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Kids Across the Spectrums

Growing Up Autistic in the Digital Age

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7 EMOTIONS

It was a humid afternoon in late June 2019 when I met Amaya, an 8-year-old Afro-Latina girl, wearing a cotton-candy-pink satin wrap on her head to protect her hair in the summer heat. I sat side-by-side with her on a white leather couch in her Boston apartment as she played games on an iPad. Kimberly, a single mom, described her daughter Amaya as an “extremely sensitive” child, one who fiercely protected other kids in class that she saw crying or thought might be hurt. Amaya’s emotional intensity was bound up with her dual diagnoses of autism and obsessive-compulsive disorder (OCD). She sometimes felt intense anxiety, which was compounded by the environmental stress of living in a neighborhood with a high incidence of gun violence. Her anxiety had additionally been exacerbated the year prior by a teacher who assaulted her, leading Kimberly to transfer Amaya to another public school. “She refuses to even drive by the old school. I think she was traumatized,” Kimberly said of Amaya. On top of all this, Kimberly had been fighting for the past three months with the state health insurance provider to cover additional OCD therapy for her daughter. “I will not accept it,” said Kimberly, “She needs professionals that can help her.”

Since the incident at school, Kimberly had seen Amaya’s ongoing mental health issues manifest in a drastic change in her daily habits, including her media use. “I don’t know what she’s going through,” Kimberly said, “but as far as any fun, I don’t see that anymore.” Amaya had lost interest in recreational activities like playing in the park and going swimming. Her motivation to occupy herself with LOL Surprise dolls and activities outside the home had also waned. Kimberly explained that “she doesn’t want to play with toys.

Doesn't want to read books. . . . She used to be so excited to watch a new movie [and now] she doesn't want to go to the theater." Instead, Amaya was self-isolating and soothing herself within the security of her living room and through the predictability of screen media. "I know she's comfortable here," Kimberly said, "She loves laying in that sofa watching TV."

In the absence of professional help, Amaya and Kimberly had turned to an unlikely source for clinical support: YouTube. Kimberly said that Amaya will see "a [YouTube] video of people being violent or hurting each other [and] she'll stay stuck on that for a while," viewing it on repeat. The videos served some purpose for Amaya in processing her emotions, though the success of this coping mechanism was unclear. Kimberly tried to shape whatever lessons her daughter was possibly learning by talking to Amaya about the content. "I have to sit there and explain to her, 'There's a lot of bad people in this world and a lot of good people,'" Kimberly said. She also attempted to use Amaya's fascination with on-screen violence to educate her about reporting physical abuse. Kimberly had seen "a video of a teacher hitting a kid and [Amaya] saw it. So, I kind of teach her like, 'No teacher hit you, okay? Anybody hit you, you tell Mommy.'" Kimberly hoped that watching the video with Amaya and talking to her about it would offer some protection. Yet she recognized the futility of using such an individual strategy to solve institutional problems at the intersection of ableism and racism. "I'm telling my daughter to trust these people and they're hurting her," she noted, "That's messed up."

This chapter focuses on the complex ways that media and technology affect and reflect the emotions and emotional development of autistic children, including those like Amaya who have experienced significant emotional trauma and live with additional mental health conditions that are often insufficiently addressed. I begin with Amaya's story because her deep sensitivity provides a radical counterpoint to the pervasive and persistent cultural stereotype that people on the autism spectrum lack empathy, act robotically, and are unable to understand and display emotion. To the contrary, many adults on the spectrum report feeling emotions in an intense manner that can sometimes negatively impact the ease of their social communication and rapport, leading to a state of exhaustion and fatigue known as "autistic burnout."¹ In social interactions, people on the spectrum often find it uncomfortable or stressful to maintain eye contact with neurotypical people, who may instead

prefer looking at or being looked at by someone straight ahead as they talk.² For their part, however, nonautistic people also have a hard time interpreting, recognizing, and validating the mental states and emotional expressions of autistic individuals,³ suggesting that such miscommunication is bidirectional in nature (i.e., the “double empathy” problem).⁴

Amaya’s story also highlights how emotions intersect with the socio-technical shaping of sociality, and why it is important to understand this co-construction better, particularly its effects for autistic kids who are marginalized in multiple ways. An individual’s social and emotional development is influenced directly and indirectly by technology. For Amaya, this includes how easy it was for her to replay violent YouTube videos on her iPad and a recommendation algorithm that served her such content. Sociological factors also matter, like her health insurer’s denial of therapy services coverage and the systemic violence that Black girls and autistic people of color are all too often subjected to in the United States.⁵ Technology and society also fundamentally affect how emotions are felt, shared, and coped with. This involves, as in Amaya’s case, neurotypical expectations of emotional expression, how these norms are raced and gendered, and their impact on online and offline activities.⁶

Media and technology can both positively and negatively impact the emotional health of nonautistic children, and I found in my fieldwork for this to be true for autistic youth as well. Print, screen, and interactive media factor into how kids on the autism spectrum understand, experience, express, and manage their emotions. This relationship, however, is not always straightforward; for example, playing video games can aid autistic children in dealing with their emotional extremes as well as make emotion regulation very difficult for them. While kids on the spectrum sometimes express emotion differently than their neurotypical peers, this difference is not inherently a deficit. Gaining a richer understanding of the emotional complexity of autistic children, as well as how media impacts their emotional development, can result in educational, therapeutic, and social services that better addresses their diverse needs.⁷ Their perspectives also offer a unique view of broader societal and ethical discussions about computers and computer algorithms that sense and respond to emotions, the neurotypical models of emotionality that such tools largely employ, and the unexpected role of autistic children in the development of these widespread technologies.

THEORIES OF EMOTION, AUTISM, AND TECHNOLOGY

The role of emotions in human development, culture, and social organization is well studied and touches upon a wider range of academic disciplines than can possibly be explored here in depth.⁸ Three topics, though, are of particular relevance for understanding autistic children's emotional engagement with media: theoretical frameworks for emotion and human development; the relationship between autism and emotionality; and how computers impact the ways that feelings are experienced, conveyed, measured, and sometimes manipulated. Taken together, this body of literature illustrates that normative conceptions of emotion shape how autistic children are configured through and by the sociotechnical systems that they engage with on a daily basis.

EMOTIONS AND EMOTIONAL DEVELOPMENT

In broad terms, emotional development involves learning what emotions are, understanding how and why we feel them, recognizing one's feelings and those of others, and developing strategies for managing emotions.⁹ Debates and discussions about the basic foundations of human emotions are ongoing.¹⁰ Sociologist Arlie Hochschild theorized that there are two main models of emotion: organismic and interactional.¹¹ In an organismic approach, emotions are driven primarily by our biological processes and urges. From an interactional perspective, our emotions strongly depend on social and cultural factors. Arguments for the former are rooted in the intellectual traditions of psychology, neurobiology, and evolutionary biology, and for the latter in sociology and anthropology. Within the organismic tradition, there are also the discrete and functional views of emotion, in that emotions are biologically set in motion (discrete) or emerge with age (functional).¹²

One of the primary theorists behind the discrete view is psychologist Paul Ekman, who proposed a core set of universal human emotions: happiness, anger, sadness, disgust, surprise, fear, and (later in his work) contempt.¹³ Ekman's influence on popular understandings of emotion is wide reaching; for example, Pixar consulted with him in developing their hit animated film *Inside Out*, in which emotions are personified through fictional characters.¹⁴ Even if one accepts the premise of Ekman's view, that some emotions are universal, the functional approach argues that just certain primary ones are present at birth, like contentment, interest, and distress. Other emotions

are learned or require greater cognitive development.¹⁵ Only at around 6 months do children begin to experience joy, surprise, sadness, disgust, anger, and fear. Secondary feelings like embarrassment and empathy emerge between 18 and 24 months of age, with pride, guilt, and shame appearing closer to 24 to 36 months.¹⁶ Key developmental phases (i.e., puberty) are also associated with widespread changes in young people's emotional regulation.¹⁷

This standardized, linear understanding of emotions leaves little room for contextual, cultural, and social influences, which the interactionist approach expands upon. For example, frequent periods of instability in the family environment (e.g., divorce) and societally (e.g., war) may cause children to suffer from short-term stress and long-term challenges with socioemotional adjustment. The beliefs and values of a child's culture also shape their emotional development. Certain societies emphasize individual responsibility for one's emotions more so than collective concern for mental well-being.¹⁸ Children additionally learn over time to internalize the displayed emotional rules of their given cultures, including hiding the outward appearance of their inner feelings. A variety of environmental, family, and child factors and stressors affect how any one child develops. The emotional competencies that children are expected to acquire are reflective of the broader society, cultural context, and historical moment in which they live.¹⁹

AUTISM AND EMOTIONS

It is through this dynamic lens that the emotional development of autistic children must be understood, as well as the role that autism plays in how cultures think about emotion.²⁰ Society discursively positions people on the spectrum as "emotional suspects," in that they are "defined by their atypical emotions and then subject to modification and regulation" through a range of often intensive and sometimes coercive behavioral, therapeutic, and educational interventions.²¹ Within biomedical discourse, autism is frequently called upon to frame typical emotional development.²² In the field of psychology, for example, "theory of mind" gained prominence in the late twentieth century as a concept that describes an individual's ability to empathize with and understand the desires, intentions, and beliefs of other people.²³ The claim that autistic people by definition lack a theory of mind pervades clinical psychology, though autistic researchers and collaborators have recently challenged its empirical rigor.²⁴

The emotional challenges that many autistic adults and children experience are very real, but they are reflective of far more than just the individual autistic person. Beginning in early childhood and lasting into adulthood, kids on the autism spectrum are more likely to have difficulty regulating their emotions than their nonautistic peers. This includes trouble calming down after getting upset, rapid mood changes, temper outbursts, and becoming easily frustrated.²⁵ Social factors also shape autistic children's emotional regulation, including parent stress levels in the home environment and negative peer relationships.²⁶ Research suggests that autistic kids may additionally have more difficulty identifying, labeling, and communicating their feelings and emotions, also known as alexithymia (translated from Greek as "without words for emotions").²⁷

Yet focusing primarily on difficulties may distract us from how kids on the spectrum experience a full range of emotions (i.e., affect), including happiness and satisfaction. People on the spectrum commonly say that they feel emotions intensely, both their own and those of others, and that these feelings are linked to their sensory processing.²⁸ Autistic memoirist Ido Kedar writes that he sees "qualities in people like color. . . . It's like a hint of their soul. . . . My mom is blue but she can be red if she is angry."²⁹ Expressions like Kedar's also complicate the already highly critiqued idea that our observable behaviors are necessarily indicative of our internal emotional states and perceptions.³⁰ Those on the spectrum may display emotion differently than neurotypical people in terms of the frequency, duration, and intensity of their emotional presentation.³¹ Current research suggests that these differences extend to facial expressions, body movement, and vocalization.³² Autistic people's differing styles of emotion expression, recognition, and interpretation, however, are all too often falsely assumed to be a lack thereof.

AFFECTIVE TECHNOLOGIES AND AUTISM

Considering their unique affective experiences, individuals on the spectrum have much to add to ongoing discussions about how accurately computers can interpret emotions and the ethics of whether technologies should be used to do so at all.³³ Powered by artificial intelligence (AI) and machine learning algorithms, affective computing technologies process and attempt to predict human emotion.³⁴ They have been deployed in contexts as varied as remote test taking, job interviews, and mental health assessments.³⁵

Critics contend that individual and social harms may result from inferences that are made by using these automated tools, many of which are predicated on reductive models of emotion like Ekman's.³⁶ Inferring affect from biological markers like tone of voice and eye contact can lead to psychological profiling that would disproportionately impact the most marginalized in society.³⁷ Others argue that affective technologies may lead to a resurgence in physiognomy, a pseudoscience claiming to use measures of the body to make determinations about a person's moral, mental, and emotional fitness.³⁸ If used without consent, these tools threaten civil liberties, especially when linked to other personal data. Emotion recognition technologies can also be highly unreliable, raising questions about whether their intrusiveness and lack of transparency are worthwhile trade-offs.³⁹

Among these many criticisms, an often-overlooked critique of affective technologies is their complicated entwinement with autism.⁴⁰ Founded in 2009, software company Affectiva markets itself as "the largest emotion data repository in the world."⁴¹ The start-up packages its facial emotion recognition system Affdex for mass market uses including audience analytics and automotive sensing, and partners with other companies to combine its algorithm with biometric sensors that capture physiological data like heart rate. Crucially, Affectiva's emotion AI was originally based on autism intervention technologies designed by cognitive scientists and computer engineers at Cambridge University and the Massachusetts Institute of Technology (MIT) Media Lab. The technology was initially intended to help autistic children read and respond to the social and emotional cues of neurotypical people through a wearable device worn prosthetically, like glasses.⁴²

When Affectiva spun out of MIT, it was on the premise that future developments in emotion AI would inevitably feed back into improved assistive technologies (or that "a device that could work for [television pilot audience testing at] FOX could also better assist the autistic.")⁴³ Aiding autistic people is Affectiva's "assistive pretext," a term introduced by media historian Mara Mills to describe "the resourcing of disability within technoscience." It applies to a number of technologies, such as the telephone, whose inventors first gained access to resources and capital investment under the pretense of their innovation assisting disabled populations. However, over time, these technologies have become increasingly distanced from the needs, hopes, and desires of people with disabilities.⁴⁴ Autism is drawn upon materially and discursively in the field of emotion AI and affective

computing, without much critical reflection on the harms done to disabled individuals in this field's technological developments.

Beyond emotion recognition algorithms, ordinary media and communication technologies may additionally play an important role in autistic people's emotional lives. Cultural studies scholar Raymond Williams described how cultural artifacts can symbolize and concretize the fluid experience of emotion as a "structure of feeling."⁴⁵ This includes social media platforms that analyze the sentiment in our messages and allow us to "heart" one another's posts, actions which then feed back into platforms' recommendation algorithms.⁴⁶ One of the more ubiquitous media forms that exemplify a structure of feeling are emoji. These small graphical icons—which began in Japan as emoticons (punctuation marks arranged to look like facial expressions)—are standardized across our phones and computers. Emoji punctuate communication by relaying mood and affect in a quick and efficient manner.⁴⁷ They may simplify emotion, but that is not necessarily a bad thing. Autistic people report that having a shared and widely available emotional language through emoji helps make their written communicative intent clearer and aids them in understanding the social cues of others.⁴⁸

In short, how we understand emotions and how we understand technology are not only connected but are also socially shaped by how we understand autism and autistic people.⁴⁹ In writing about early twentieth century thinkers and how they imagined electronic mass communication, media scholar Brent Malin uses the term "media physicalism" to describe the "[location of] emotion in media technologies themselves as well as in a decidedly technologized version of the human body."⁵⁰ Contemporary discourses of media physicalism reduce the experiences of autistic people to a narrow set of mental and physical traits that are isolated from the complexity of their everyday emotional lives. Autistic children are more likely to have their affective responses studied in the controlled setting of a lab and operationalized through algorithms than to be understood as fully fledged individuals whose daily uses of mass, digital, and interactive media influence their emotional development, and in sometimes unexpected ways.

MEDIA, TECHNOLOGY, AND THE EMOTIONS OF AUTISTIC CHILDREN

Media offers all young people endless ways to observe, feel, and learn about emotions, which can have both positive and negative effects on their emotional development in the short and long terms.⁵¹ These span young children

developing fears and phobias as a result of early exposure to scary movies, school-age kids playing video games that boost their mood, and teenagers using social media to cope with stressful feelings during the COVID-19 pandemic.⁵² Media can also be a tool that helps kids put into words the feelings that they have difficulty expressing otherwise. For example, children in preschool or early elementary school grades may engage in pretend play using violent or dark themes from media texts because these stories allow them to examine human emotions up close and without serious repercussions.⁵³

For autistic children and adolescents, there is limited research on how popular media and mainstream technology impact their emotional development, as well as the many factors that may mediate this influence. In terms of benefits, the video game platform Minecraft and associated web-based forums for autistic players can enable youth on the spectrum to express their emotions in ways they likely would not have in face-to-face settings and to receive emotional support and reassurance.⁵⁴ On the other hand, pediatricians have raised concerns about parents of young autistic children overusing media as a way of keeping their child calm and occupied, warning that this may lead to maladaptive behaviors (e.g., difficulty transitioning to nonmedia activities).⁵⁵ Autistic children who have a high threshold for sensory input may also seek out very arousing content with vivid imagery, like violent video games, which can then negatively impact their emotion processing and regulation if they do not have the maturity to fully understand that content.⁵⁶

In my fieldwork with autistic kids and their families, I identified four main themes in terms of how technologies play into their emotional lives: (1) *understanding*, (2) *experiencing*, (3) *expressing*, and (4) *managing* emotions. These themes could apply to any one child, such as Kahlil, a minimally speaking 7-year-old Black boy. His mom, Monisha, thought that media was emotionally beneficial for him in a number of ways. She said, “I think him watching certain stuff shows him certain emotions that he might have difficulty learning otherwise” (understanding). Kahlil could also “be watching something that’s like sad to him [and] he starts crying” (experiencing). Monisha tried to use media to help Kahlil convey his emotions, but it was not always successful. “I want to know what he’s feeling” (expressing), she said, “[I try] to show him different things [but] when he gets overwhelmed, he starts crying sometimes” (managing). Kahlil’s experiences also exist against a societal backdrop of institutional racism, in which Black boys and girls are more likely to be misperceived as angry by institutional authority

figures than are their White peers.⁵⁷ An array of media could help and hinder the emotional development of autistic kids like Kahlil, which was in turn shaped by a range of individual and social factors.

UNDERSTANDING EMOTIONS

First, media can help scaffold autistic children's emotion recognition in various beneficial ways. Donna, mom of Sam—an 8-year-old White boy who is nonspeaking and has an intellectual disability—described her son as an avid viewer of the Nick Jr. preschool show *Blue's Clues*, which is about a mystery-solving dog named Blue. Sam would use his Dynavox voice output communication device while watching the program to label and name the character's emotional states, like "Blue happy" or "Blue sad." Sam would also express empathy in embodied ways besides speech. Rubbing his shoulder "means he's sorry for people," Donna said. When she cried, Sam would use his Dynavox to say "'Mom is sad' and then [try] to wipe the tears off my face." Though *Blue's Clues* has a curriculum emphasizing reasoning skills, media that was not expressly educational could also be a learning tool. Raina, mother of Zahra, a 4-year-old girl of Azerbaijani descent, said that "even emotions, she learns from videos. . . . She knows the difference of scary and not scary. Let's say, 'Halloween videos [on YouTube] are scary.'"

The emotional awareness of 11-year-old Karim, an Algerian American boy, was shaped by educational content that he found on YouTube. He liked to repeat lines from short videos that aired between 30-minute episodes on the linear PBS KIDS television channel and that YouTube users had recorded and uploaded to the site. When I spoke with Karim about his favorite TV shows, he kept repeating the line, "Visit PBSKIDS.org. There's a lot of great information for grown-ups, too." The first time that he said it, our conversation went as follows:

Karim: Visit PBSKIDS.org. There's a lot of great information for grown-ups, too.

Meryl: There *is* a lot of great information for grown-ups, I would say.

Karim: What's the information of?

Meryl: So sometimes they'll give information for how parents can have conversations and talk with their kids after they see episodes.

Karim: If kids are sad, they ask them to use their words?

Meryl: Yeah, yeah. If you have feelings, if you ever feel sad, that you can always talk to your parents about how you feel, yeah.

Karim: *Daniel Tiger's Neighborhood?*

Meryl: Oh, yeah, that's good. *Daniel Tiger's Neighborhood* is a lot about talking about how you feel.

Karim: Visit the neighborhood at PBSKIDS.org.

Based on my professional background working in the children's media industry, I recognized Karim's scripting (or repetition) of content from a short PBS KIDS video that drove television viewers of the educational preschool program *Daniel Tiger's Neighborhood* (an animated spinoff of *Mister Rogers' Neighborhood*) to the network's website ("Visit the neighborhood at PBSKIDS.org"). I also saw his choice of phrasing as a valid form of communication. Some linguists have argued that scripting and echolalia (i.e., precisely repeating aloud words and sounds that one has heard) are tools accessible to autistic people to draw upon in conversation.⁵⁸ They are an interactional resource that we might consider akin to a type of technology. In his own way, Karim had conveyed a lesson about emotions ("If kids are sad, they ask them to use their words?") that he had learned from *Daniel Tiger*.⁵⁹

Research has shown that animated content—including material from *Daniel Tiger*—can provide straightforward visual representations of emotions that are easier for autistic children to comprehend and learn from.⁶⁰ The children and parents that I spent time with confirmed this in a number of ways. Becky, girlfriend of Zahra's mom, Raina, and an autistic woman herself, offered insights as to why Zahra was attracted to animated content more so than live action shows, especially when it came to interpreting emotional cues. "Social interactions, or looking people in the eye, or their facial expressions can be complicated for [Zahra] to interpret," Becky said, "Usually cartoons or computer animation, the facial expressions are pretty simple." Because of the exaggerated emotional expressions of animated characters, Zahra "knows if they're happy because they're really excited, versus a human [who] can really be confusing," Becky explained.

Molly, mom of Abbey, a 4-year-old White girl, also credited cartoons, specifically YouTube videos and mobile games that labeled emotions and feelings, with positively influencing her daughter's emotional development. Molly said that as a toddler, Abbey "never could process emotions. You could sit there and hurt yourself and bawl your eyes out and she would just not know what to do." Abbey had instead learned to mimic empathetic responses from a game she played on Molly's smartphone that involved taking care of a baby panda. When Abbey saw little kids crying on the playground, she would say,

““Oh, the baby’s sad. Oh, do you need a kiss?” She’ll repeat it as if the child is a panda,” Molly said. She concluded that “media has definitely played a huge role” in Abbey “[knowing] kind of the social cues that a child should understand.” The fact that Abbey may have been mimicking these responses, more so than spontaneously generating them, did not take away from their meaningfulness for Molly. In all, media and technology in both digital and nondigital forms could help autistic children identify and label emotions that were also interpretable by their closest social partners.

EXPERIENCING EMOTIONS

Print, screen, and interactive media could directly influence the emotional experiences of kids on the spectrum and elicit disproportionately strong emotions. Leslie, mom of 3-year-old Oscar (White, boy), thought that her son’s deep interest in alphabet videos on YouTube was tied to his emotions. “I guess he feels things for letters that the rest of us don’t,” she surmised, “And I don’t know if that’s just because [in] kids’ shows, often the letters are anthropomorphized, they have faces, and they do things.” Sometimes strong emotions generated by media had the potential to overwhelm autistic children. “Could be the content, and the movie could be anything,” said Marcia, mom of Brendan, a 12-year-old White boy, but “if it’s sad, he’ll just outright cry.” Jamie, mom of 10-year-old Levi (Latino and White, boy), said that “for movies, we’ll be watching and he’ll get emotional and then he’ll get mad at himself for being emotional if there’s a sad part.” Pamela, mom of Rosalita, an 11-year-old White girl, reported that “if a sad song comes on, [Rosalita will] cry. So . . . just very much a feeling kid. . . . But in the same respect, we can put on a happy song, she’s a happy kid.” This strong reactivity was not universal, though. Jennifer, a genderqueer autistic person and mom of Casey (a 6-year-old White transgender girl), said that her daughter “has plenty of emotions. And I have plenty of emotions.” But when it came to media, Jennifer said of Casey, “I don’t think she’s one to get really tied into the emotions of the things so much.”

Some parents compared their children’s emotional reactions to media to other situations and stimuli. Julie, for example, found it interesting that her 4-year-old nonspeaking White son Eli was “very sensitive” to sad moments in TV content but displayed almost no reaction to the emotional distress of others in person. “If one of his siblings gets hurt in real life,” Julie said, “it’s not even on his radar screen. He shows very little sensitivity to others except

for when it's been on television." Because of Eli's heightened sensitivity to on-screen emotionality, Julie suspected that he preferred watching *Sesame Street* over *Daniel Tiger* because he found the latter to be too emotionally intense. She described an episode of *Daniel Tiger* that Eli had seen in which a bird's nest falls out of a tree. "Nothing bad happens to Daniel Tiger," Julie said, "but Eli is crying and very upset during that scene. He'll really whine and react negatively. . . . That's an interesting window into Eli." It should be noted that Eli struggled to consistently use his iPad and augmentative and alternative communication app to communicate, so the "window" that media provided into Eli's emotional state was of particular value to Julie.

Karrie saw a connection between her 9-year-old son Conor's (White) reactions to strongly emotive media and his impulsive reactions more broadly. She described his challenges as very "all or nothing. He'll be all the way sad or all the way happy and it'll flip." She mentioned a time when Conor refused to get ready for school and reacted by wanting to throw out his toys. When she asked why, he responded, according to Karrie, "Because, should I always be in school and never have fun and never get to play with my toys and always have to be at school?" Karrie recognized that same high degree of arousal and impulsivity in his response to movies that elicited strong feelings. She said that "Conor, in movies, he doesn't like um . . . emotional distress? He really doesn't like it when characters are mean to each other." She gave an example of when their family went to see the Pixar film *Coco* and Conor stormed out at the beginning of the film during a scene in which the grandmother destroys her grandson's guitar. Karrie said, "He's like, 'I don't like that mean grandma. I don't know why she's so mean. I'm not going to watch this with the mean grandma.'" As a result, Karrie stayed with Conor in the theater lobby while the rest of the family finished watching.

Besides media with themes of sadness and grief, autistic children could be profoundly affected emotionally by physiologically arousing violent or sexually explicit content that they encountered online, sometimes unintentionally. For instance, 11-year-old Rosalita said that she did not like seeing violent media content. "I don't like seeing rude stuff on YouTube. Like, I don't like seeing somebody shooting guns or learning how to shoot guns in public," she said. Rosalita was visibly upset—frowning and tearing up—just by talking about such material with me, and I did not dwell on it further. It seemed likely that this content was not something that Rosalita sought out but had found its way to her through YouTube's recommendation algorithms.

Brianna described an incident in which her 13-year-old White son Adrian had accidentally discovered online pornography featuring Pokémon characters, much to his horror and dismay. “Unfortunately, it was with characters that he likes, so it was very disturbing to him,” she said. Brianna had discovered Adrian’s viewing history when conducting a regular review of his smartphone. When she approached her son about it, “He cried and he cried and [said,] ‘And it’s just really weird, Mom,’” she reported. Because Adrian had already been seeing a therapist for his anxiety, Brianna and her husband turned to her for assistance. “We talked to his therapist. ‘How do we talk to him? How do we get through this?’” she recalled asking.

When I later interviewed Adrian, he did not bring up this incident, nor did I ask him about it. He did, however, mention a very different instance of media eliciting strong emotions. “I had probably the most conflicting feelings ever when I got a *Warrior Cats* graphic novel for Christmas,” he said, “It was probably the most emotionally diverse time in my life so far.” (*Warrior Cats* is a young adult fantasy fiction series about clans of feral cats living in the forest.) It was not the media itself that elicited a strong and varied emotional reaction for Adrian, but the social context around its consumption. Adrian’s “most conflicting feelings ever” stemmed from perceived social pressure to express public appreciation of the series. He explained, “I felt like no matter how good the series is, I was like, ‘Oh my gosh, this is what everyone else does. It’s trendy.’” Since Christmas, Adrian had somewhat learned to manage his feelings. “I’m not a hundred percent over it,” he said, “but if somebody says the [name of the] series, I’ll be like, ‘Oh, cool’ and talk to them about it rather than me like cringing away or like getting awkwardly silent about it.” Such attunement to the perspectives of others clearly evidences theory of mind and Adrian’s understanding of social expectations, running counter to dominant autism theories. It was not only media content that could elicit strong emotions, but its social reception as well.

EXPRESSING EMOTIONS

Besides arousing emotions, popular media and technology could also act as a conduit for autistic children’s affective expression, including talking about their feelings and communicating their emotional states to others. For nonspeaking and minimally speaking autistic children, media can be an especially powerful tool of self-expression.⁶¹ Four-year-old Bella, who was of Cape Verdean descent, loved the Pixar film *The Incredibles* and its sequel,

which I observed her at home watching on the Netflix app on her father's iPhone. Bella's mom, Angelica, said that the intense emotions displayed by characters in the film gave her daughter a vocabulary to use to express her own feelings. When Bella is angry, Angelica said, "She's been saying 'Mr. Incredible' because when [the character] Mr. Incredible gets mad he'll say, 'I'm Mr. Incredible!'" For 10-year-old Stephanie, a Mexican American girl, her parents interpreted the music that she played loudly on her iPad as an expression of her mood, in large part because she could not talk, and she was not receiving enough therapeutic services from either the state or her school to support her use of an alternative communication system at home.

Some autistic adolescents reflected upon their own trajectories of emotional expression and the role of media in that aspect of their development. When I asked Saylor, a 12-year-old White girl, what fictional character she most identified with, she said that when she was little, "I used to be like Judy Moody," referring to a book series about a third-grade girl with a temperamental personality. "I was never happy. I used to cry all the time. And I had like no friends because I would cry every time I made friends." She added, however, "Now, I'm the total opposite and I talk to people all the time." Her experiences expressing emotions were in some respects typical of a tween girl and in other ways more connected to her autism. Saylor primarily used social media, she said, "to spread positivity. . . . People just like joke around and I try to join in some of the people stuff." This included sending silly Snapchat photos, sharing funny TikTok videos, and making posts about body positivity. ("This one says, 'Real girls are never perfect but perfect girls are never real,'" Saylor said, showing me one such Instagram post.)

Kids on the spectrum may also use media to cope with uncertainty in their lives. Levi enacted a desire to feel powerful through his engagement with fictional narratives involving battles between good and evil. "He likes the bad guys," his mom, Jamie, said, "I almost feel like to him, that's how he makes sense of his emotions." Levi himself talked of deriving pleasure from his identification with villainous media characters. When I asked him about his favorite characters, he said, "I like supervillains," especially Loki from the Marvel Comics universe. As to why he liked this character so much, he explained that "Loki is the evil one and I love evil. Because I am evil." It was hard to tell if Levi had an active imagination, underlying emotional issues, was processing traumatic experiences, or some combination of all of the above. Certain dark emotions did seem to stem from his

parents' frequent relocation of the family. His father, Jesse, had difficulty securing full-time work, and the family regularly moved as a result.

Levi incorporated his emotions into his fantasies, often with violent or aggressive themes from media. One of his favorite television programs was *Liberty's Kids*, a relatively tame animated series for grade schoolers about historical events leading up to the US Revolutionary War. Levi imagined himself and his sister on the side of the colonists and his parents were the British seeking to maintain control of the colony through a pretend edict called "the Watching Act." Levi spoke to his parents as if the Watching Act were real. With some sadness, Jamie recalled, "He'll talk about, 'My mom . . . I used to trust her, but she made the Watching Act.'" Levi brought up the Watching Act during our interview in specific reference to his frequent relocating. He said, "If the Watching Act survives, it will not survive any moving, any more moving." Using narrative material from *Liberty's Kids*, Levi was casting himself as a patriot rebelling against his parents as the creators and enforcers of rules that he thought were unfair.

Liberty's Kids was not the only media property that Levi drew upon when working through his anger and resentment. As I observed him on the computer viewing LEGO *Star Wars* stop-motion animation videos on YouTube, Levi said out loud, "I'm building an army right now." "An army? Of *Star Wars*?" I asked. "Yeah," Levi responded, "Obviously, to take over my parents." Jamie and Jesse figured prominently in his *Star Wars* fantasy play. "I want, really, to start my own empire and destroy the Republic," Levi said. I asked him what he would get if he did so, to which he replied, "Revenge." "[And] who would you seek revenge upon?" I asked in response. At this moment in the interview, we could both hear his parents' laughter coming from the living room. "That," Levi replied, which I interpreted as revenge upon his parents, represented in his fantasy as "the Republic."

For their part, Jamie and Jesse struggled in knowing where to draw the line in letting Levi have his fantasies. Levi spoke of imaginary friends who "want me to be evil." He also said that his favorite *Star Wars* character was Kylo Ren, who in the most recent films kills his father and makes multiple attempts to kill his mother. Jesse and Jamie's efforts to curb Levi's media fantasy play involved limiting his access to screen media as a form of punishment. In the playroom where I observed Levi, a handwritten poster listing "Family Rules" was taped to the wall. I asked Levi if he could read them aloud to me. "Be safe. Be kind. Stop pretending when it's not pretending

time—do not like that one,” he added. Media with themes of war and violence connected with Levi and likely made him feel empowered. He figured his parents into these fantasies, either as victims or villains. Though Levi openly expressed these imaginings to them, it was unclear if they were able to help him process and resolve his underlying distress.

MANAGING EMOTIONS

Autistic children’s ability to self-manage their emotions could be both supported and challenged by their use of print, screen, and interactive media, as well as bound up with parenting strategies for instilling emotional self-regulation in their children.

SUPPORT Media and technology can aid autistic children in regulating the extremes of their emotions. Sometimes these behavior management techniques are parent-initiated. Hamza, a Bengali immigrant, said that his 8-year-old daughter Saaida loves “traditional songs, in my country,” so much so that when “she becomes more hyperactive or she shouts loud, then we give this type of song. She stops.” Nina noted that her nonspeaking Latino son Raul, who was 11 at the time, was starting to have “a harder time with anger and emotion and tantrums” at the start of puberty. He could earn up to three hours of iPod time at night for managing his behavior well but could lose time if not. Nina and her husband explained to Raul that his feelings were valid but learning to keep them in check was important. “We always tell him, ‘We honor your feelings,’” Nina said, “‘But at the same time, we still have to be not destructive in class and not throw a tantrum and scream at the top of our lungs.’”

Autistic children themselves also turned to media to work through their emotions. Thirteen-year-old Moira, a nonspeaking White girl, employed media to situationally calm herself; in her case, to reduce anxiety before regularly getting her blood drawn. Moira’s mom, Vanessa, explained that her daughter frequently stilled on YouTube, repeatedly watching “videos of kids getting shots and vaccinations.” Vanessa was baffled that “many families post [videos] like ‘Watch my child freak out,’” garnering hundreds of thousands of views, but she saw the effect they had on Moira specifically as a viewer. “Now, when she gets blood work,” reported Vanessa, “she’s just a champ.” Moira habitually viewed YouTube videos of minors in distress at the doctor’s office, doing so ostensibly to manage her own discomfort in a

similar situation. Far from being an exceptional habit, Vanessa compared Moira's behavior to how the general population uses different strategies for emotion management. She said, "All of us need self-soothing time, and I'm sure there are behaviors that we engage in when we're alone that maybe we wouldn't do in front of other people." Autistic kids, especially those with limited speech, may be getting something extra out of the emotional language and sensory gratification that media provides.⁶²

Like Moira, Rosalita had developed tactics for self-managing stressful feelings through her media use. When I asked her if she could show me some of her favorite toys, Rosalita pulled out a box of Pokémon cards from her closet. "My favorite Pokémon card is Meditite," she said of the character (figure 7.1). I asked Rosalita what she liked about Meditite, to which she responded, "When I see it, I feel like meditating." The name of the Pokémon not only sounded like the word "meditate" to Rosalita, but the character also resembled a person meditating, sitting in a yoga position with their arms extended and thumb and forefinger curled together. The Pokémon card prompted Rosalita to check in with her emotions. "When I get angry," she said, "I just meditate myself out to get calm."

Besides helping during periodic moments of emotional dysregulation, media could also provide autistic children with a means of processing complex emotions during turbulent time periods in their life. For example, Amaya, discussed at the beginning of this chapter, had been abused and used YouTube to process her trauma. Jackson, an 11-year-old White boy, used media to cope with a highly distressing experience, but in a different way. Jackson's dad had been in and out of the hospital for colon cancer, and while it was affecting him emotionally, he had difficulty expressing those feelings with words. His mom, Linda, reported, "Sometimes with me, he still can't express when he gets mad. He'll want to hit or scream." At one point during his extended hospital stay, Jackson's dad had called home from the hospital and Jackson did not even want to speak to him "because he was just so mad with him," Linda said.

Upon Jackson's dad returning home from the hospital, though, a nightly ritual of father-son TV viewing (of the game and variety shows *Jeopardy*, *America's Funniest Home Videos*, and *Ellen's Game of Games*) helped to mend and strengthen the relationship between Jackson and his dad. "They watch this special TV program together certain nights," said Linda, "It wasn't like that before [my husband] got cancer. So, it's like a little closeness and a

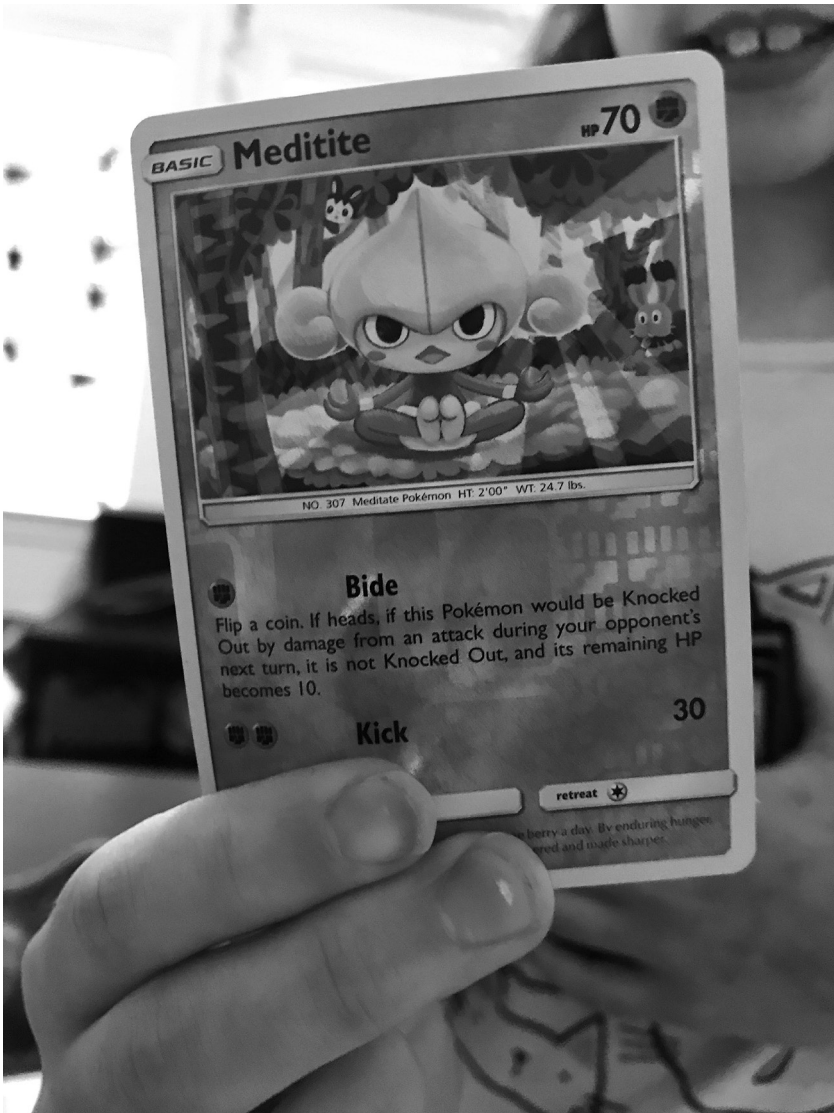


FIGURE 7.1

Rosalita holds up her Pokémon card for the character Meditite. *Source:* Meryl Alper.

thing that he has.” These shows clearly held some resonance for Jackson, as he asked me out of the blue during our interview, “Did you see the *America’s Funniest [Home] Videos* videos on Sunday?” I said that I had not, but I asked (having already spoken to Linda), “Do you watch them with your dad sometimes?” “Yep, we watched them yesterday,” he happily replied.

CHALLENGES While media and technology could help with autistic children’s self-management of emotions, it could also contribute to and dovetail with their existing emotional regulation difficulties. Some parents were conflicted about using media as a coping mechanism. Rosalita’s mom, Pamela, thought that telling her daughter, “‘If you calm down, you can have the tablet,’ is just very counterproductive. . . . It’s like, ‘Okay, we need to calm ourselves. Understand we’re not using the tablet to do that.’” Rosalita herself recognized that unlimited access to media could have negative cognitive effects. When I asked her if her parents had any rules about screens, she replied, “The rule of screen time is, if you play like too much screen, it will make your brain melt,” a feeling of overstimulation that she said she had experienced before.

Some autistic children had trouble keeping their feelings in check while engaging in very physiologically arousing media, most notably video games. Nine-year-old Matt (White, boy) was described as cold and emotionless by his dad, Pedro, and mom, Beca. “He doesn’t have feelings, to be honest,” said Pedro. “He has no empathy,” Beca said. Pedro added that even if Matt saw “somebody crying [in front of him], he’s going to keep playing his game.” While it was impossible to confirm Pedro and Beca’s claims and determine whether Matt was capable of empathizing with others, he did seem to experience a vast range of feelings, including excitement, anger, and sadness, particularly as it related to video games.

With respect to excitement, Matt displayed a high threshold for video games that were very stimulating. When I observed him and his younger brother, 7-year-old Bryan—who was also autistic—playing side-by-side on the computers in their bedroom, Matt had selected a game with rather graphic violent content: a prison-themed role-playing game on Roblox. An online game platform and game generation system, Roblox allows users to program and play games created by other users, some of which are far more violent and sexually explicit than Roblox’s blocky, child-friendly aesthetic suggests.⁶³ In the first-person shooter game that Matt chose, inmates, criminals, and

guards fight each other using guns and crude knives. "Oh my god! O-M-G," Matt yelled aloud as he played, "They got the most insane guns. Look here, criminals. I got him! I got them! We got the totally insane criminals!"

In terms of anger, Matt had difficulty controlling his impulses. He "hurts his brother, a lot. Since he was a baby," Pedro said. Playing video games together often escalated this baseline level of conflict. Beca reported, "They excite each other and sometimes Bryan does something and Matt doesn't like it. He physically will hurt Bryan, will punch him." Matt had a hard time stopping himself from being physically aggressively outside of the digital game space. "Like, 'He push me in the game, he push me in reality' . . . Matt, he doesn't know the limits," Beca said. She and Pedro were not only worried about Matt's lack of impulse control, but also his younger brother's submission to it. Bryan would make excuses for Matt to keep him out of trouble. Bryan understood that "his brother loves him and he doesn't have control of this," Beca said, but at the same time, she and Pedro did not want Bryan to associate love with suffering. It's "very concerning for us," Beca explained, "I don't want him to understand that [it's okay for] anybody else . . . to hurt him."

Yet Matt was quite emotionally sensitive. He cried and was "devastated," Pedro said, when a teenage player online that Matt did not know verbally called him a "dumb jerk" over the headset connected to the PlayStation 4 game they were playing together. Pedro drew a distinction between Matt's own feelings and his recognition of others' emotions. He said that Matt was "egocentric" because he was "ultra, mega, hypersensitive about himself" when others were mean to him online and offline, but that he lacked "self-awareness" because "he never sees that the same thing that he does all the time hurts other people." Though Matt and Bryan both had a diagnosis of autism, they had diverging emotional experiences, which were themselves shaped by the technology they used, by the people they interacted with on those platforms, and by one another within the digital game space and inside their shared bedroom.

Like Matt, Jeremiah, an 8-year-old White boy, had difficulty controlling his emotions during video game play. His mom, Natasha, reported that the staff at his afterschool program "were mentioning to us that Jeremiah never plays games [there] because he gets too mad when he loses. He has meltdowns." I observed these outbursts firsthand while he played Minecraft on the Xbox at home with Natasha, dad Neil, and younger sister Chloe. Jeremiah got very upset when Chloe did not notice that the sun was going down in

the game environment, leaving the rest of the family vulnerable when night fell because of monster attacks. “Chloe!” Jeremiah exclaimed, “Stop looking at the ceiling or else you’re going to die! . . . We’re all going to die because of you!” His parents tried to calm him down. “Jeremiah. Jeremiah, honey,” said Natasha, “Shh. It’s okay.” Interestingly, in my interview a few weeks prior, Natasha had said that Minecraft was “the perfect game” for Jeremiah because “it’s this world where there are no unknowns and you’re in complete control. You can decide everything, up to a point.” That point was reached multiple times during my observation, for although video games have clear mechanics, humans (especially little sisters) are far more unpredictable.

REFLECTIONS ON EMOTION

This chapter has examined how parents and family members interpret their autistic children’s emotions, how youth on the spectrum describe their own emotional experiences, and the role that media and technology play in that interchange. Some autistic kids can be very empathetic, while others might express emotions in a more reserved way, and this influences the media content they choose. Those who have additional challenges with language may also be drawn to certain technological tools and media texts for their affective qualities. Cyberbullying from both anonymous strangers and known peers online can have an emotional impact on autistic youth. Pixar films may oversimplify their feelings (*Inside Out*), provide them with emotive language (*The Incredibles*), or be too intensely emotionally arousing (*Coco*). I identified four key ways in which the mediated practices of kids on the spectrum are bound up with their emotional development: through understanding (i.e., learning how to recognize and name emotions through media), experiencing (i.e., media influencing their emotions, such as making them very happy or very sad), expressing (i.e., media as a tool for processing and sharing emotions), and managing (i.e., media as playing a role in the regulation and management of emotions).

This work speaks to practical issues of supporting autistic children’s emotional well-being in the digital age as well as to conceptual and theoretical debates about the relationship between computers, autism, and emotion. First, a great deal is still unknown about autistic children’s emotional lives. Some underexplored factors may be affecting these kids’ uses of media and technology as a coping mechanism. For example, there is a lack of

clinical measures to evaluate trauma among kids on the autism spectrum like Amaya, whose mother noted a marked change in her media use habits following an abusive incident at school.⁶⁴ Autistic children additionally marginalized on account of their race, ethnicity, and socioeconomic background are more likely to encounter environmental risk factors for mental health issues, such as lack of community resources and poor neighborhood safety.⁶⁵ The compounding social crises of the past few years in the United States, including the COVID-19 pandemic, school shootings, and racial violence, have only intensified the mental and physical trauma experienced by children and heightened the necessity of measures that better assess the socioemotional needs of autistic kids from these populations.

Second, the affordances of media and communication technology play a clear but varied role in shaping autistic kids' emotional development. Handheld, personal, and mobile media connected to the internet put highly salient tools for emotion regulation directly into children's hands. Smartphones and tablets allow those with disabilities to have greater independence and agency in how they spend their leisure time.⁶⁶ There is potential, though, for overuse or misuse. Parents should be attentive to how media can both stress and soothe their child, as well as how their child's processing of emotions may be related to their sensory processing.⁶⁷ It is important to help autistic children learn to regulate their emotions in ways that do not always rely on the comfort of a screen, because the technology may impede social interactions that are helpful for development.⁶⁸ Many caregivers were actively invested in finding out what their children were feeling and what they knew about emotions, providing them with materials for sharing their feelings, and helping them manage their mood. Parents drew on the resources available to them to make those decisions—resources, however, that were not equally accessible by all parents across socioeconomic and educational backgrounds.

YouTube can be a particularly tricky online platform for autistic kids and their parents to handle in terms of emotional well-being. Animated content on the site may make emotions more concrete and easier for children on the spectrum to comprehend. This can backfire, though, for kids like Eli who are vulnerable to heightened emotional arousal caused by screen media. The algorithmic, informational, and economic infrastructure of YouTube serves children "related" videos, but those recommendations can be more harmful than calming, as in the case of Amaya earlier in the chapter. Some

cartoons on YouTube might also appear to have an educational element but can actually contain graphic material likely to upset young children and alarm caregivers.⁶⁹ Additionally, autistic children themselves may be the subject of distressing content on the site. Several parents have posted videos on YouTube of their autistic child having an involuntary behavioral meltdown (on the premise that they are of educational value to other parents). Many in the disability community have condemned these clips, arguing that no one deserves to have their worst moments shared online.⁷⁰ Videos of kids in pain might be appealing or gratifying in some way to autistic kids like Moira, but young people also need to be protected from unanticipated algorithmically driven exposure to upsetting material.

Lastly, studying the emotional contours of autistic children's media and technology use up close highlights flaws in universal frameworks for emotional development, the widespread deployment of emotion AI, and enthusiasm for "emotionally aware" robots that interact with autistic children—and have been repackaged as a "distance learning" tool for isolated children during the COVID-19 pandemic.⁷¹ Few people who interact with these technologies are aware of their origins in autism research. Neurotypical people are the standard against which affect is measured through artificial models of emotional intelligence. Affective computing largely fails to capture the emotional nuances of autistic people and neurodivergent experiences, and, moreover, encodes neurotypical biases into algorithms.⁷² The field of "empathic media" has been underwritten by experimental research with autistic children and driven by the false idea that they fundamentally lack empathy.⁷³ Models of emotion recognition based on the individual overlook how affective meaning is shaped by the media environment and by social partners like parents, siblings, and peers (who may also be autistic themselves). Autistic children can react intensely to the affective states of others, including those emotions depicted in mass media, suggesting that empathy is far more intersubjective than commonly assumed.

The emotions of children on the spectrum are rarely, if ever, considered beyond a deficit-oriented perspective. This inhibits researchers from identifying the creative and constructive ways that media offers autistic children powerful tools for making sense of their emotions and learning how to handle them. The diversity of emotional experiences evidenced in the ethnographic material in this chapter complicates the narrow conceptions of autism, empathy, and theory of mind that have been drawn upon in the

development of affective computing and associated philosophies. The medicalized models of emotionality that are embedded in socioemotional prosthetics for autistic children center nonautistic minds and bodies as the ideal.⁷⁴ These frameworks neatly define emotion and bound technology within the realm of the curative, but they ignore the messy, porous world of autistic children's feelings while growing up in the digital age. In the next chapter, I offer a holistic reflection on young people on the spectrum as they navigate a social world that actively denies the validity of autistic sociality, and I propose ways that media—along with other social institutions—could better recognize and react to the significant inequalities that exist among children on the spectrum, particularly in the wake of the COVID-19 pandemic.

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