.

Bandura, A. (1977). *Social learning theory.* Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (2002). Social cognitive theory: An agentic perspective. *Annual Review of Psychology* (Vol. 52, pp. 1–26). Palo Alto, CA: Annual Reviews.

Bandura, A., Ross, D., & Ross, S. A. (1963). Imitation of film-mediated aggressive models. *Journal of Abnormal and Social Psychology, 63*(1), 3–11. doi:10.1037/h0045550

Barr, R. (2011). Attention and learning form media during infancy and early childhood. In S. Calvert & B. Wilson (Eds.), *Handbook of children, media and development* (pp. 141–165). Oxford: Blackwell.

Buckleitner, W. (2015). What would Maria Montessori say about the i-pad? Theoretical frameworks for children's interactive media. In C. Donohue (Ed.), *Technology and digital media in the early years: Tools for teaching and learning* (pp. 54–69). New York, NY: Routledge.

Bushman, B. J., & Huesmann, L. R. (2001). Effects of televised violence on aggression. In D. G. Singer & J. L. Singer (Eds.), *Handbook of children and the media* (pp. 223–254). Thousand Oaks, CA: Sage.

Cantor, J. (2001). The media and children's fears, anxieties and perceptions of danger. In D. G. Singer & J. L. Singer (Eds.), *Handbook of children and the media* (pp. 207–222). Thousand Oaks, CA: Sage.

Collins, W. A. (1981). Schemata for understanding television. In H. Kelly & H. Gardener (Eds.), *Viewing children through television* (pp. 31–45). San Francisco, CA: Jossey-Bass.

Common Sense Media. (2013). *Zero to eight: Children's media use in America 2013.* San Francisco, CA: Author.

Condry, J. (1989). *The psychology of television.* Hillsdale, NJ: Lawrence Erlbaum.

Crain, W. (2011). *Theories of development: Concepts and applications* (6th ed.). Boston, MA: Pearson.

Davies, M. M. (1997). *Fake, fact, and fantasy: Children's interpretations of television reality.* Mahwah, NJ: Lawrence Erlbaum.

Donahue, C. (2015). *Technology and digital media in the early years: Tools for teaching and learning.* New York, NY: Routledge.

Dorr, A., Rabin, B. E., & Irlen, S. (2002). Parents, children, and the media. In M. H. Bornstein (Ed.), *Handbook of parenting* (Vol. 5, 2nd ed.) (pp. 349–374). Mahwah, NJ: Lawrence Erlbaum.

Esquith, R. (2007). *Teach like your hair's on fire: The methods and madness inside room 56.* New York, NY: Penguin.

Fisch, S. M., & Truglio, R. T. (2001). Why children learn from *Sesame Street*. In S. M. Fisch & R. T. Truglio (Eds.), *"G" is for growing: Thirty years of research on children and Sesame Street* (pp. 233–244). Mahwah, NJ: Lawrence Erlbaum.

Flavell, J. H. (2004). Theory of mind development: Retrospect and prospect. *Merrill-Palmer Quarterly, 50*(3), 274–290. doi:10.1353/mpq.2004.0018

Flavell, J. H., Flavell, E. R., Green, F. L., & Korfmacher, J. E. (1990). Do young children think of television images as pictures or real objects? *Journal of Broadcasting & Electronic Media, 34*(4), 399–419. doi:10/1080/08838159009386752

Gerbner, G., Gross, L., Morgan, M., & Signorielli, N. (1994). Growing up with television: The cultivation perspective. In J. Bryant & D. Zillmann (Eds.), *Media effects: Advances in theory and research* (pp. 17–41). Hillsdale, NJ: Lawrence Erlbaum.

Guernsey, L., & Levine, M. H. (2015). Pioneering literacy in the digital age. In C. Donahue (Ed.), *Technology and digital media in the early years: Tools for teaching and learning* (pp. 104–114). New York, NY: Routledge.

Hobbs, R., & Cooper Moore, D. (2013). *Discovering media literacy: Teaching digital media and popular culture in elementary school.* Thousand Oaks, CA: Corwin/Sage.

Hust, S. J. T., & Brown, J. D. (2011). Gender, media use, and effects. In S. Calvert & B. Wilson (Eds.), *Handbook of children, media and development* (pp. 98–120). Oxford: Blackwell.

Keil, F. (2014). *Developmental psychology: The growth of mind and behavior.* New York, NY: Norton.

Mares, M. L., Palmer, E., & Sullivan, T. (2011). Prosocial effects of media exposure. In S. Calvert & B. Wilson (Eds.), *Handbook of children, media and development* (pp. 49–73). Oxford: Blackwell.

Noble, G. (1975). *Children in front of the small screen.* London: Constable.

Rideout, V., Foehr, U., & Roberts, D. (2010). *Generation M²: Media in the lives of 8-to-18-year-olds.* Menlo Park, CA: Kaiser Family Foundation.

Robb, M. B., & Lauricella, A. R. (2015). Connecting child development and technology: What we know and what it means. In C. Donohue (Ed.), *Technology and digital media in the early years: Tools for teaching and learning* (pp. 70–85). New York, NY: Routledge.

Rogow, F., & Scheibe, C. (2016). Sharing media literacy approaches with parents and families. In C. Donohue (Ed.), *Family engagement in the digital age: Early childhood educators as media mentors* (pp. 183–196). New York, NY: Routledge.

Rosenkoetter, L. (2001). Television and morality. In D. G. Singer & J. L. Singer (Eds.), *Handbook of children and the media* (pp. 463–473). Thousand Oaks, CA: Sage.

Santrock, J. W. (2015). *Life-span development* (15th ed.). Boston, MA: McGraw-Hill.

Scantlin, R. (2011). Media use across childhood: Access, time and content. In S. Calvert & B. Wilson (Eds.), *Handbook of children, media and development* (pp. 49–73). Oxford: Blackwell.

Scheibe, C., & Rogow, F. (2012). *The teacher's guide to media literacy: Critical thinking in a multi-media world.* Thousand Oaks, CA: Corwin/Sage.

Singer, D. G., & Revenson, T. A. (1996). *A Piaget primer: How a child thinks.* New York, NY: Plume.

Stanford History Education Group. (2016). *Evaluating information: The cornerstone of civic online reasoning.* Retrieved from https://sheg.stanford.edu/upload/V3LessonPlans/Executive%20Summary%2011.21.16.pdf

Swing, E. L., & Anderson, C. A. (2008). How and what do video games teach? In T. Willoughby & E. Wood (Eds.), *Children's learning in a digital world* (pp. 64–84). Oxford: Blackwell.

Valkenburg, P. M. (2004). *Children's responses to the screen: A media psychological approach.* Mahwah, NJ: Lawrence Erlbaum.

Vasquez, V. M., & Felderman, C. B. (2013). *Technology and critical literacy in early childhood.* New York, NY: Routledge.

Wartella, E., & Robb, M. (2011). Historical and recurring concerns about children's use of the mass media. In S. Calvert & B. Wilson (Eds.), *Handbook of children, media and development* (pp. 7–26). Oxford: Blackwell.

Wilson, B. (2011). Media violence and aggression in youth. In S. Calvert & B. Wilson (Eds.), *Handbook of children, media and development* (pp. 235–267). Oxford: Blackwell.

Young, B. (2011). Media and advertising effects. In S. Calvert & B. Wilson (Eds.), *Handbook of children, media and development* (pp. 407–431). Oxford: Blackwell.