

## Improving Lives with Technology

### Supporting Adolescents with Autism Using Technology to Interact with Peers

By Nicole Anthony, PhD  
Assistant Professor of Special Education  
Fayetteville State University

Friendships are a vital part of adolescence. Friends provide advice and help with navigating through tough topics. As children grow into adolescence, they begin to rely more on the opinions of friends than parents to make sense of the world. Thus, adolescent friendships are an important resource outside of family (Woolfolk & Perry, 2015). Friendships usually begin by regularly conversing, sharing interests, and spending time in social settings (Woolfolk & Perry, 2015). Some friendships have the potential to last a lifetime, impacting career opportunities, dating relationships, community involvement, and mental and physical wellbeing (Lunstad, 2018). Unfortunately, while forming friendships can be fulfilling, adolescents with autism may have an extremely challenging time developing supportive relationships due to the core characteristics associated with the disorder (Anthony & Bobzien, 2021).

Social-communication challenges manifest as the imperfect ability to initiate in-



teractions, respond appropriately in conversations, or interpret implicit social cues (American Psychiatric Association [APA], 2013), and may hinder the development of friendships, leading to isolation, loneliness, and depression among adolescents with autism (Kelly et al., 2018). Hedges

et al. (2014) asserted that depression is more common in adolescents with autism than their neurotypical peers. Additionally, “rates of major depressive disorder have been reported as high as 37% in adolescents with autism compared to approximately 5% of adolescents in the general

population” (Hedges et al., 2014 pg. 1). Research has indicated that adolescents with autism want to build friendships with peers; however, they struggle to communicate effectively when social interactions become more complex and demanding (Kelly et al., 2018). Because effective social-communication skills are essential to initiating and maintaining friendships, obtaining employment, and independent living, there is a need for targeted interventions that address these critical skills (Ke et al., 2018). Technology has shown to be a viable intervention choice when used to remediate the social communication skills of adolescents with autism.

#### Technology Use and Adolescents with Autism

For more than 25 years, researchers have used technology to improve the social-communication skills of individuals with autism (Odom et al., 2015). Advancements in technology like smartphones, iPads, and virtual reality systems give adolescents with autism an opportunity to engage in age-appropriate activities while

*see Interact on page 24*

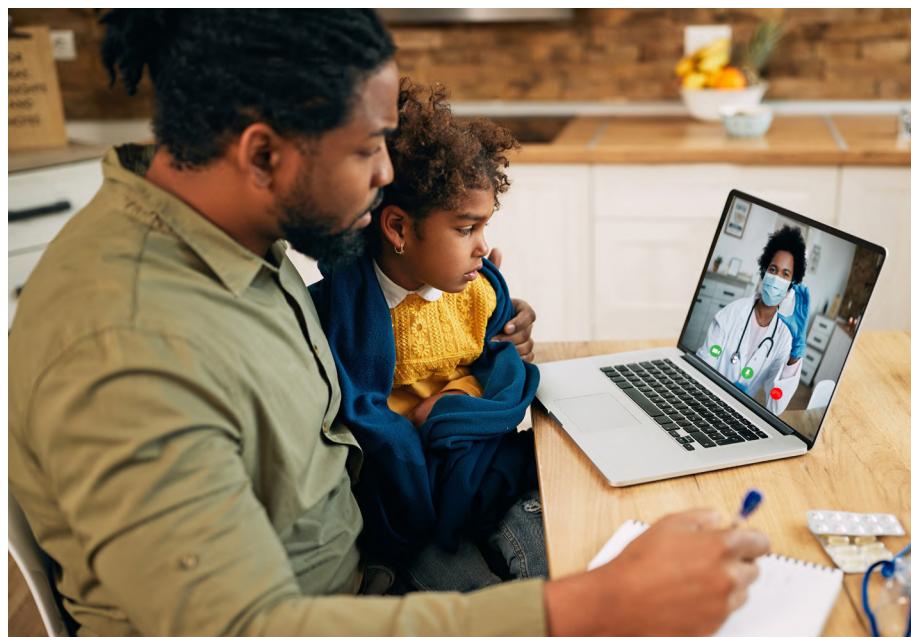
### Promoting Inclusivity in the Telehealth Movement

By Maulik Trivedi, MD, FACEP  
and Patricia Wright, PhD, MPH

The emergency department (ED) is often a chaotic, loud, and, frankly, frightening place. Patients may be yelling; monitors and alarms are continuously sounding off; staff are hurrying around; police officers may be present; and overhead pages are squawking every few minutes. There is very little privacy, with patients often separated by a curtain or even evaluated in the hallway. If you are in the waiting room, there is none at all.

Recent research studies have shown that individuals with autism have higher ED utilization as compared to their same age peers (Beverly, 2021; Liu, 2017). Because some level of chaos is the rule rather than the exception in many EDs, it is often far from an ideal setting to provide the optimal level of timely care to any patient. For individuals with autism spectrum disorder (ASD), the stressors of an ED visit are especially high and can be extremely overwhelming. The visit can be more traumatic than the reason for going in the first place.

ED staff do an incredible job caring for each patient in these stressful environments. In some hospitals, EDs have created



autism-friendly sections with less sensory stimulation, noise reduction, and special staff training. Unfortunately, these specialized departments are often only found in larger, more populated centers and still do not address the fact that the individual is outside of the comfort and familiarity of their home setting.

#### A More Supportive Alternative: Telehealth

Not all visits to the ED result in a hospital admission, and it is possible to develop solutions other than the ED when providing non-urgent care, as a 2019 research study found. However, medical care outside of the home environment can be high-

ly disruptive to a person on the spectrum. Telehealth offers a way to address many medical concerns in a patient’s home, without a major disruption to the individual’s routine.

In addition, telehealth may provide more effective healthcare. The provision of healthcare, including emergency care, to individuals on the spectrum has been deemed inadequate, as recent research reports have shown (Jensen et al., 2020; Rooth & Olindner, 2016; Zwaigenbaum et al., 2016). Increased utilization of telehealth is one avenue to improve care provision to autistic individuals.

The COVID-19 pandemic induced a significant increase in telehealth utilization, as demonstrated by a 2021 study that had 937 patients complete a survey after their telehealth appointment. Just 10% of these patients had previously utilized telehealth. This study also reported strong satisfaction from both health providers and patients regarding the telehealth experience.

#### Benefits for Patients with Autism

If there has been any silver lining to the pandemic, it has been the greater acceptance

*see Inclusivity on page 24*

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# What Autistics Can Contribute to Technology

By Samantha Alba, MA, BCBA  
and Eleanore Bednarsh, MA  
Spectrum Innovates

Technology can support autistic people in many ways, but autistic people also have so much to offer in the field of technology. Autistic people with an interest in STEM-related fields (Science, technology, engineering, and mathematics), combined with their natural cognitive and character strengths, create a recipe for innovative and dedicated advanced technicians. Long-gone are the days of centering autism only as a deficit. Within the neurodiversity framework, autism is viewed from a social model of disability. This means that there are incongruences between the environment and needs of the autistic person. Solutions should focus on uplifting strengths and making accommodations and modifications to the environment to best support someone's functioning (den Houting, 2019; Cope & Remington, 2021).

Within this perspective, it is important to create space for conversations that center on autistic strengths. There's no doubt that existing as an autistic person in a world built for neurotypical people can be challenging. As Dr. Stephen Shore said, "If you've met one autistic person, you've met one autistic person," meaning every autistic person experiences their unique blend of autism traits differently. Although this is true, current research from employed autistic adults reveals self-identified patterns of strengths in certain cognitive, emotional, and personal qualities that are commonly experienced by autistic people (Cope & Remington, 2021). With that, there should be many opportunities for autistic people to work in a supportive, neurodiversity-affirming environment that allows you to use your authentic, autistic strengths.

## Special Interests and Strengths

Harnessing special, or focused, interests can be an entry point for autistics in their field of employment. For me, when I first stepped into my 12<sup>th</sup> grade psychology

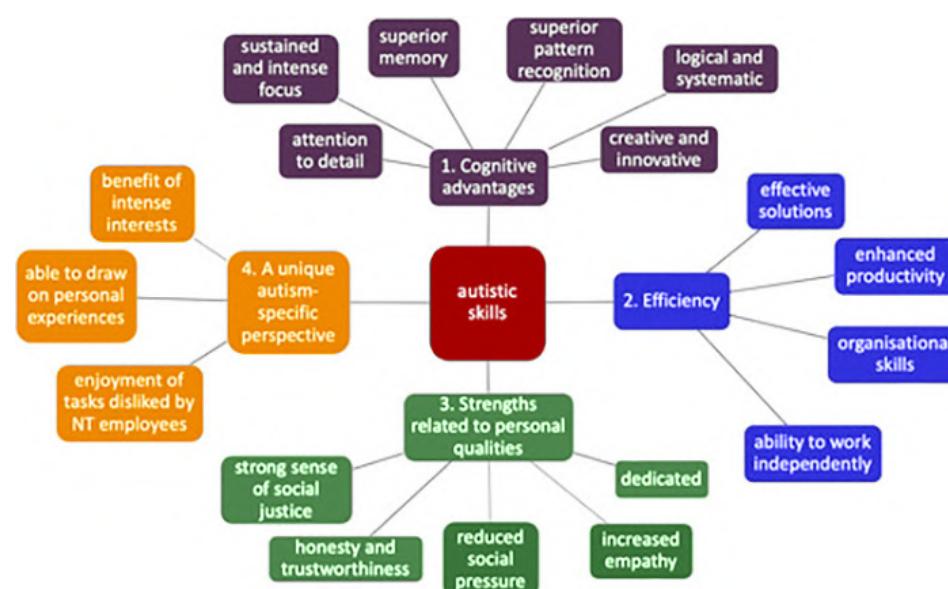


Figure 1. Autistic skills and strengths (Cope & Remington, 2021)

class and learned about the different areas of the brain, what motivates people, and the many other ways we as humans have been studying our own minds, emotions, and behaviors, I was hooked. Although at the time I didn't know I was autistic, I had an unexplainable desire to understand others. Almost 9 years later I have a bachelor's in psychology, a masters in cognitive science in education, and a range of research and clinical experiences that have all been fueled by my special interest of psychology. Now, this is not the case for every autistic person. Anecdotally, many autistic people find employment in fields that differ from their special interests. Many special interests are a reprieve from the outside world, a chance to go inward and learn, practice, and repeat; rebel against a desire to perform and produce. But it is an option if you envision a career related to a long-time special interest. It is also a way to engage and motivate autistic learners. With a special interest in a STEM-related topic, autistic students may have an inherent drive to learn about these topics which can lead to very successful vocational outcomes (Forman, 2021; Kaboski, 2014).

Autistic people possess many strengths that can benefit the technology industry.

These strengths have been identified by both autistic people themselves, employers, and researchers (Cope & Remington, 2021; Russell et al., 2019; Attwood, 2015). These strengths include but are not limited to pattern recognition, logical and systematic problem-solving, attention to detail due to enhanced local processing, sustained focus, innovation, creativity, offering a unique perspective, honesty, loyalty, and dedication (Cope & Remington, 2021; Mottron et al., 2006). See Figure 1. Autistic skills and strengths, a diagram from Cope & Remington's 2021 study, *The Strengths and Abilities of Autistic People in the Workplace*. Within the field of technology, pattern recognition, logical and systematic problem-solving, and attention to detail can be invaluable skills. The personal qualities of honesty, trustworthiness, and dedication are excellent qualities of employees. These cognitive skills and qualities are being noticed by top companies. Corporate leaders have identified the autistic community as having unique untapped talents, skills, and creativity. Microsoft, Ford, SAP, DXC, and JPMorgan Chase, members of the [Autism at Work consortium](#), affirm that companies that can effectively tap into this talent pipeline will hold a competitive advantage.

## Creating Educational Opportunities for Successful Employment

The ever-changing needs of technology roles today require broad knowledge and technical skills that can be applied in a wide range of roles. "The jobs of today are more machine-powered and data-driven than in the past, and they also require more human skills in problem-solving, communication, interpretation, and design" (Center for Occupational Research and Development, 2021). It is crucial that we create educational opportunities that prepare students to not only gain employment but enter these roles successfully.

Unfortunately, approximately 85% of autistic adults are underemployed or unemployed nationally (Roux et al., 2017). There is a gap between autistic potential and successful opportunities for application of skills towards employment. Transitioning into adulthood and successful employment is a difficult period of life for anyone. There are many shifts in ways of thinking, new responsibilities, and changing relationships. The difficulties experienced with autism such as differences in communication styles between allistics (i.e., non-autistic people) and autistics, social engagement, and other developmental delays creates more roadblocks towards employment (Milton, 2012; Baker-Ericzen et al., 2017).

Autistic students age out of services governed by the Individuals with Disabilities Education Act (IDEA) between ages 18 and 22, and the social welfare laws mandating specialized services end abruptly - "falling off the cliff" - destabilizing their lives. Families are further overwhelmed and left scrambling to find programs for their children that lead to employment. Existing programs are often based on a deficit model rather than harnessing strengths and do not facilitate the development of essential social emotional and life skills required for sustained competitive employment (Koenig & Williams, 2017; Fletcher-Watson & Happé, 2019).

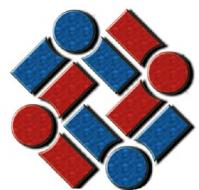
see *Spectrum Innovates* on page 6



Students learning in  
Vaughn College's hanger



STEMconnector Day of Design Challenge: Spectrum Innovates  
and Vaughn participants presenting their solution



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# New Book Offers Firsthand View of the State of Public Policy for the Field of Intellectual and Developmental Disabilities in New York

By Arthur Y. Webb  
Executive Director  
New York Integrated Network  
for Persons with Intellectual and  
Developmental Disabilities (NYIN)

Leaders in intellectual and development disabilities (I/DD) are in the crosswinds of a crisis because of the lack of clarity and predictability about New York State's timing and direction of managed care. The result of trying to plan for vulnerable persons served is obvious and unacceptable: *The field is indeed dangling* while awaiting a final definitive policy statement.

It is important to note that Ms. Kerri Neifeld has been nominated by Governor Kathy Hochul to be the new Commissioner of the New York State Office for People with Developmental Disabilities (OPWDD). This is a promising appointment and a time to be supportive. The state office will now have had five commissioners going on eleven years. Leadership continuity, as for most organizations, is an essential pillar for success.

Equally important is understanding the pathway to the current state of affairs. This is why I have written and published a new book, *Dangling on a String: The Future of Public Policy for the Field of Intellectual and Developmental Disabilities in New York State*.

The title is based on a phrase I have heard many times in my career about the need for management to be definitive about strategy and policy. Although there are several meanings and connotations, I am using the title to characterize the current uncertainty of public policy in the I/DD field.

The point of the collection of papers in the book - commentaries, policy memos, and journal articles (including those from *Autism Spectrum News*) - is to portray the vigorous intellectual and policy thinking over the last ten years in New York State in the area of I/DD.



Arthur Y. Webb

As I write in the book, the human spirit is wondrous but complicated because it so often resists change in the desire for stability or homeostasis. On the other hand, there is the spirit of adventure and discovery. What a joy it is to behold when a person with intellectual and developmental disabilities discovers something new!

My intent as an author is to open the door for discovery by analyzing the past decade, building on the conclusions and experiences as a fresh starting point to reinvigorate the field.

Without an explicit vision, we would be at a loss about the key decisions to arrive at a sound future. Despite the fact that significant fixes are necessary in the current system, I see genuine possibilities for the years ahead.

I had the advantage of being a participant and firsthand witness to the strife in the field, owing to the opportunity to work with a collaborative of leading organizations. The members were dominant players because of the breadth and depth of the services provided in their agencies. They

continue to build on a proud legacy (New York Integrated Network for Persons with Intellectual and Developmental Disabilities - NYIN).

The primary goal of my career has been to build the capacity to help people live as independently as possible. We need to push the system to its outer limits to create the circumstances for individuals to make their own decisions and take charge of their lives.

In *Dangling on a String*, I discuss the "Cuomo Effect." Governor Andrew Cuomo has always stood for social justice. In view of this, it is baffling that he did not do more the entire time he was in office to help individuals with intellectual and developmental disabilities. His failure to advance the reform of the I/DD field is the one thread left out of the former Governor's whole cloth of social justice (keep in mind that I prepared this book before he resigned in August 2021).

Frustration with the gubernatorial lack of attention has greatly influenced my opinions. The time and attention devoted to warding off the continued financial erosion of the field was - and is - enormous. So much political capital was expended during the battles of the past 10 years that the field was in jeopardy of losing its footings, much less advancing any vision.

The harsh judgment of Governor Andrew Cuomo's lack of leadership in this area of public policy is not overstated. More than even benign neglect, the failure at the top was total neglect.

Some of the Governor's actions could be construed as hostile, particularly his continued proposed cuts to the field. Another startling example was turning his back on how the COVID crisis early on was dramatically and dangerously affecting everyone in the entire field, first and foremost those who depend on government, medical, and societal support.

Passion and determination were key elements in the success of the modern social revolution starting with the Willowbrook

Consent Decree in 1975. Of course, the parents who started the movement in the late 1940s are the ones we need to honor. However, we can put those qualities to work, mixing them with creativity, reason, and good science to get us down the road.

As an optimist for over 50 years of professional life, I have seen the best of what humanity can achieve as well as what happens when we lose our way, in some cases in painful ways.

As we move forward, I do believe that we can and should be optimistic. With a little bit of mind-bending and then throwing in a little luck, we can create a wonderful future for men, women, and youth with intellectual and developmental disabilities. They have a right to choose self-direction to fulfill their long-held dream of a life of freedom.

My book aims to help stakeholders frame the answers to critical policy questions. You will see an ad in this issue of *Autism Spectrum News* to [access/order the new book: \*Dangling on a String: The Future of Public Policy for the Field of Intellectual and Developmental Disabilities in New York State\*, by Arthur Y. Webb.](#)

*Arthur Y. Webb was the former commissioner of OMRDD (now OPWDD) from 1983 to 1990 and Executive Director of Division of Substance Abuse Services (now OASAS) from 1990 to 1992. Mr. Webb has held several senior executive positions in government and the nonprofit sectors. For the last ten years, he has been a consultant working with numerous nonprofits to translate public policy into innovative solutions. From 2011 to 2021, he was the Executive Director of the New York Integrated Network for Persons with Intellectual and Developmental Disabilities (a nonprofit collaboration of 12 providers). Presently he is the Executive Director of Alliance for Integrated Care New York (AICNY), a Medicare Accountable Care Organization for persons with I/DD. Contact: [arthur@arthurwebbgroup.com](mailto:arthur@arthurwebbgroup.com) or 917-716-8180*

## Spectrum Innovates from page 4

### Bridging the Gap With the Spectrum Innovates Pathway Program

So, the question remains, how do we bridge the gap and create a pathway for autistics interested in STEM to bring their strengths and unique perspective to technology roles? Our team at [Spectrum Innovates](#) is creating an experiential, hands-on, immersive transition program, [Spectrum Innovates Pathway Program \(SIPP\)](#), that engages students' strengths while practicing essential social, emotional, and life skills needed to gain successful employment and thrive as an authentic autistic adult. Experiential learning, which will take place in the Innovation Hub; makerspace has been shown to increase student learning (Silberman, 2007; Yook Kin Loong, E., 2014). SIPP translates current research into practice in the design of an educational program that prepares students to succeed in higher education and enter



Samantha Alba, MA, BCBA

the workforce. The program also responds to recent calls for research on the positive effects of engaging special areas of interests (SAI) for individuals with autism in school and workplace settings, and builds on current research by utilizing SAIs as



Eleanore Bednarsh, MA

strengths in interventions designed for autistics (Sun San Wong, 2018; Koenig & Williams, 2017). Our Autistic students will be encouraged to engage in their technology-related special interests and utilize their cognitive and personal strengths within

their academic and makerspace work. [The National Science Foundation ATE](#) division awarded Spectrum Innovates a research grant in recognition of SIPP's potential to profoundly impact education for autistics and facilitate their entry into advanced technological careers.

Not only will SIPP students engage their special interests and use their strengths and natural abilities to guide them, but they will be given daily opportunities to learn about and practice essential social, emotional, and life skills. The skills of problem solving, goal-oriented thinking, asking for help, collaboration, and self-advocacy are infused, explicitly practiced, and applied as part of the work in the Innovation Hub and classroom. Skills within the main social emotional learning (SEL) competencies of self-awareness, self-regulation, social awareness, relationship skills, and responsible decision-making emerge and are utilized as a natural consequence of

see [Spectrum Innovates on page 33](#)

**“A ‘must read’ for all working in the field  
of Intellectual and Developmental Disabilities”**

- Steve Freeman, former CEO of YAI and President & CEO, Stephen Freeman Group

*Former Commissioner, Arthur Webb, speaks out on the impact of COVID-19 on the field of I/DD, the financial stress providers are facing, liberty and human rights, state planning, the importance of managed care, and the Cuomo effect on policy.*

**This collection of papers makes clear the weakness of public policy meant to ensure the rights of people with I/DD. Dangling on a String captures the state of affairs in New York.**

- Laura J. Kennedy, Past President  
The Arc New York

**Mr. Webb has done an excellent job capturing the trials and tribulations of the past ten years for the intellectual and developmental disabilities field.**

- William R. Guarinello, President & CEO  
Heartshare Human Services of New York  
and Chair of the NY Integrated Network

**We see in this collection of papers that we are in a state of limbo that has existed for the past decade, which has been a detriment to any progress in public policy.**

- Susan Constantino, President & CEO  
Cerebral Palsy Associations of NY State

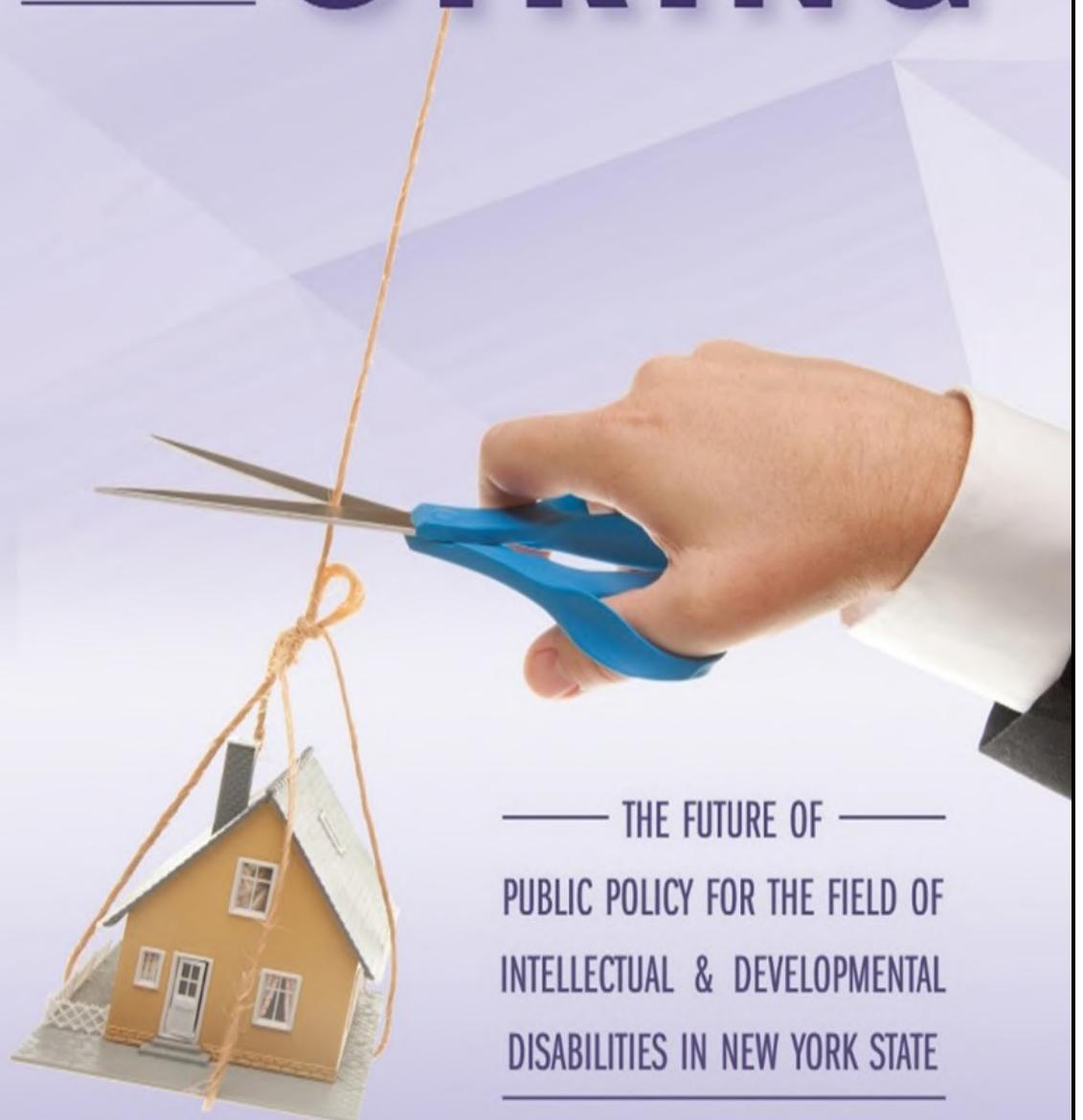
**The overall collection is a major statement of how important it is to have a clear, certain, and compassionate public policy.**

- Marco Damiani, CEO, AHRC NYC

**Mr. Webb always provides our clients with comprehensive and actionable thinking and recommendations on health issues.**

- James Capalino, CEO and Founder  
of Capalino

# DANGLING ON A STRING



**Arthur Y. Webb**

# How Physical Distancing Brought Us Even Closer Together

By Roger J. Jou, MD, MPH, PhD  
Child, Adolescent, & General Psychiatrist  
Yale University School of Medicine

Five years have passed since I last wrote about our social recreation group CASY Sparks, previously known as Project CASY (Community Autism Socials at Yale) in the Spring 2016 Issue of *Autism Spectrum News*.

CASY began to flourish in 2016 with the establishment of The Daniel Jordan Fiddle Foundation Adult Autism Research Fund whose endowment continues to support this effort. At that time membership was less than 200 with the group being only two years old (founded April 2014). In 2021, the group turned seven years old, and I'm pleased to say we are stronger than ever with total group membership approaching 1,500. Ironically, much of our growth occurred during the pandemic, and how we grew cannot be reflected alone in group membership numbers. Driven by necessity, we made a major pivot from local in-person meetings to global virtual meetings using Zoom videoconferencing. We re-invented ourselves as "CASY Sparks" which became a borderless community focused on discussing topics that are interesting or important to autism and autistic communities, initially within the United States. While we continue to value social recreation, our community rapidly developed globally in



response to the myriad meetings we could offer online. At the height of the pandemic, multiple groups were offered most days of the week. With the rapid adoption of certain technology, we were able to improve lives during a period when the world was suffering both medical and psychological consequences of the COVID-19 pandemic. Much to our surprise, we were interacting much more than we ever had been prior to the pandemic.

To understand how this works, it is important to discuss some limitations of in-person meetings. It is worth emphasizing that not everyone likes face-to-face group interaction. While this format has been the gold standard since the beginning of civilization, this is not necessarily the case for 100% of the population. Part of being inclusive and mindful of neurodiversity is having the awareness that other formats of human interaction are also valu-

able. By eliminating many logistical barriers (i.e., transportation, time constraints, coordination, etc.), videoconferencing technology has allowed participation with minimal disruption to routine and daily life. This may partially explain the popularity of working from home. Less obvious benefits exist in the realm of psychological, communication, and sensory needs. For example, videoconferencing can help mitigate the crippling anxiety of being in a group. There is rarely direct eye contact since most are looking at their monitors and not into their cameras. Furthermore, attendees can turn their cameras on or off as well as mute themselves. Volume can be adjusted on the computer and different screen views are available. It is easy to discreetly leave an online meeting without disruption and many groups allow people to join in without having cameras turned on or even uttering a single word during the meeting. Technology offers more options for the participant, and they can adjust various parameters to fit their preferences and needs. While different groups have different rules, CASY Sparks allows a great degree of flexibility, and we welcome people to participate how they prefer.

Perhaps the greatest benefit of technology is helping like-minded people find one another. This has always been an ongoing challenge for in-person groups prior to the

see Together on page 14

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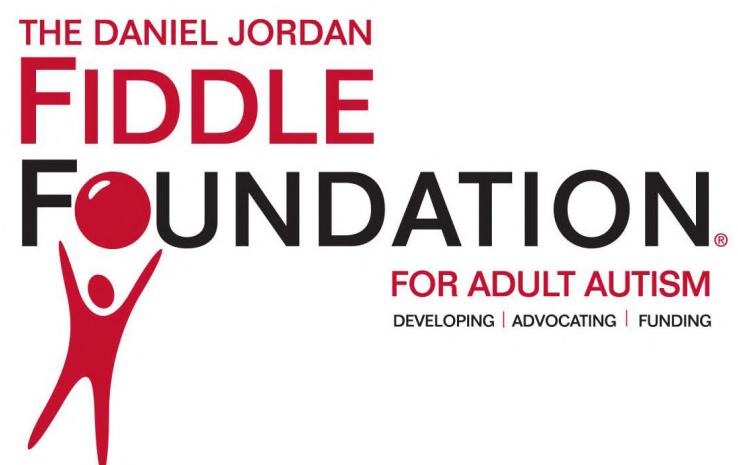
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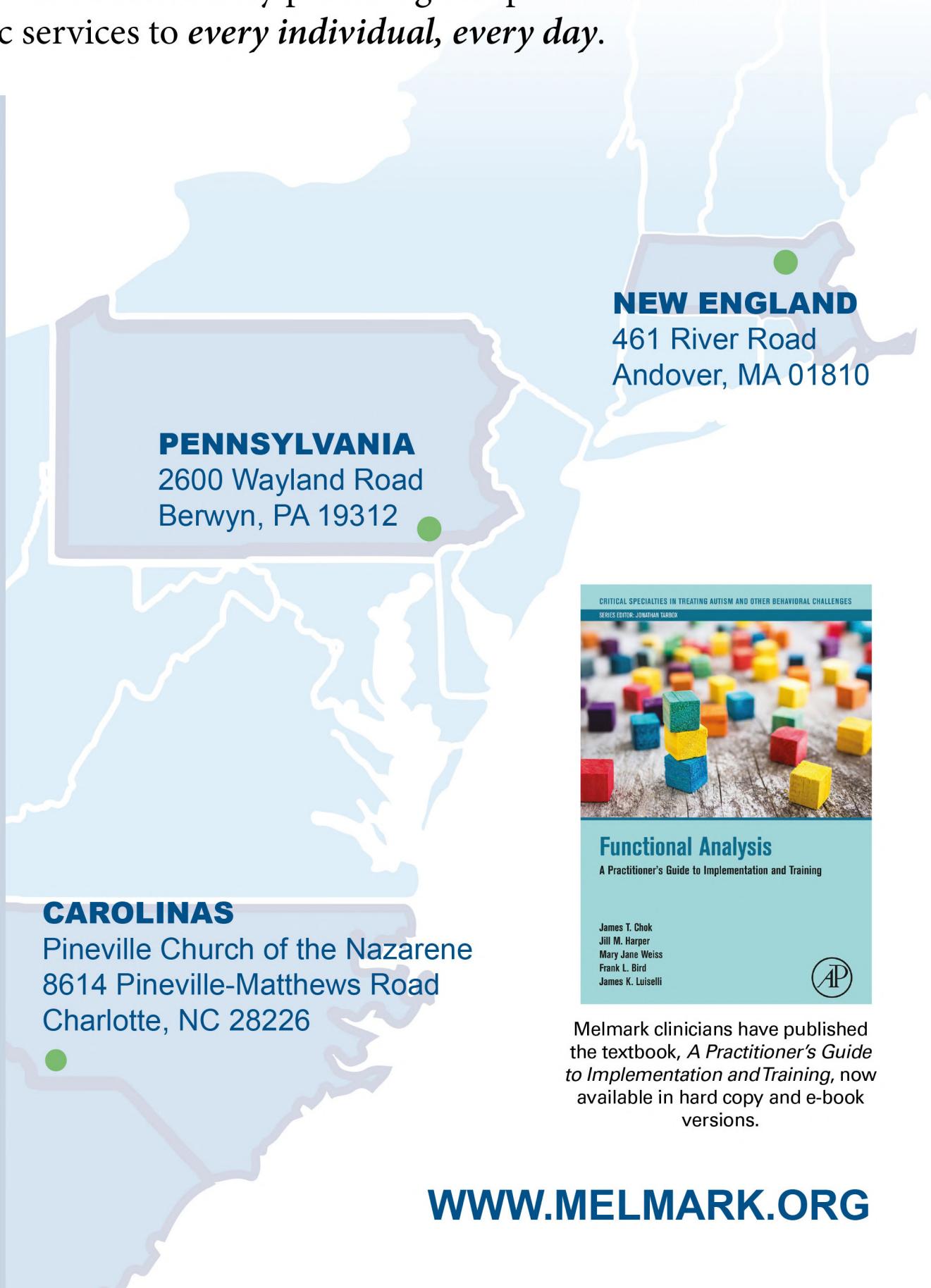
Tyler working on reading skills with Kelly Anglin, Special Education Teacher, at Melmark New England



Carrie working on her lesson plans with her teacher, Anna Eisenberger, M.Ed., at Melmark Pennsylvania



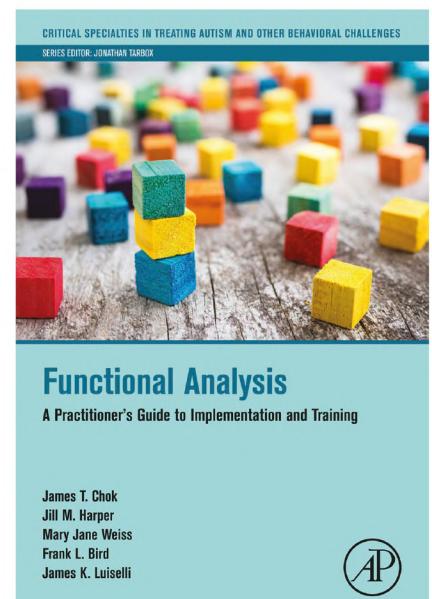
Simeon enjoying a walk with Melmark Carolinas Director of Program Administration and Clinical Services, Brad Stevenson, Ph.D., BCBA-D



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# Technology Continues to Enhance the Lives of People AHRC New York City Supports

By AHRC New York City

What started as a discussion about how to keep the people AHRC New York City supports and their families more connected amid the pandemic has turned into a popular [virtual Friday Night Dance Party](#).

With the city on lockdown and summer camp closed, there were no opportunities for in-person dances, which were frequent at camp and quarterly in the city. Just before Easter in 2020, Joe Antcliff, aka JoeJoe the DJ and a Recreation Supervisor with AHRC NYC's Camping and Recreation Department, reunited people with disabilities via Zoom. Many of the people AHRC NYC supports were unable to work or attend employment or day programs due to the pandemic's restrictions.

## Creating a Sense of Belonging

It's pure joy for attendees – rocking to tunes from Bruno Mars, Michael Jackson, the Village People, and many more. Each evening ends with Frank Sinatra's "New York, New York," of course.

"That's when all the parents come out and dance with their sons and daughters. The parents wave," Antcliff says. "It's



**Alan Bessen, who has been volunteering for more than two years, enjoys teaching cartooning via Zoom**

just a really nice atmosphere, so positive. We've created a sense of belonging."

Having not seen one another in person for nearly two years, attendees can hardly contain their excitement. They are unmuted briefly at the start and the end of the evening. In between, there's music, an ongoing chat, and Antcliff highlighting different participants via Zoom. The nonstop chat is another form of connection.

"Ivanna, you are my friend forever," Eddie writes.

Phone numbers are exchanged, friends greet one another. On this night, Ned gives an update on his uncle's dog Levon: "He, unfortunately, didn't make it."

After several condolences, Ned divulges that Levon wasn't drinking enough water. "It was kidney failure," he writes. "Now let's dance!!"

Despite being virtual on a computer, everyone can feel the energy, Antcliff says. "It has broken down that sense of isolation from the lockdown."

## Volunteer Shares Talent from Across the Country

Chloe Baker, a young singer and songwriter, had no connection to the disabilities field when she volunteered to conduct mock interviews with the people AHRC New York City supports. When she mentioned she was a singer, her role quickly changed.

While she performs once per week via Zoom, Baker clearly is at ease with her guitar and piano or singing to instrumental versions of songs people request. Her audience is very accepting and doesn't seem to notice that she was up early in her California hotel room, opposed to her music studio.



**Playing from her California hotel room, Chloe Baker enjoys connecting with the individuals from AHRC New York City**

"Chloe is a good singer," said Geriel, who attends the weekly session. "I like when she uses her instruments."

"When they start dancing, that brings me so much joy," Baker said. "When I find a song they connect with, it's the best feeling."

Baker finds herself raising awareness about mental health issues through her songs. "I know I can speak to this," she said. "I really just want to make people feel empowered and not ashamed of parts of themselves they don't like. Accepting those things are only going to make us stronger."

Aimee, who enjoys listening to Baker's music, has another benefit.

"Music makes me feel good," she said.

## Volunteers From Near and Afar

Zoom, Facetime, and Microsoft Teams have become part of many nonprofits' vocabulary in the last nearly two years.

"Technology had made a huge difference in our ability to recruit more virtual volunteers than we ever could have for in-person programs," said Karen Zuckerman, Director of Volunteers and Corporate Engagement.

Currently, AHRC NYC has between 60-80 volunteers and programs. The programs range from mock job interviews with volunteers from NYU Law School, cooking with Common Threads, fitness classes, to wrestling talk groups, art classes, and much more.

## Teaching Cartooning in a Fun Way

It was Thanksgiving week and the theme in Alan Bessen's cartooning session was "Any Bird but a Turkey."

And there was Bessen drawing Tweety Bird, Woody Woodpecker, and Daffy Duck, to name a few. As he draws on his whiteboard from his Queens, N.Y., apartment, 22 individuals from AHRC NYC sketch from home via Zoom. Bessen has volunteered with AHRC NYC for about two-and-a-half years.

"We have those classic cartoon eyes, oval with dots in them," he says, guiding his fellow artists.

Before the pandemic, Bessen would bring help sheets to guide the artists' work on their cartooning exercise. "They would draw away and didn't want to bother with me," he said with a laugh. That changed once they transitioned to Zoom.

As a cartoonist, published illustrator, and teacher with 15 murals across NYC, Bessen's passion for cartooning is clear as he works on subjects such as Any Bird but a Turkey. He tries to slow down, so the individuals participating via Zoom can follow along.

After a while, he checks on their progress – reviewing the likes of the Road Runner, Beaky Buzzard, and other feathered friends. AHRC NYC staff and Bessen praise the efforts.

Watching Bessen, it's clear he was built for cartooning. "It's the same thing I get out of teaching," he said. "I love when I see people are into it like I'm into it. It helps me keep my enthusiasm on a completely pure level. It's the love of doing it."

For more information, visit [ahrcnyc.org](http://ahrcnyc.org).



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# Advancements in Assistive Technology - Using Robots for Therapeutic Interventions

**By Timothy Gifford**  
**Founder and Chief Scientist**  
**MOVIA Robotics, Inc.**

Assistive Technology (AT) is an advancing field that helps individuals with special needs learn, grow, and participate in the community. These devices can take many forms and work at many levels. Robot-Assisted Intervention (RAI) is an advanced form of assisted technology. These tools can help the individual with special needs meet their educational or treatment goals. In RAI, the robot and other devices work together to support the individual's learning and therapeutic experience by providing different levels of assistance depending on the activity. The facilitator and the RAI system form a team to provide a positive and effective intervention for the individual.

RAI is very enjoyable and comforting for the individual. The robot is friendly and supportive, leading the child or adult through different activities that are designed to teach skills and provide opportunities to practice these skills. The robot can also provide therapeutic activities to help the individual. It can take many roles such as a friend, playmate, therapist, and teacher, switching between roles depending on the needs of the moment.

One of the main ways that RAI assists



**MOVIA Robotics use in the home to help the child meet their educational and treatment goals**

is through communication. The robot communicates on multiple levels. The system uses different technology to interact with individuals in specific ways that fit their preferred form of communication. It can provide supports for communicating visually, through speech, with gestures, singularly or in combinations. The RAI system can also provide any combination of assistance for an individual who needs help with receptive communication, expressive communication, or both.

Some individuals, for example, are not able to communicate verbally. For those individuals, the ability of the system to communicate visually through the tablet and through motions is very beneficial. Others have difficulties that slow their ability to either process incoming words or to form sentences and then communicate them. Some individuals cannot form speech but can understand speech from another person. These individuals have receptive communication. RAI can be tai-

lored to each individual's needs.

Verbal communications skills are vital to successful integration into modern society. The robot's animated delivery of speech provides an engaging platform for verbal interactions with the individual. The RAI system is well suited to individuals with receptive communication. The system provides training and practice in understanding speech as well as with appropriate and expected responses.

The RAI system includes a powerful visual communication device in the form of a tablet that the individual can use to interact with the system. The tablet displays images showing the topics being taught. It also provides an opportunity to give the individual training and practice with fine motor tasks.

The movements of the robot provide another form of communication. The robots are semi-humanoid, enabling them to perform movements and gestures that are like those of a person. These movements are used during the robot's speech to provide a more realistic experience for the individual. The robot and the individual can participate in coordinated movement games and activities. These coordinated movement interactions support social interactions and can also help the individual form a bond with the robot. When the individual attends to the gestures and timing of the robot,

*see Robots on page 29*

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# Cultivating Independence Through Technology

By Becky Lipnick  
Communications Lead  
Vista Life Innovations

Is it possible to live independently with a disability? This question is often a source of concern for those with a disability like autism. However, it is important to remember that independence can look different for everyone, and technology can play a valuable role in fostering independence. At Vista Life Innovations, a nonprofit based along the Connecticut shoreline that supports adults with disabilities, students and members regularly utilize technology to support their daily life. In this article, we will share stories from Vista about how technology cultivates and enhances independence.

Cooking can foster healthy eating habits, be a joyful hobby, and create meals that bring people together. It is a practice that often incorporates the use of technology such as a refrigerator, a stove or microwave, or dishwasher. Still, not everyone feels comfortable using devices like a stove or even traditional cooking tools. At Vista, students and members receive personalized training in these skills from experienced staff members. Additionally, many members elect to purchase assistive devices to help in their kitchens. There is a huge variety of kitchen gadgets available which are designed to make cook-



Vista members utilizing public transportation independently

ing accessible to all. From no-slip cutting boards to comfort grip cutlery, there is something for everyone. Quintin, a Vista member with autism who lives in his own condominium, absolutely loves using his air fryer. Utilizing devices like his air fryer and onion chopper, Quintin works with his Life Skills Instructor to learn healthy recipes. Additionally, Quintin's Life Skills Instructor supports him in increasing his comfort level with the stove, which he can use but often feels nervous about handling

independently. Pat, another Vista member with autism, is at ease cooking with a stove after training with his Life Skills Instructor while sharing in Quintin's excitement for specialty cooking devices. Pat says, "I am able to use the stove independently now and like using the George Foreman Grill too because you can make even more recipes that way. I like to cook a lot of things in the kitchen like western omelets, pot roast, meatloaf, and flank steak." For those who are prone to distraction while cooking, a

CookStop kit is also a potential safety option. This device automatically turns off a stove if motion is not detected in front of it within a certain amount of time. Some Vista members actively utilize a CookStop to safely prepare their favorite dishes. Whether it be to maintain kitchen safety or to make meal prep more fun, technology in the kitchen can be a valuable resource.

For many with disabilities, taking medications at the right time of day and in the correct dosage can be critical for a healthy life. Yet, this does not mean that individuals must always remain dependent on others for their medication. At Vista, students and members are trained in medication management to better understand and support their health. Evan, a Vista member with autism, was determined to gain greater medication independence when he joined Vista. By training with Vista staff, Evan learned the details of his medication needs, including what he takes, the dosage, and why it is important for him to take his medications as prescribed. "Developing my medication independence was a big accomplishment for me," Evan explains. "I've been able to become more independent with my medications and use a MedMinder to help me. It stores my medications and reminds me when it's time to take them." A MedMinder, as Evan said, is an electronic medication storage device. Each dose of medication

see Independence on page 23



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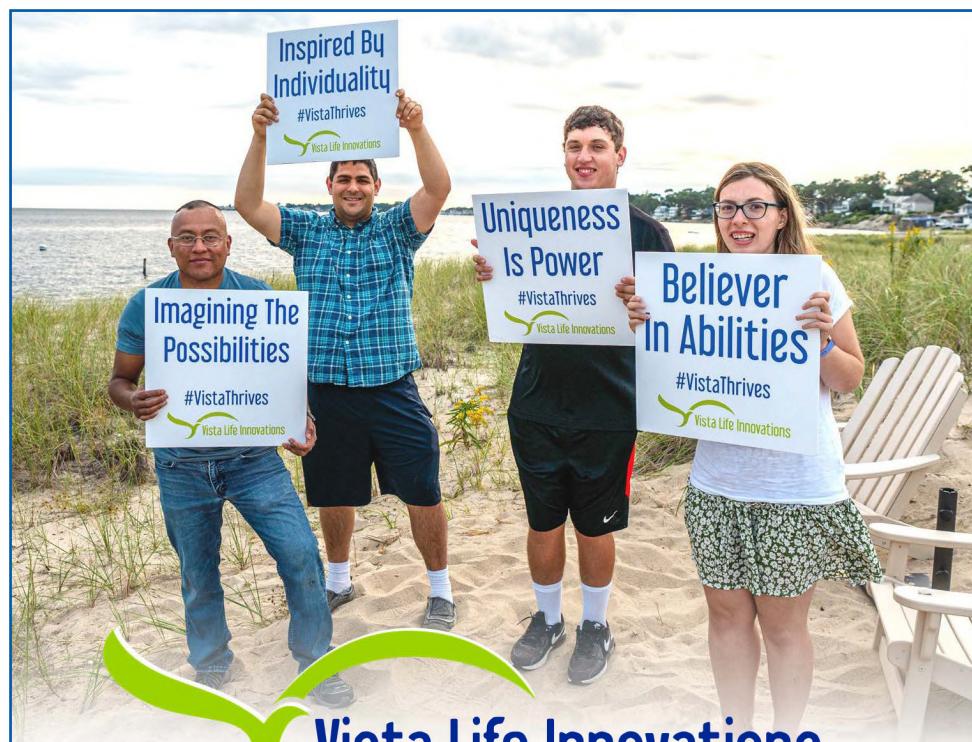
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# Remote Work Expands Career-Exploration Opportunities

By Jessye Herrell  
Education Manager  
Tech Kids Unlimited

Understanding the benefits and challenges associated with technology has always been central at [Tech Kids Unlimited](#), and the COVID-19 pandemic demanded even deeper exploration. Tech Kids Unlimited (TKU) is a NYC-based educational non-profit specializing in teaching technology and computer science thinking to neurodiverse youth, teens, and young adults. TKU taught our first tech workshop for youth in 2009, received 501(c)(3) status in 2014, and has since been ‘growing up’ with our transition-aged students by introducing career-readiness programs such as internships, college access programs, and work-based learning programs that emphasize self-advocacy and soft skills for employment.

Piloted in Summer 2020, [TKU’s Career Readiness Internship Summer Program \(CRISP\)](#) was envisioned as a 5-week intensive where interns would spend 2-3 days per week at an external internship site and the balance of time with TKU mentors. CRISP is intentionally structured to provide a mix of explicit instruction in career-readiness skills and abundant opportunities to apply them during internship work. This aligns with findings from



TKU students and staff gathered in person for an outdoor social event in September 2021

[Gates, Kang and Lerner’s 2017 study](#) about the efficacy of group-based social skills interventions (GSSI) which reported participants’ increased *knowledge* of skills but a lack of skill *demonstration*. The authors recommend that facilitators “provide more opportunities for participants to practice the performance of these learned skills in real situations” (p. 175).

Disrupted but not dissuaded by COVID-19, TKU launched CRISP entire-

ly remotely in Summer 2020 and again in Summer 2021. TKU was well-positioned to adapt to virtual programming - much instruction already took place on screens, staff were well-versed in digital tools, and students have an affinity for technology. We observed unexpected benefits of virtual internships and have considerations for the future.

Running the internship program remotely allowed the inclusion of interns who live

outside of NYC or for whom it may not be feasible to travel to their internship site or TKU (located in downtown Brooklyn) for other reasons (familial responsibilities, cost, health issues, etc.). For example, one intern remained on-campus at an upstate NY college during Summer 2020 and was still able to fully participate. Similarly, several interns took family trips during the five weeks of the internship - common during summer recess - and maintained their participation while traveling.

TKU also worked with a broader group of employers, namely those outside of NYC that interns could not realistically travel to daily. Many CRISP internship placements are with smaller organizations and businesses that have limited resources to supervise in-person interns (e.g., limited workspace or technology for intern use). Facilitating remote internships using Zoom and other digital resources enabled us to include smaller businesses, often with shared interest in improving employment outcomes for neurodiverse people.

Connecting with employers that share TKU’s mission is beneficial to our interns. In a systematic review of studies about employment facilitators and barriers for autistic people, Harmuth et al. (2018) found that “a network of supportive and understanding people surrounding the adult with ASD, including coworkers (e.g., Hudson,

see [Remote Work on page 35](#)

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>> AGES 7 - 21

## Together from page 8

pandemic. Historically, these events can attract large numbers of participants, depending on the activity. With larger groups comes greater diversity which can be a great asset. However, when there are large differences in social communication styles, interests, sensitivities, needs, and other preferences; establishing relationships can be extremely difficult and this is consistent with our observations over years of first-hand experience. More specifically, any connections made tend to be minimal or superficial. They may be restricted to the event with neither carryover outside the event nor subsequent events, even across the same group. On the other hand, there are some events that have too few participants to form a meaningful group. This is more common in certain discussion-based groups and defeats the purpose of sharing diverse perspectives. With too many negative experiences, people may prematurely abandon the approach and will not try again even if there are significant improvements over time.

There are many possible contributors to these observed patterns, but one common denominator is how and how much partic-



Roger J. Jou, MD, MPH, PhD

ipants differ from one another. Put simply, if people are too different from one another in certain respects, then it may reduce the likelihood they will connect. This goes far beyond people having different political or religious views and encapsulates more basic social communication needs, preferences, and social pragmatics. If participants adopt similar communication

technologies, they can find one another by uniting on their preferred online platforms. This also helps individuals connect around certain interests because the community is no longer local. Leveraging social media permits access to a global community which only increases the likelihood that like-minded people will successfully connect and stay connected.

Like most things in life, there are both risks and benefits, and this is especially true with regard to internet technology. In the words of Nobel Peace Prize Recipient (1921) Christian Lous Lange, “Technology is a useful servant but a dangerous master.” The untoward effect of the internet and social media is a topic of intense discussion and must be used with great caution. Any powerful tool can be as harmful as it is helpful with the difference being the users. We are working hard on the answers on how to fully leverage technology while minimizing risk; however, there are no simple solutions, and these are unlikely to be applied evenly across neurodiverse populations. If our mission is to improve lives, then we have a duty and will never be absolved from trying. While complete solutions are currently unclear, what is abundantly clear is

the potential benefits of technology – it is how physical distancing brought us even closer together.

*Dr. Roger Jou is a psychiatrist, researcher, and community developer who specializes in autism across the lifespan. He is the principal investigator of several autism clinical studies at Yale School of Medicine. He is also the founder of CASY Sparks and other online groups benefiting autism communities nationwide. Detailed information is available on multiple social media platforms @DrRogerJou or [www.meetup.com/ProjectCASY/](http://www.meetup.com/ProjectCASY/). He can be reached via email at [roger.jou@yale.edu](mailto:roger.jou@yale.edu).*

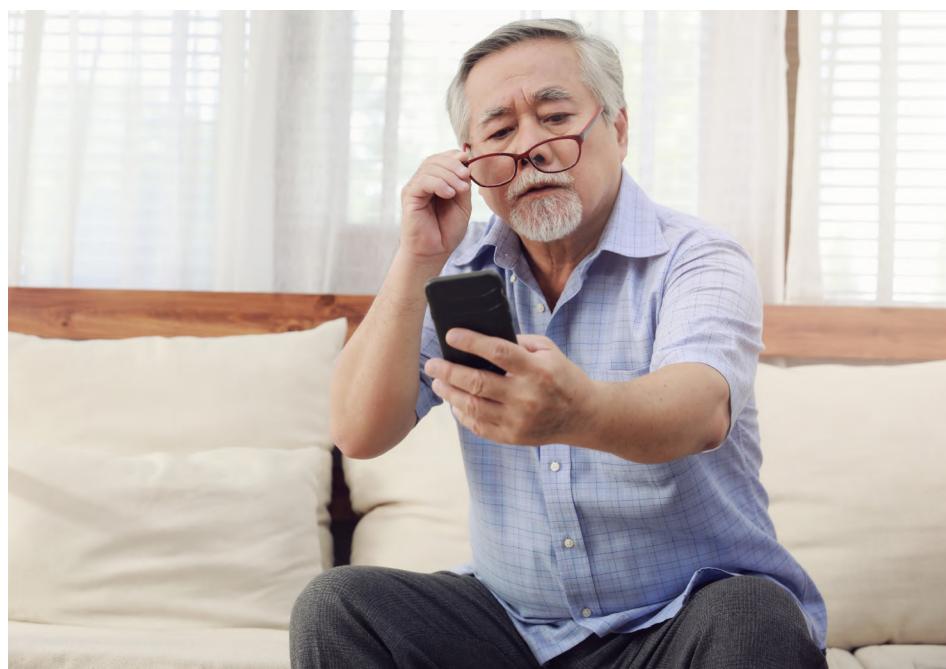
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# Autism, Technology, and Older Adults: Facing an Unexpected Set of Challenges

By Karl Wittig, PE  
Advisory Board Chair  
Aspies For Social Success (AFSS)

As an engineer who has been involved with technology his entire life, and an older adult on the autism spectrum, I have always felt that, in my case, there was always a strong connection between the two. Although the notion that autistics are generally inclined towards technology has become a common stereotype (even though such individuals, in reality, constitute a minority of autistics), as a member of that minority I nevertheless have a strong sense that it applies to me, at least in some ways.

Even at the time of my diagnosis over 20 years ago, just a few years after the initial recognition of Asperger Syndrome and other milder variants of autism, there were already speculations about certain prominent figures in the field of technology who might be on the spectrum. Skeptical though I was about this at first, I read a few biographies of such individuals and, in some cases, found descriptions of some classic (not to mention familiar) autistic traits and behaviors, especially in their childhood. I also noticed, when watching videos of them, typical autistic speech patterns and other mannerisms (which I recognized from peoples' imitations of me



earlier in my life). For years I had hoped that one of them would "come out" and make their diagnosis public, thinking that this would greatly benefit the autism community. Although it never happened, even as the suspicions continued within parts of the autism community, at least the level of public awareness about the autism spectrum increased dramatically during that time, with numerous portrayals of Asperger Syndrome and autism in the pop-

ular media. I got an unexpected surprise on the night of May 8, 2021, when Elon Musk, co-founder of PayPal and founder of Tesla and SpaceX, proclaimed to the world on Saturday Night Live that he had Asperger Syndrome (interestingly, he had never been among my "suspects"). Anticlimactic as this was at such a late date, I was still glad to see it finally happen, at least until I gave further thought to its ramifications.

## Myth vs. Reality

Although such individuals may serve as role models and even heroes to some in the autism community, they not only perpetuate the stereotype that autistics are generally inclined towards and even gifted at technology, but also reinforce the notion that autistics who do have such talents are likely to become technology billionaires. Neither of these could be further from the truth. In fact, most technology workers, when lucky enough to even be employed, find themselves in very high-stress situations where they are paid relatively low wages; this is especially true in many IT departments. Those on the autism spectrum encounter the same employment challenges as most other autistics and are challenged by the interpersonal, social, and (especially) political aspects of the modern workplace. Additionally, increasing expectations regarding the ability to multitask, learn new skills and job functions quickly and with little or no preparation, and rapidly adapt to a wide variety of constantly changing circumstances, can present significant if not formidable challenges to autistics who often have substantial executive-functioning deficits. In fact, I have personally known a few autistics with very respectable technical credentials who had difficulty finding work or else found themselves in stressful

*see Older Adults on page 28*

## Increasing Inclusion in Biomarker Research

By Adam Naples PhD  
and James McPartland PhD  
Child Study Center, Yale University  
School of Medicine

A new study being conducted by researchers in the [McPartland Lab](#) at the [Yale Child Study Center](#) is using technological advancements to bring biomarker discovery research to minimally verbal and cognitively impaired autistic individuals. These individuals have historically been underrepresented in neuroscience research because participation typically requires understanding and complying with complicated verbal instructions. However, in this study, computer vision tools watch what a person is doing and respond by changing what is shown on a computer screen to engage the participant and guide them through the experiment. Using this approach, it is now possible to invite participants with significant cognitive impairment to research studies that, in the past, would have been too hard to do.

The field of autism spectrum disorder (ASD) research lacks biomarkers, i.e., objective, sensitive measures of symptoms suitable for use in clinical research. Currently, there are only two biomarkers being considered for use in autism as part of the FDA's [Biomarker Qualification Program](#). Both putative biomarkers measure



**Adam Naples PhD**

how people process visual social information. These biomarkers are: (1) An electroencephalographic (EEG) index of face processing efficiency, the N170; and (2) the Oculomotor Index (OMI), which is a quantification of how much someone looks at social regions, such as faces, of visual scenes. Evidence in support of these biomarkers was collected as part of the [Autism Biomarkers Consortium for Clinical Trials \(ABC-CT\)](#), led by Dr. McPartland, at the Yale Child Study Center. This con-



**James McPartland PhD**

sortium is the largest study of its kind in the United States and assessed 399 children with cognitive ability in the normal range. However, despite the promise of these biomarkers, it is unknown whether they are practical to collect or appropriate for individuals with cognitive impairment.

Despite advances in early intervention and increased access to services, many people with autism have significant cognitive impairment. This impairment is associated with difficulties in most avenues

of life and a reduced likelihood that these individuals can live independently. Despite abundant evidence that these people are in significant need of support and represent up to 30% of the ASD population, they represent far less than 30% of the proportion of individuals enrolled in research studies. Consequently, the research findings in the field may fail to represent cognitively impaired individuals. This is particularly meaningful with regard to neuroscience research. A recent study indicated that, of 23 studies investigating the N170 biomarker in ASD, none focused on a sample with intellectual disability (ID),<sup>1</sup> and, of 5,033 participants across 122 studies examining eye-tracking in ASD, only 416 had ID.<sup>2</sup> Importantly, only two studies, with fewer than 30 children, included children with ASD who both had an intellectual impairment and were older than six years old, suggesting that as children age, ID becomes an increasing obstacle for research participation.

One of the most significant reasons for the underrepresentation of cognitively impaired individuals in neuroscience research is the need to follow spoken or written instructions and maintain engagement with a task. These demands are unique to neuroscience research because the processes under investigation, such as how the brain processes images of other people, require

*see Research on page 25*

# A Guide to Implement Video Self-Modeling to Teach a Variety of Skills

By Christina Wood, MEd, BCBA,  
Amy Thatcher, MEd, RBT,  
and Elise Settanni, MEd, BCBA, LBS  
Lehigh University Autism Services

Albert Bandura's social learning theory (1977) emphasized the importance of observing, modeling, and imitating the behavior of others for learning. This theory has inspired the development of many strategies for learning, including video modeling (VM) interventions. VM interventions involve individuals watching video demonstrations of desired, appropriate behaviors and imitating the model, either immediately or at a later time. Given a long history of strong empirical evidence, researchers have determined that VM meets criteria to be designated as an evidence-based practice (Steinbrenner et al., 2020).

VM interventions comprise a group of interventions in which a video is used to model a target skill or behavior in place of in-vivo modeling. There are a variety of ways that VM can be implemented. For instance, the model could be a familiar person, an unfamiliar person, or even the target individual. Incorporating the target individual as the model, called *video self-modeling*, involves recording them successfully engaging in the desired behavior, having them watch their own be-



havior in the video, and instructing them to imitate that behavior (Dowrick, 1999). Video self-modeling interventions have been widely used among individuals with autism of all age ranges to teach a variety of skills including motor, social, communication, self-monitoring, academic, play, functional, vocational, athletic, and emotional regulation (Steinbrenner et al., 2020). For example, video self-modeling might be used to teach a child to tie their shoes where the child watches a video de-

picting them tying their own shoes prior to being asked to tie their shoes.

In addition to its effectiveness for a wide range of behaviors, VM is very accessible and easy to implement. With the popularity of computers and smartphone devices, the procedural steps of recording, editing, and watching the videos are very feasible and the intervention is cost effective. Further, this intervention has a low likelihood of being stigmatized in public, as using technological devices is widely accepted in

society. Additionally, video self-modeling can be used in conjunction with other evidence-based practices, such as prompting or task analysis, to create an individualized treatment program.

Finally, an added benefit of video self-modeling is that it can be easily individualized for specific learners and for specific target behaviors. Professionals and family members can follow these six major steps to develop and implement a video self-modeling intervention (adapted from Wilson, 2013):

1. Decision-making. This first step involves making the decision to use video self-modeling. To determine if video self-modeling is appropriate, the individual's skills should be assessed. Prior research has suggested that video self-modeling interventions are effective for individuals who possess the following prerequisite skills: visual attending, imitation, visual and hearing acuity, and visual information processing and comprehension skills (Shukla-Mehta et al., 2010).
2. Determine the target behavior. The next step is to decide which behavior will be targeted. The target behavior must be (a) observable, (b) measurable, and (c) successfully performed by the target

*see Self-Modeling on page 34*

## The Scene Cue: A Tool Delivered via Mobile Technology for Improving Independence in Direction-Following

By Anna A. Allen, PhD, CCC-SLP  
Autism Care Partners

The introduction of visual supports can often augment spoken language comprehension for learners who are minimally verbal. For example, when directing a learner to put a box into a bag, a symbolate sentence strip of "box in bag" (see Figure 1) could improve understanding assuming the learner understands the concept "in," as well as its representation by the graphic symbol of the dot, arrow, and box. Furthermore, to successfully complete this direction presented in visual form, the learner must recognize that word order conveys which noun is the container (i.e., the bag) and which is the object to be put in (i.e., the box) (Allen et al., 2017). Many learners with moderate to severe autism who are minimally verbal have difficulty grasping these relationships. The interpretation difficulty mainly stems from a dependence on routines and context, since processing the linguistic content and structure is inherently challenging. To improve a learner's interpretive challenges, an alternative support known as a scene cue (SC) can be applied to visually represent language input in a more concrete way (Shane & Weiss-Kapp, 2008). An SC takes the form of either a pho-

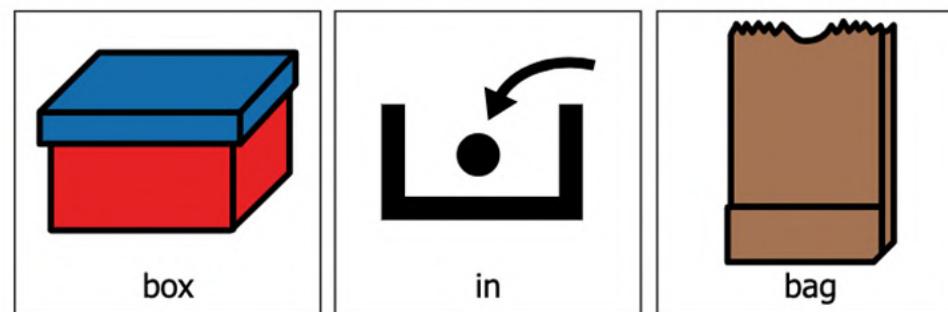


Figure 1. A symbolate sentence strip of "box in bag"

tograph (static SC) or a short video clip (dynamic SC) which a mentor shows to a learner on a mobile device, smartwatch (O'Brien et al., 2020), or in paper form at the moment it is needed. For example, to communicate "put the box into the bag," the mentor would speak that direction while simultaneously presenting a short video clip of a hand placing a box into a bag (dynamic SC) or a photo of a hand grasping an object as if starting to insert it into the bag (static SC). Though there are commonalities with video modeling, SCs are a type of media rather than an intervention approach; also, in contrast to video modeling, SCs do not always include a person (Schlosser et al., 2013). For instance, a play-based direction such as "make Woody eat the apple" would consist of a Woody figurine holding an

apple to his mouth (Choe et al., 2020). Research suggests that learners with moderate to severe autism follow directions more accurately when they are presented via speech augmented with SCs than via speech alone (Schlosser et al., 2013; Remner et al., 2016; Allen et al., 2021), or via speech augmented by graphic symbol strips (Allen et al., 2021). Thus, there is considerable evidence showing that the use of SCs can improve direction-following skills.

The implications of improved direction-following are best understood by examining the various types of directions that may be given within an academic, home, vocational, or community setting. Common directions can be organized into four basic types (see Table 1 on page 32). Improved following of control di-

rections can result in fewer disruptions and more time spent on-task; improvements in following routine directions can lead to increased independence in daily routines; improved academic and play-based direction-following can yield greater participation in various settings. Across all areas, improved direction-following leads to increased learner independence and reduced frustration for learners as well as mentors.

Consider the example of packing up at the end of the school day. In this case, the mentor says the direction, "Get your backpack." Because the learner has difficulty following the spoken direction alone, the mentor then points to the cubby where the backpack is kept. Consequently, the learner walks in that direction but does not initiate taking the backpack. The mentor points to the backpack, repeats, "get your backpack," gestures toward the hook, and makes a pulling motion to represent taking the backpack off the hook. If the learner needs more support, the mentor uses hand-over-hand modeling to help the learner reach up to the hook and remove the backpack. Now consider the same example using an SC. In this case, when the learner does not respond to the spoken direction, the mentor uses an iPad to display a dynamic SC of an arm reaching into a

*see Scene Cue on page 32*

# Virtual Job Shadow Technology Mash-Up

By Lauren Tucker, EdD and Kimberly Bean, EdD  
Southern Connecticut State University

One of the main purposes of the Individuals with Disabilities Education Act (IDEA) is “To ensure that all children with disabilities have available to them a free, appropriate public education that emphasizes special education and related services designed to meet their unique needs and prepare them for *further education, employment, and independent living*” (IDEA, 2004, § 300.1(a)). Additionally, IDEA requires transition programming for individuals with disabilities to include an emphasis on development of employment skills. Unfortunately, even with this requirement, individuals with autism experience significant challenges entering the workforce and/or maintaining employment leading to lower employment rates of individuals with ASD than individuals without a disability (Newman et al., 2011) and people with other disabilities (Shattuck et al., 2012). To help alleviate this disparity, a large focus of transition programs for individuals with autism and other developmental disabilities includes an emphasis on community involvement and the development of vocational skills. Teachers within these programs target these skills using both direct instruction and supported job-site training



using a variety of evidence-based practices such as visual supports, video modeling, and social narratives (Steinbrenner et al., 2020). These practices are utilized prior to and during on-site job experiences.

Due to the COVID-19 pandemic, many traditional methods of instruction and on-site job experiences were halted and teachers needed to utilize additional forms of technology to continue to support students’ skill acquisition in this area. Fortunately, technology-based instruction has been proven to help support the development of

independent vocational skills (Van Laarhoven et al., 2012). Interventions that include video and audio have the capability to be played back and provide opportunities for repeated exposure to prepare the student for the targeted task (Seaman & Cannella-Malone, 2016).

### Case Example

During the 2020-2021 school year although many classes resumed partially in-person, many of the community expe-

riences for transition programs were limited. To bridge this gap, a variety of educational technology tools were combined to create an interactive job shadow for students within an outplacement transition-age program.

Three specific tools were utilized within the mash-up: [ThingLink](#), [YouTube](#), and [Boom Cards](#). Each tool is described below:

1. [ThingLink](#) - A tool that allows the user to upload an image and create interactive hotspots that can link to text, images, videos, or other websites. ThingLink also allows the creator to record their voice or use [Microsoft Immersive Reader](#) to read text out loud.
2. [YouTube](#) - Video streaming platform that allows for videos to be posted publicly, private, or unlisted. Automatic closed captions can be enabled and video speed can be increased or decreased based on viewer need.
3. [Boom Cards](#) - Interactive platform where users can create hot spot, text field, matching, and multiple-choice options with correct and incorrect feedback. This tool provides options for data collection or a “Fast Play” without data collection. With the premium version, audio can also be added to the activity.

see [Job Shadow on page 29](#)



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## *This Is Me: Using a Personalized, Electronic Transition Tool to Support Self-Advocacy in Transition-Aged Young Adults*

By Eve Müller, PhD,  
Danielle Pouliot Evans, MA, CCC-SLP,  
Ann S. Kern, MS, CCC-SLP,  
and Kelly Offutt, MA, CCC-SLP  
Ivymount School and Programs

For young adults with autism spectrum disorders (ASD)<sup>1</sup>, transition to post-school life brings with it both new opportunities and new challenges. The transition to post-secondary education settings, vocational programs, community-based day programs, and/or supported living means having to teach all the new adults in their lives about their unique strengths and needs. But transition can be chaotic, and valuable information about how they can be supported to communicate clearly and effectively, manage difficult behaviors, improve executive function, and advocate for support if needed often gets lost in the shuffle.

Gathering information about individuals with ASD – what works and what doesn't – takes time, sometimes years of trial and error, and when this information is not passed along in a meaningful format from students' schools to their post-school settings, young adults and their new support staff are forced to reinvent the wheel.

A great way to avoid this problem and



**An Ivymount student practices sharing his This is Me (TiME) story with his speech-language therapist (and original developer of TiME stories), Danielle Pouliot Evans**

ensure a seamless transfer of information during secondary transition is by working with young adults with ASD to create and share their digital transition portfolios (e.g., Black, 2010; Clancy & Gardner, 2017; Müller et al., 2018; Müller et al., under review; Pouliot et al., 2017). Digital

transition portfolios are especially effective because they not only help avoid the loss of critical information during the transition process but also allow young adults with ASD to share information about themselves with minimal support from job coaches and other service providers.

### *This is Me Stories*

A team of speech-language pathologists (SLPs) from [Ivymount School and Programs](#) in Rockville, Maryland, recently developed *This is Me Stories: A Self-Advocacy Tool* in response to student need. This is Me (TiME) stories are customized, digital transition portfolios designed to 1) provide young adults with ASD and other developmental disabilities a user-friendly means of sharing important information about themselves with novel adults via captioned pictures and video clips, 2) support self-advocacy by placing young adults front and center when it comes to creating their TiME stories and sharing them with others, and 3) take advantage of technologies such as iPhones and iPads that are readily accessible.

### Creating *This is Me Stories*

TiME stories can benefit any young adult who requires support to share information in different contexts. TiME stories can:

- help scaffold interactions between young adults with ASD and new adults in their life by helping them initiate and organize their ideas through the use of photos and video clips;

see [This Is Me on page 31](#)

## Parent Training Using Technology: Access to ABA Services for Families Across the Globe

By Janelle Vilitski, MEd, BCBA,  
Jenna Cornwall, MS, BCBA, and  
Solandy Forte, PhD, LCSW, BCBA-D  
Milestones Behavioral Services

Technology has played a tremendous role in the growth of teletherapy as a method for delivering high-quality, medically-necessary services to individuals and their families when accessibility presents as a barrier. There are a variety of behavioral health services that can be delivered via teletherapy, a technology that can be useful when delivering services such as Applied Behavior Analysis (ABA) therapy to children with Autism Spectrum Disorders (ASD) and their families.

More recently, technology has proven to be a vital instrument in the delivery of parent and caregiver training. In fact, parent training expands beyond the parents/caregivers to community providers within the patient's macrosystem. The ongoing COVID-19 pandemic has served as a catalyst for the use of technology as a method to deliver parent training services with ease. As a result of the increase in technological options, parent training services have not only become more accessible to families, but practitioners have experienced an increase in parent participation,



in addition to the development of a safe and comfortable space for both parents and providers to communicate openly. With the rapid advancements of technology, practitioners will likely have software at their disposal that will help to support the clinician-client relationship and enhance the delivery of evidence-based services via videoconferencing to individuals across the globe.

The stay-at-home orders issued across the country in response to the COVID-19 pandemic have increased the demands of ABA service delivery to patient and their families in the home setting via teletherapy. By offering teletherapy services to clients and families, medically-necessary services are made available while continuing to keep families safe.

There are benefits to delivering services

outside of clinic or office setting. Through teletherapy, providers are able to observe and gain a better understanding of both the patient's and family's needs in the home and provide guidance and support to the parents as they work with their child in-vivo. Parent training isn't, however, limited to providing parents/caregivers with direct instruction. It can also incorporate education specific to evidence-based strategies and how these interventions can be used with their child on a daily basis or as problems arise. With easier accessibility of parent education services via teletherapy modalities, parents/caregivers can participate in many different environments, including at home, during breaks at work, or even while waiting in the car while their child receives therapy services.

Providers have observed that parents/caregivers appear to be more willing to communicate and participate during trainings. This is most likely related to parents and caregivers receiving therapy in a safe and more relaxed environment such as sitting in their favorite chair at home with their favorite cup of coffee or tea. Teletherapy has become a stimulus to help create a safe and comfortable space for both parents and providers to communicate more freely and openly.

see [Parent Training on page 26](#)

## Telehealth Services Improve Accessibility for Individuals with Autism

By Assemblyman Angelo Santabarbara  
Chair of the New York State  
Assembly's Sub-Committee on  
Autism Spectrum Disorders

Approximately 1 out of 54 children in the United States live with autism spectrum disorder (ASD).<sup>1</sup> My son is one of those individuals, so I know firsthand some of the many struggles that can come with safely accessing health care. Diagnosing ASD early in a child's development can have a significant effect on a child's health care and treatment plan. However, due to an overburdened system and a lack of qualified professionals in this field, many families are forced to wait up to 12 months for an initial diagnostic appointment. This lack of access to ASD-specific health care is even more prevalent in rural and lower-income communities.<sup>2</sup> One of the ways health care providers are working to overcome these barriers is by embracing telehealth services.

Telehealth is broadly defined as the "use of electronic information and telecommunications technologies to support long-distance clinical health care, patient and professional health-related education, public health and health administration."<sup>3</sup> The COVID-19 pandemic forced many of us to rely on remote services to work, attend school, connect with peers, and ac-



New York State Assemblyman  
Angelo Santabarbara

cess health care services. The subsequent improvement and increased availability of telehealth services have provided us with a more accessible way to diagnose, treat and care for individuals with autism.

Several studies have shown that certain treatment models for ASD can be performed easily and effectively through remote care. Studies of telehealth-based models for speech-language therapy showed that the

children who received these remote treatments benefited from them and met their communication goals. Studies regarding remote cognitive-behavioral therapy and telepsychiatry came to similar conclusions. Another study examining the feasibility of using lower-cost telehealth services to train parents in implementing applied behavior analysis showed that the parents were successful in providing this treatment, regardless of whether they were directed through in-person or telehealth services. These telehealth models were also significantly less expensive than in-person services.<sup>4</sup>

While this health care model does present several drawbacks, such as technical difficulties and challenges establishing a rapport with therapists over video, it also presents numerous benefits. Removing the necessity of in-person treatment can help children who struggle with transportation, decrease the possibility of missing school or work to attend appointments, and provide broader access to specialists for families living in rural areas. Telehealth services can also decrease wait times and help parents receive diagnoses much sooner.<sup>5</sup>

However, despite the advancements made in remote services over the past few years, several larger barriers prevent us from utilizing telehealth's full potential. For one, reimbursement rates are not equal everywhere for in-person services versus remote services, which affects the cost of telehealth and can present a

financial burden for families. Additionally, while New York State established a telehealth parity law in 2014 to authorize coverage for telehealth services by private insurance, Medicaid, and state employee health plans, some states do not allow private payer coverage and vary as to whether they require coverage or reimbursement, include all services, or set the same rates for reimbursement.<sup>6</sup>

Another significant barrier to properly utilizing telehealth services is a lack of access to quality broadband internet. While the FCC states that about 98% of the U.S. is connected to broadband, a 2019 report by the NYS Comptroller stated that over 250,000 New Yorkers lack access to reliable broadband services. Thousands of these households are right here in my own Assembly district. While New York has taken steps to further develop broadband infrastructure and telehealth services, including funding projects to create broadband hotspots in low-income communities, we still have a long way to go.<sup>7</sup>

Autism is an extremely complex disorder. Many autistic individuals require highly specialized treatment plans, and methods of care that work for some may not work for all. Our current telehealth system is not perfect, but it is an excellent start to a new way to approach health care. While telehealth should not replace all current

see *Accessibility on page 33*

## Using Cell Phones to Increase Independence in the Community for Young Adults with Autism

By Annemarie L. Horn, PhD  
Assistant Professor  
Department of Communication  
Disorders and Special Education  
Old Dominion University

All individuals deserve to be active members of the community in which they reside. However, independent societal participation for young people with disabilities, particularly those with autism spectrum disorder (ASD) who also have a secondary disability diagnosis (e.g., intellectual disability) and/or greater support needs, remains a challenge (Bassette et al., 2018). According to Collins et al. (1991), one is perceived as "independent" in a community setting when they function with minimal to no support in that environment. Acquiring skills to navigate through the community safely is an important element of independence in adulthood, and this often requires explicit instruction during the transition years for many students with ASD (Horn et al., 2021). To demonstrate, Hoch et al. (2009) and Taylor et al. (2004) studied location-based learning for students with ASD and found some degree of assistance to be required for students to communicate their physical location within a community setting. Though par-



Figure 1: Using a Mobile Device to Communicate Physical Location

ticipants in both studies acquired target skills, there was some level of dependence on other individuals.

Together with my research team, we explored methods for teaching location-based learning where transition-age students with ASD received technology support as opposed to relying on other adults. That is, our recent study highlights the necessity for teaching students with ASD how to

utilize technology while learning to identify and communicate physical, community-based locations independently (Horn et al., 2021). The importance of learning these safety skills, coupled with the paucity of literature on location-based learning, prompted us to experimentally evaluate the effects of an evidence-based practice (EBP), video modeling (VM), on communicating physical location via handheld mobile device. Specifically, we sought to discover if VM was a viable approach for teaching transition-age students with ASD to identify their location on a university campus and use a mobile device to communicate that information to their campus-based teacher. Students viewed the VMs on the same mobile device they used to communicate.

Results showed all three transition-age students with ASD were successful in identifying their university-based location and communicating that information accurately via voice calls and text correspondence following the VM intervention. In other words, when the teacher called each student and asked, "Where are you?" students provided a specific location within a university building hallway (e.g., "Room 113"). Similarly, students learned how to respond to a text message from their teacher asking for their location. Finally, students independently initiated text corre-

spondence by communicating their physical location after completing a daily mail delivery routine (please see <https://doi.org/10.1177/2165143420953908> for more information). Figure 1 depicts a young adult engaging in a text exchange with his teacher while actively engaged in location-based learning.

In addition to quantitative findings, we wanted to learn how the students perceived the intervention at the conclusion of our study. All three transition-age students viewed the intervention favorably, reporting they "liked" learning how to use a mobile device to call and text. Additionally, students indicated VM helped them learn how to stop and look for a physical identifier (e.g., room number) in the environment and communicate that information accurately using a mobile device. Finally, all students shared that they enjoyed viewing the videos and indicated a preference for using VM for learning purposes in the future.

Community engagement is an important component of post-secondary transition, and safety skills training should be at the forefront of educational practice for students with greater support needs. That is, considering the safety needs of students with disabilities is essential to adequately

see *Cell Phones on page 31*

## Generalization and Extension of the Skill-Based Treatment in a School Setting

By Edward Sidley, MA, BCBA,  
Ashley McParland, MEd, BCBA,  
and Kirsten Algor MEd, BCBA  
SEARCH Day Program

**S** EARCH Day Program is a private, non-profit school in Ocean Township, New Jersey. Approximately 80 students, ages 3-21, are currently enrolled in the program. The school embraces research-based teaching strategies that are derived from applied behavior analysis while taking a multi-discipline approach to educating individuals with Autism. In the [Winter 2021 issue of \*Autism Spectrum News\*](#), SEARCH board certified behavior analysts (BCBAs) described their implementation of the interview-informed synthesized contingency analysis (IISCA) and skill-based treatment (SBT) as a pilot program for their school setting (Sidley, McParland & Algor, 2021). Since the initial four students included in the pilot program, SEARCH behavior analysts have implemented SBT with 20 additional students on campus. In the current article, different elements of generalization and extension of the skill-based treatment are discussed.

### The Pilot Program

In our program, we recognized a number of students who routinely engaged in severe challenging behavior, regardless



Edward Sidley, MA, BCBA, Kirsten Algor MEd, BCBA,  
and Ashley McParland, MEd, BCBA

of the collective efforts made by teachers, behavior analysts, and related services. We sought a function-based treatment that not only decreased target behavior, but did so by teaching replacement skills in communication, tolerance and cooperation. Until recently, there has been a lack of research

showing the effects of function-based treatments implemented by ecologically relevant individuals in applied settings, such as teachers in schools (Santiago, Hanley, Moore, & Jin, 2016).

In looking at the IISCA and subsequent SBT (Hanley, Jin, Vanselow, & Hanratty,

2014), we found a process that could be implemented by a BCBA, classroom teacher, or therapist within the school setting. Four students were selected as part of the pilot based on the following criteria: they routinely engaged in severe problem behavior; the behavior they engaged in often resulted in Crisis Prevention Intervention to keep the student and those around them safe; and they had previously undergone inconclusive functional behavior assessments which led to interventions making use of arbitrary reinforcement or programs based on hypothesized antecedents of problem behavior. The IISCAs for each of the four students yielded differentiated results and the subsequent treatment for all included functional communication, tolerance training, and the shaping of contextually appropriate behaviors (CABs). There was a significant decrease in problem behavior during SBT (compared to functional analysis which served as baseline) for each of the four students. Additionally, the skills and tolerance were generalized to other people (e.g., teaching assistants, parents) and places (e.g., classroom).

### Beyond the Pilot

Following the pilot study, we began implementing the IISCA and SBT with more students on campus. Similar to the results

*see Generalization on page 22*

## Developing Confidence and Standing Up for Myself

By Angela Chapes  
Autistic Self-Advocate

**A**fter I lost my mom to dementia, I had very little confidence in myself. I had no voice. People would express their opinions and I would never tell others my perspective because I had no confidence. I could not stand up for myself. If I tried, I would wind up crying instead. I let myself get bullied and get talked down to. In some ways, I was trying to be a people pleaser. I was shy and I would hang my head in shame when I talked. I did not value myself and relied on the opinion of others to describe myself until I found a supportive job, several years of work and a pandemic.

The pandemic has been a plus for my confidence. I work at Morning Star, Inc., a recovery center for those with mental illness. We provide peer support where people listen to others and share experiences. When my job closed down for a couple of months, we were in charge of calling people who came to center. I called center volunteers. I actually gained two new friends who always encouraged me. They became more than just friends to me; they became mentors too. They became so special and important to me. One became another father figure and one a grandmother figure to me. Their encouragement inspired me to have confidence in myself to want to learn



Angela Chapes

leadership skills. I wanted to teach my co-workers what I knew about bookwork and office tasks. My teaching was very bumpy at first, but I found my groove and I am happy how things have gone. With my enhanced confidence, I taught others some math techniques to check their work. At first, my co-workers would make mistakes and I would have to check their work and show them where they messed up. Now one of them is teaching the other and helping find their mistakes.

I think it is very important to collaborate

and communicate with one another. After I taught others the bookkeeping, they were able to do important reports for our main grant provider without my help. I believe everybody is teachable. A good leader shares their knowledge. I wanted to become a Peer Support Specialist. This process required many tests and I was able to get my certification. Moreover, I helped someone else prepare to take the tests which made me feel I was becoming a better leader. I took additional online training to expand my skills. I also participated in a zoom mental health conference. It opened my world and it helped to build my confidence.

One of the other things at my job that has helped me build confidence is that I started an adult support group. It may not meet regularly, but I keep tabs on those individuals by phone and the process has helped me on my journey of self-discovery.

One of the setbacks I faced at my job changed the course of my life. There was an incident at work. It involved others along with my father-figure mentor. He couldn't be in my life anymore. He was gone. This influenced the course my life was taking. It brought me emotional pain and dented my confidence. It was a really hard and sad time for me. In response to that, I decided to challenge myself to bounce back and to become an advocate for those with mental illness and autism. I searched for ways to do that by looking for autism groups and other mental health groups where I could

be involved.

I found three groups; Autism Society – The Heartland, Toastmasters International, and the National Alliance on Mental Illness (NAMI) where I found plenty of resources. With Autism Society – The Heartland, I went to adult and parent support groups and I shared my story with others. I started an adult autism group there and it has been going great. As time went on, I helped with office work. They asked me to contact businesses for donations for various fundraisers. I surprised myself because one day I contacted 80 businesses by email. It was a lot of work, but it was worth it because I never thought I could do that.

I joined NAMI - the National Alliance on Mental Illness. My participation in this group has honed my leadership skills. I am taking several training courses and I hope to gain confidence to socialize and help teach others about what I am learning. I aspire for a job that deals with others and allows me to expand my skill set.

I joined Toastmasters International to become a better speaker for my advocacy journey. I am so glad I became involved with Toastmasters International because I've made new friends. I never thought I would want to become a speaker after high school or college. I also took on a couple of officer's roles in Toastmaster clubs. I became the Treasurer in one group and

*see Confidence on page 32*

## Ten Lessons in Transitioning from High School to College for Students with Autism and Learning Differences

By Mary E. Sokolowski, PhD  
National Enrollment Specialist  
The College Internship Program

Going to college after high school, particularly for neuroatypical learners, can be like trying to get from one mountain top to another without a bridge or tools of any kind. Lesson number one is just knowing that: Be prepared for a massive gap between one set of teaching, learning, and support structures and another. Thankfully, lesson two is a bit more optimistic: neuroatypical students can find the right tools, learn how to use them, and build their own bridges.

For many students, lesson three is that success in college may have very little to do with the depth and breadth of academic knowledge that a student has accumulated up to that point. College success is about a student's ability to adapt how they learn and remain motivated during that process. In a study published by the American Psychological Association, one student puts it quite succinctly: "In high school, you learn the material in class. In college, most learning takes place outside the classroom." The standard college expectation is that for each college three-credit class a student takes, they need to spend at least 6 hours per week as an independent learner. When I taught in college,



To help him achieve success in college, Chris receives individualized support from a CIP academic coordinator

I also instructed my students that: "More important than how *much* someone should study is *how* someone should study. Studying is a skill." Lesson four is that college professors do not actually teach that skill.

In high school, neuroatypical teens have a team supporting them in how to study, including teachers, parents, paraprofessionals, aides, counselors, and administrators. Lesson five might be the single

most important factor in transitioning successfully from high school to college: in college, students have no such team. At programs such as [The College Internship Program \(CIP\)](#) which specialize in working with neuroatypical students, part of the support students receive is guidance in assembling their own team which will help them manage their time, learn new study skills, monitor their progress, and learn, if possible, which college faculty are most prepared to teach neuroatypical students. Students need to connect and maintain the connection to key supportive resources on campus that will be crucial for academic success: tutors, the disability services office, academic advisors, the writing center, and math labs. Family members can often provide some of this guidance, but it is important to remember that - by federal law - the student must be the lead actor in any of these efforts.

Lesson six is that students must understand and adapt to the differences between high school and college teaching. Among other things, college professors do not generally provide regular reminders about when assignments are due, they do not follow a rubric according to which they tell students the most important points to learn, they do not review the previous day or

see [Transitioning on page 30](#)

## Beyond Baby Siblings: Why "Next Gen Sibs" Is Critical to Advancing Autism Research

By Alycia Halladay, PhD  
Chief Science Officer  
Autism Science Foundation

In the late 1990s, evidence-based research made it clear that autism was heritable and younger siblings of kids with ASD were more likely to become diagnosed themselves.

This was a tremendous breakthrough but led to further questions about how to better understand autism recurrence and features in these younger siblings and improve diagnoses and treatments. To seek answers, autism advocacy and research groups organized a group of researchers that eventually became the [Baby Siblings Research Consortium \(BSRC\)](#) to work collaboratively on projects that needed hundreds of families to participate and provide valuable data.

Because these younger siblings could be studied from birth, this research also allowed better insight into the very earliest signs and features of autism: lack of response to name, lack of gestures, and poor eye contact, to name a few. These signs can be observed from as early as six months of age. In 2011, the BSRC combined their data and showed that the recurrence in younger siblings of those on the spectrum was 15x that of the general population (Ozonoff et



A grandmother holding her new granddaughter

al., 2011). One in five children who had an older sibling with autism would go on to receive a diagnosis themselves.

Fast forward to 2021. Those "baby siblings" are babies no more: They are in their



20s and 30s and having babies of their own. Parents who were worried about the signs and symptoms of ASD in their children years ago are now turning their attention to their grandchildren. Of course, families are complex in many ways, and these grandparents can be in-laws, parents, and even step-grandparents. This complexity means that the approach used to understand the first generation of siblings may need to be adjusted to understand this next generation - or "Next Gen" - siblings.

In 2015, Natasha Marrus, MD, from [Washington University School of Medicine](#) investigated whether the nieces and nephews of those diagnosed with autism in the 1990s and 2000s had a greater likelihood of a diagnosis. Specifically, the question was: "Are those siblings without an autism diagnosis more likely to have a child with autism themselves?" To study this, her research group used a large database in Sweden and found that, in fact, yes, there was a higher recurrence rate in the nieces and nephews of those with a diagnosis. Furthermore, this recurrence was

higher in children whose mother had a sibling on the spectrum compared to those who had a father with a sibling on the spectrum (Bai et al., 2020). While intriguing, these results need to be replicated and extended to better understand how different generations of a family play a role in autism diagnosis, what those early signs and features are, and what predicts a diagnosis in the "Next Gen."

This led the Autism Science Foundation to fund the newly launched '[Next Gen Sibs' research project](#) to establish a future collaborative network that will help in identification, evaluation, and possible diagnosis and intervention for this next generation. ASF is initially funding two sites - one at [Emory University](#) and one at the [University of California at Los Angeles](#) - to track down these infant siblings from the 1990s who are now thinking of having children or already have children of their own. Researchers will talk to them individually or in groups to find out their concerns, what their research questions are, and how their childhood experiences have shaped their impression of an autism diagnosis. Because siblings without an autism diagnosis may show other challenges (Messinger et al., 2013), they might also have what is known as the "broader autism

see [Next Gen Sibs on page 27](#)

# Free Verse Press Announces Publication of “Running Naked in the Snow” A Collection of Poems by Linda Joy Walder

By Free Verse Press

Charleston, S.C., Nov. 15 - Free Verse Press has announced the publication of *Running Naked in the Snow*, the debut collection of poems by poet Linda Joy Walder.

Free Verse Press publisher Marcus Amaker, Charleston, South Carolina's First Poet Laureate and a 2021 Poet Laureate Fellow of the American Academy of Poets says, "Readers will experience a wildly creative book from a writer who has confidence in what makes her unique. 'Running Naked in the Snow' gives you short poems about seasons, rhythm word experiments, gentle pieces about family, and more."

*Running Naked in the Snow* is Linda Joy Walder's first published collection of poems.

Says Walder: "I am filled with gratitude to have my debut collection of poems published by Free Verse Press, an exciting new publisher of beautiful books, that is sure to make its mark in Charleston and among readers everywhere."

Free Verse Press was launched by Amaker, who also produces the annual Free Verse Poetry Festival, showcasing poets from around the United States.

*Running Naked in the Snow* (ISBN: 978-1734673791, 57 pages, \$13.99 U.S.) is available on Amazon, and at fine booksellers throughout Charleston, South Carolina, and nationwide. It also will be available as an e-book and audiobook later this year.

Evelyn Berry, an award-winning Aiken, South Carolina-based poet, novelist, editor, and podcast host, has worked closely with Walder as a mentor and is excited about her debut collection of poems. "Linda's work is deeply invested in not just truth-telling,



but truth-sharing. Such radical candor invites the reader to feel and reflect deeply," says Berry.

The poet herself describes her works as "word paintings," deeply rooted and inspired by the magical and mournful circumstances of her lifetime.

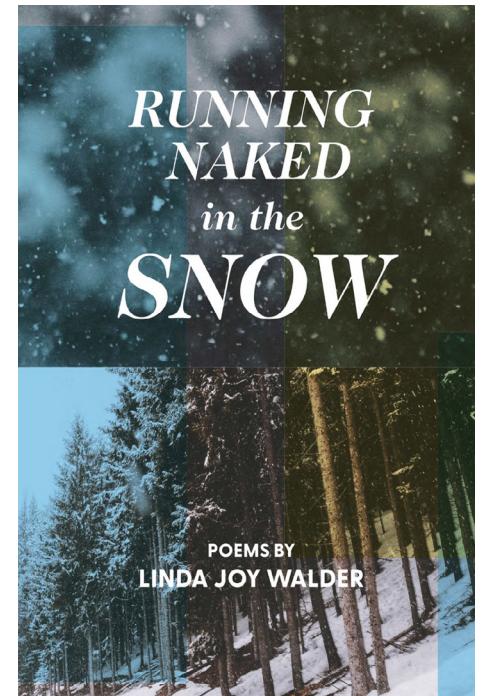
Says Walder: "Six decades in, it is the exact right time to share my poetic journey. We 'evolve' throughout our lives, and I hope that my personal achievement inspires others, no matter their age, to fulfill their own dreams."

*Linda's creativity blossomed in early childhood, and she began writing poetry in elementary school. Her artistic bent continued throughout her education, studying*

*art, literature, and history. After graduating from Vassar College, Linda thrived in the creative world of art and fashion public relations. Then, after graduating from The Benjamin N. Cardozo School of Law, Linda continued her focus on the arts as an attorney for artists.*

*For the past 20 years, Linda Joy Walder has been a visionary and activist in the field of adult Autism. Her internationally recognized Foundation (The Daniel Jordan Fiddle Foundation) has led the global community in accepting, valuing, and supporting the diversity of adults diagnosed with Autism Spectrum Disorders.*

*Linda's own story is one of courage and heart. She is the mother of an adult daughter and a son (who died of an Autism-relat-*



*ed seizure at age 9, and in whose memory the Foundation is named). She is also a recent widow, navigating the crushing loss of her cherished husband.*

*Linda resides in Charleston, South Carolina, with her beloved family of human and furry beings. Her website, LindaJWalderC.com, is sparking a creative revolution, inviting visitors to share her personal journey and to spark their own innate creativity by exploring imaginative new ways to cope with challenging times. Follow Linda on Instagram @lindajwalderc.*

*For more information about Linda Joy Walder or to request a review copy of Running Naked in the Snow, please contact Linda Mann at Mann Media, Inc. at Linda@PRdivas.com or 212-675-0100.*

## Generalization from page 20

of the four pilot students, the IISCAs implemented continue to yield differentiated results and demonstrate that problem behavior is controlled by multiple reinforcing contingencies (Ghaemmaghami, Hanley, Jin & Vanselow, 2016). The analyses for our learners also continue to demonstrate syntheses of establishing operations (EO) for challenging behavior including: a.) delay and denial to desired activities, b.) transitioning away from preferred contexts, and, c.) a variety of school work demands. We continue to focus on and treat precursor behaviors (i.e., less severe forms of problem behavior serving same function) in order to maintain safety and avoid emotional responding from the students (Warner, Hanley, Landa, Ruppel, Rajaraman, Ghaemmaghami, Slaton & Gover, 2020). Following analysis, the SBT for each student includes functional communication and tolerance training as well as the shaping of progressively longer CABs.

Since the start of the initial pilot study, all 4 students have generalized their treatment to multiple staff members and classrooms. Currently, over 30% of students on campus are participating in SBT across 12

classrooms. Elements of treatment extension include novel people and locations, increasingly longer durations of adult-led activity time, the development of additional CAB branches, and the introduction of ambiguity between learner-led and adult-led time. The remainder of the article will discuss staff training, multi-disciplinary collaboration, and the generalization and extension of SBT that enables learners to progress from working in an intensive, "pull-out" model to practicing their skills in natural contexts.

### Behavior Skills Training

With an increasing number of students participating in SBT comes the necessity to have many staff trained in both the general process as well as learner-specific programs. Behavior skills training is used by SEARCH behavior analysts to teach staff members the skills necessary for SBT implementation. Behavior skills training is a competency-based method (i.e., skills taught until observable and measurable competency has been demonstrated) of teaching individuals to perform particular steps of a procedure. The training includes 6 steps: description of the skills

(spoken and written), modeling, practice, performance feedback, and the repeating of practice/practice feedback, as necessary (Parsons, Rollyson & Reid, 2012). At SEARCH, the initial training includes discussion of the process as well as a series of written and visual materials (e.g., power point slides, handouts, etc.). Modeling includes both video analysis of SBT sessions as well as live demonstration during sessions. Practice includes both role-play as well as direct implementation of SBT trials with learners. Feedback occurs in the form of direct conversation (in the moment), de-brief conversations (after sessions are over), and written session notes.

### Multi-Disciplinary Collaboration

SEARCH Day Program embraces a multi-disciplinary model which fits well within the inclusionary nature of the PFA and SBT process. From the beginning, those closest to the learner are considered "the experts" and provide vital information on possible controlling variables and contingencies for problem behavior. In the school setting, these individuals often include classroom teachers and assistants. As the treatment is developed and implement-

ed, more contexts (including related service providers and treatments) are folded into the process. Collaboration with OTs and SLPs helps bring these other services into a student's SBT. These additions are introduced in the form of additional activities within established branches or the development of new branches altogether. For example, a learner who receives speech and language services will often have articulation or pacing goals as part of their table-top branch of SBT. A learner who receives occupational therapy may have an entire OT branch comprised of various exercises designed to improve posture, core strength, etc. The collaboration between behavior analysts, classroom teachers, and related service providers is essential for extending the SBT to relevant contexts within the learner's school day.

### Generalization and Extension

When beginning the process for extending SBT into new environments and to new staff individuals, it is important to change only one of these variables at a time. For example, if the treatment is being extended

see Generalization on page 26

# Being Smarter with Smarter Tech: YAI Center for Innovation and Engagement

By Judith Bailey-Hung, MA  
Center for Innovation and Engagement  
YAI

Technology is an essential part of all of our lives. It can have a profound impact, whether allowing us to connect with family; reminding us to take medication; or keeping us safe at home, at work, or on the road. The coronavirus pandemic has only highlighted the centrality of technology for business and personal communication during endless months of at-home isolation. A recent Pew survey (McClain et al., 2021) indicated that nine out of ten Americans felt that internet technology was “essential” or “important” to them during the pandemic.

Providers of support for children and adults with intellectual and developmental disabilities (I/DD) were not, it must be acknowledged, early adapters. Our field must answer to federal and state agencies who regulate what resources are eligible for public funding, so despite the obvious value of interventions as simple as medication monitors, our use of technology lagged behind virtually every other sector. And while in recent years there has been a push for I/DD providers to explore technologies to provide quality services in more cost-effective ways, little to no funding is provided for the disability community to embark on such initiatives (Gupta, 2015).



YAI, which has provided comprehensive support for children and adults with I/DD since 1957, was no exception until 2019 when the agency sought an end to this particular “digital divide” by pursuing private foundation funding for a two-year pilot technology program. With the emergence of fifth-generation wireless broadband technology (5G) and the popularity of virtual assistants from Apple, Google, and Amazon, we recognized an opportunity to level the playing field and help the disability

community to benefit from technological advancements.

In many neurotypical households, smart technology allows people to operate doors, phones, computers, and entertainment systems remotely. For people with cognitive or mobility disabilities, these technologies go beyond the realm of mere convenience and become lifelines to greater independence. Even people who need a great deal of support gain something of value from not needing help adjusting lighting or tem-

perature. Some children and adults on the autism spectrum may have considerable prowess with digital technology, adapting to new platforms with ease and enthusiasm that far exceeds that of their parents and caregivers but benefit from some guidance in their day-to-day use.

Because YAI programs are built around a person-centered model, we wanted to learn how to give people with I/DD the technology that they wanted, not that we felt they needed. With lead support from the [Stavros Niarchos Foundation \(SNF\)](#) and additional support from [Mother Cabrini Health Foundation](#), YAI created its [Center for Innovation and Engagement](#), a technological hub to assess, design, implement, and evaluate innovative solutions for the everyday challenges faced by people with I/DD across YAI.

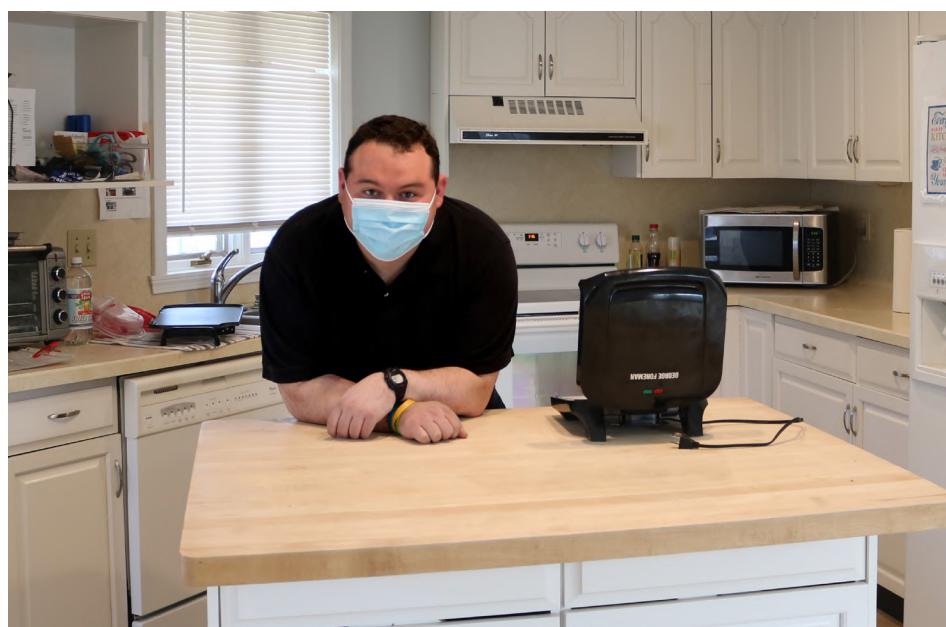
Beginning in January 2020, a small team of person-centered technology specialists hit the ground at YAI, conducting concurrent assessments with people we support and their circles of support, if required. The assessments include person-centered thinking tools, a [technology readiness matrix](#), and a person-centered technology assessment (completed in conjunction with [SimplyHome](#)). Upon completion of these assessments, the specialists develop person-centered technology plans that include recommendations for the technological intervention(s) that will meet identified

see *Smarter Tech* on [page 30](#)

## Independence from [page 13](#)

is kept in its day and time slot. At the designated time, the MedMinder will light up the appropriate slot and a prerecorded message will say, “Evan, please take your medication.” The light and message will continue until the medication is removed. To ensure medication is taken during the necessary timetable, the device triggers a phone call to a predetermined specified phone number if medication is not taken. Because of his commitment to medication independence, and with the assistance of his MedMinder, Evan can live in the home of his choosing without a need for in-person medication assistance.

Having a bank account and managing one’s own money can be deeply empowering; however, requires learning strategies to handle a budget and make sound financial decisions. Students in Vista’s residential transition program, [Discover](#), work with their Program Counselor to set up a local bank account and learn how to handle their money. Wendy, a new student with autism in Discover, is learning to manage her budget and uses her mobile banking app to help her keep track of her spending. Before planning a recreational activity like going to the movies, for example, Wendy can quickly look at her account balance and determine if that activity fits into the budget, or if she needs to save up before the outing. Miles, another Vista student with autism, explains, “My banking app allows me to check my balance and use mobile deposit. It helps me feel secure, especially when I see my balance isn’t negative.” Like Miles,



Pat in the kitchen with his George Forman Grill

many employed Vista students and members use their banking apps to deposit paychecks or other funds into their accounts.

For individuals with disabilities, there can be barriers to interacting with others or entering the greater community that are not always obvious. For instance, Jessie, a woman with autism at Vista, is sensitive to sensory information. Even seemingly quiet sounds can feel highly intrusive. To navigate interacting with a world that is so often full of noise, Jessie frequently carries noise-canceling headphones. By minimizing the noise around her, Jessie can interact with others and the greater community

with more ease. At Vista, some individuals utilize headphones to either tune out external sounds or listen to music, which can also be a valuable coping strategy. Vista’s staff support students and members in learning how to use noise-canceling headphones safely when out in the community, as it is important to still hear some sounds while navigating your surroundings.

Vista students and members are often eager to utilize public transportation to get around their community, whether it be to visit a new restaurant with friends, go to the gym, or commute to work. Even so, with ever-changing schedules and routes to

learn, public transportation can be a challenge. Vista’s students undergo extensive public transportation training in collaboration with a community partner of Vista who has the state contract to teach “travel training.” In addition to this training, many at Vista benefit from using a “bus fare app” like [Token Transit](#) to help manage bus fare for the local bus system (called 9 Town Transit). Students and members can purchase bus tickets individually or in bulk through the app, rather than needing to bring exact change or a paper bus pass. When using an app, students and members simply scan their cell phones when boarding, find a seat, and enjoy the ride.

Living with a disability like autism does not mean that it is impossible to be independent. Through education and the strategic utilization of technology, individuals can create and learn systems of independence that work for them. As technology continues to advance, it will likely create even more ways to foster growth and Vista will remain vigilant in seeking new ways to teach, train and empower independence in our students and members. The future is bright for those willing to imagine the possibilities!

*Please note: The names of the Vista students and members in this article have been changed for privacy reasons.*

*Becky Lipnick is the Communications Lead at Vista Life Innovations. For over 30 years, Vista has supported individuals with disabilities achieve personal success. Learn more at [www.VistaLifeInnovations.org](http://www.VistaLifeInnovations.org) or contact Becky at [BLipnick@VistaLifeInnovations.org](mailto:BLipnick@VistaLifeInnovations.org).*

**Interact from page 1**

practicing prosocial behaviors (Anthony & Bobzien, 2021). Some clinicians have even turned to social media to assist adolescents with autism in making friends and expanding their peer networks. Social media websites (eg., Meta, formerly known as Facebook, Instagram, Twitter, Tiktok, and Youtube) are extremely appealing to adolescents with autism as cognitive loads, behavioral expectations, and communicative demands are lessened when interacting with peers online (Van Schalkwyk et al., 2018). Research has also indicated that social media use increases friendship options for adolescents with autism. In fact, Van Schalkwyk et al. (2018) found that social media usage was associated with improved friendship quality in adolescents with autism, but not their neurotypical peers.

Although social media is a popular way to interact among adolescents with autism, recent news reports indicate that prolonged use has impacted self-esteem and led to cyberbullying. Prolonged internet use among adolescents with autism also may limit face-to-face interactions (Clinard, 2016; Van Schalkwyk et al., 2018), which are integral to understanding non-verbal cues and emotional states. Moreover, adolescents with autism are especially in danger of becoming compulsive internet users due to characterized restrictive and repetitive interests; therefore, they may have a hard time moving between real life and imaginary worlds (Clinard, 2016).

While some adolescents with autism may benefit from social media use, Clinard (2016) has recommended several ways parents and caregivers can restrict obsessive technology use if it becomes an issue:

- Set clear limits on internet use and use

**Nicole Anthony, PhD**

a timer for the teen to indicate when use is finished. Software timers can also be used to limit access to certain websites to specific hours

- Discuss what bullying looks like so the teen knows how to identify it (for example, name-calling and threatening images)
- Discuss the dangers and consequences of visiting inappropriate websites
- Teach the teen about images or content that could be considered criminal and encourage the teen to tell an adult if encouraged to access this content

A full list of recommendations can be found here: [Internet Safety for Adolescents with Autism](#) (unc.edu).

**Summary**

There are several research articles suggesting that adolescents with autism have a desire to form friendships like their neurotypical peers. However, core characteristics of autism may affect the development of meaningful relationships. Technology device usage and social media are age-appropriate, socially acceptable ways to interact with same-age peers, but these platforms should be monitored and used in moderation.

*Dr. Nicole Anthony is an Assistant Professor of Special Education at Fayetteville State University. She can be reached at [dranthony@educatordiversity.org](mailto:dranthony@educatordiversity.org) or (757) 556-6848.*

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**Inclusivity from page 1**

and use of telemedicine as a viable means of delivering effective and even superior care to individuals. Arguably, the value of a specialized telemedicine solution for individuals with ASD is even greater. They often have associated complex medical conditions, rely on others for daily living supports, and may require specialized transportation. In addition, it is often difficult to find clinicians that understand the full complement of the medical and non-medical needs of autistic individuals.

Medical care delivered via telehealth has noteworthy benefits for patients with autism and other disabilities, including:

- Eliminating the need to procure transportation.
- Reducing personal costs for paid care providers to take an individual to a health appointment.
- Removing the routine disruption that can result in aberrant behavior.
- Removing geographical barriers in rural areas.
- Decreasing the stress of attending a healthcare appointment in an unfamiliar

**Maulik Trivedi, MD, FACEP**

and overstimulating environment with unknown individuals.

- Making access to doctors that specialize in serving people with disabilities more widely available, increasing the likelihood of a successful telehealth visit. With proper technological training, healthcare providers can assess the patient virtually and provide treatment recommendations.

**Increasing Accessibility to Telemedicine**

To date, telehealth is not universally

**Patricia Wright, PhD, MPH**

accessible to people with autism. Some healthcare plans don't cover these visits or there are not providers who feel confident in treating people with disabilities. Telehealth is an innovative technology that is significantly changing the way that patients and health providers access and deliver healthcare. Just as many in the population have been afforded access to this technology, we should not deprive those vulnerable populations of the same access when in fact they could benefit from the solution at an even greater level.

Increasing availability and use of telehealth for people on the spectrum is possi-

ble. Telehealth already has a proven track record for people with ASD including but not limited to conducting language assessments for school-aged children (Sutherland, et al., 2019), providing autism diagnostics (Reese, et al., 2015; Smith et al., 2017; Juarez et al., 2018), and delivering parent training (Akemoglu et al., 2020; Bearss et al 2018; Benson et al, 2018).

As telehealth becomes universally accessible to society, we must also make it accessible to people with autism so that they are not left behind. People with disabilities, including those with autism, face a **high level of healthcare inequity**. Let's ensure that this telehealth movement is inclusive; everyone has a right to effective care.

*Maulik Trivedi, MD, FACEP, is a board-certified emergency medicine physician and the chief strategy officer of [StationMD](#), a physician practice focused on delivering high-quality medical care to people with intellectual and developmental disabilities any time they need it, no matter where they are in the United States.*

*Patricia Wright, PhD, MPH, is a member of the [OAR Scientific Council](#).*

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# AUTISM SPECTRUM NEWS DESK

## Autism Prevalence Higher in CDC's ADDM Network: Improvements Being Made in Identifying Children with Autism Early

By The Centers for Disease Control and Prevention (CDC)

One in 44 (2.3%) 8-year-old children have been identified with autism spectrum disorder according to an analysis of 2018 data published today in CDC's *Morbidity and Mortality Weekly Report (MMWR) Surveillance Summaries*. This is higher than the previous estimate published in March 2020, which found a prevalence of 1 in 54 (1.9%) 8-year-old children. The 2018 data come from 11 communities in the *Autism and Developmental Disabilities Monitoring (ADDM) network*.

A second report on children born in 2014 (4-year-old children) in the same 11 communities shows progress in the early identification of children with autism. These children were 50% more likely to receive an autism diagnosis or special education classification by 48 months of age compared to children born in 2010 (8-year-olds).

"The substantial progress in early identification is good news because the earlier that children are identified with autism, the sooner they can be connected to services and support," said Karen Remley, M.D., director of CDC's *National Center on Birth Defects and Developmental Disabilities*. "Accessing these services at younger ages can help children do better in school and have a better quality of life."

### Racial and Ethnic Differences Persist

In several of the 11 communities in the ADDM Network, fewer Hispanic children were identified with autism than Black or

Autism and Developmental Disabilities Monitoring (ADDM) Network Sites, Surveillance Years 2018 and 2020



White children. In addition, a higher percent of Black children with autism were identified with intellectual disability compared to White or Hispanic children with autism. These differences could relate in part to access to services that diagnose and support children with autism. Understanding the prevalence and characteristics of children with autism can help communities work towards identifying all children with autism early and enrolling them in services.

### Community Differences in Autism Prevalence

Autism prevalence in the 11 ADDM

communities ranged from 1 in 60 (1.7%) children in Missouri to 1 in 26 (3.9%) children in California. These variations could be due to how communities are identifying children with autism. Some communities have more services for children with autism and their families.

### Autism and Developmental Disabilities Monitoring (ADDM) Network

CDC's *ADDM network* is a tracking system that provides estimates of the prevalence and characteristics of autism among 8-year-old and 4-year-old children in 11 communities in Arizona, Arkansas, California, Georgia, Maryland, Minnesota,

Missouri, New Jersey, Tennessee, Utah, and Wisconsin.

ADDM is not a representative sample of the United States. Previously, the ADDM reports were published every other year in the spring. However, in 2018, CDC updated and simplified the *ADDM methodology* and data system to directly reflect community identification of autism by healthcare provider diagnosis or special education eligibility. These changes provide similar prevalence estimates as the previous method and allow for faster publication of results.

Tools for Parents, Healthcare Providers, Early Childhood Educators and Caregivers

CDC's "Learn the Signs. Act Early." program provides free resources in English, Spanish, and other languages, to monitor children's development starting at 2 months of age. CDC's *Milestone Tracker Mobile app* can help parents and caregivers track their child's development and share the information with their healthcare providers. For more information visit [www.cdc.gov/ActEarly](http://www.cdc.gov/ActEarly).

CDC works 24/7 protecting America's health, safety and security. Whether diseases start at home or abroad, are curable or preventable, chronic or acute, or from human activity or deliberate attack, CDC responds to America's most pressing health threats. CDC is headquartered in Atlanta and has experts located throughout the United States and the world.

This article from the CDC was originally published at [www.cdc.gov/media/releases/2021/p1202-autism.html](http://www.cdc.gov/media/releases/2021/p1202-autism.html).

### Research from page 15

that a participant sit still and look at pictures of people. If you cannot or will not sit still, then it is impossible to accurately image brain activity, and if you cannot or will not look at pictures on a screen, then it's impossible to know what's happening in your brain when you do look at people. While these requirements are simple, they create a hurdle to research participation for many cognitively impaired autistic people.

To address this hurdle, researchers at the Yale Child Study Center have developed an interactive experimental delivery system that helps people participate in research without needing to understand complex instructions. We call this program PELICAN (Participant Empowering Learning Infrastructure for Characterization and Neuroscience). PELICAN uses high-speed computer vision systems to track a person's eye and head movements.

These measures of movement are used to support an experiment that rewards a participant for sitting still and attending to the experimental task. Specifically, rather than asking a participant to sit quietly and attend to a computer screen, as these experiments are typically designed, participants are greeted by a computer playing their favorite video. As long as they look at the screen and remain relatively still, the movie plays. In this way, they are rewarded for sitting calmly and attending. What is unique about this approach, compared to an observer turning a movie on or off, is that the computer responds almost instantaneously and consistently. This instantaneous reactivity creates an environment of easily learned rules for how the experiment works without the need for verbal instructions. Once the system has determined that the participant has learned how the experiment works, it incorporates brief segments of ABC-CT experiments, allowing us to collect data

to measure the N170 and the OMI. Participants learn how the experiment works, and this allows us to collect data on these promising biomarkers.

The benefits of this approach are three-fold. First, this approach blazes a trail for developing inclusive experimental paradigms that also maintain the necessary rigor for cognitive neuroscience research. Secondly, the biomarker data will provide unique insight into the social perception in severely impaired individuals with ASD. Finally, by incorporating experimental assays from the ABC-CT, we are pioneering biomarker discovery in cognitively impaired individuals. This advance sets the stage for increasing the diversity of individuals with ASD participating in clinical trials and cognitive neuroscience overall.

Dr. Adam Naples is Associate Research Scientist and Dr. James McPartland is the Associate Professor of Child Psychiatry and

Psychology at the Yale Child Study Center.

These advancements would not have been possible without the partnership and support of individuals with autism and their families. If you would like to find out more about this exciting new study, visit [www.mcp-lab.org](http://www.mcp-lab.org) or contact Erin MacDonnell at (203) 737-3439 or [autism@yale.edu](mailto:autism@yale.edu).

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### Parent Training from page 18

As providers, we know that accessibility to parent education can sometimes be difficult due to having to schedule time that is best for both the clinician and the parent/caregiver. As a part of ABA therapy services, parent education is an essential part of the child's treatment plan with specific parent goals targeted. Often this involves in-vivo training, where parents/caregivers go into therapy settings or providers go into the child's home to work jointly in the implementation of these strategies with the child in order to increase independent skills and decrease maladaptive behaviors in the home and community settings.

The COVID-19 pandemic caused significant restrictions to be placed on nonessential businesses, including all educational settings, and ultimately resulted in families having to comply with stay-at-home orders. This produced a major disruption in the daily lives of families and particularly those with children diagnosed with autism since all in-person ABA services, including parent training, had to be halted.

One might think that requiring the parent/caregiver to set more time aside to participate in parent training might cause an increase in cancellations; however, providers started to experience an increase in parent participation as the parents needed more help navigating the changes at home and helping their child to



**Janelle Vilitski, MEd, BCBA**

be more successful and independent with daily living skills. Providers were able to model and instruct on how to complete daily living skills and routines through videoconferencing and the use of various technologies. Due to the increased support during the pandemic via teletherapy modalities, parents are more eager to attend parent training sessions, even when in-person sessions were reestablished. Providers have ultimately seen lower cancellation rates and even when a schedule conflict arises, parents/caregivers and providers have been able to reschedule appointments due to the flexibility of the delivery model.



**Jenna Cornwall, MS, BCBA**

There is no doubt that technology advancements have increased accessibility and adherence to treatment for many families across the globe. Individuals and their families living in remote areas of the United States have experienced a greater sense of connection with their communities and have likely made long-lasting relationships. Resources that were not an option in the past are now attainable. Therapies that historically were delivered in-person are now equally effective when delivered via teletherapy. The footprint of teletherapy is significant enough to ensure that it remains available to all individuals; therefore, it is important to legislate for the continuation



**Solandy Forte, PhD, LCSW, BCBA-D**

of teletherapy as a modality of delivering evidence-based practices.

*Dr. Solandy Forte is a licensed social worker and doctoral-level behavior analyst, Jenna Cornwall is a behavior analyst, and Janelle Vilitski is a behavior analyst for Milestones Family Services at Milestones Behavioral Services in Manatee County, Florida. To view more information about their services, you may visit [www.mbs-inc.org](http://www.mbs-inc.org). You may contact Dr. Forte at [sforte@mbs-inc.org](mailto:sforte@mbs-inc.org) and Jenna Cornwall at [jcornwall@mbs-inc.org](mailto:jcornwall@mbs-inc.org) or call them at (203) 306-0821. You may contact Janelle Vilitski at [jvilitski@mbs-inc.org](mailto:jvilitski@mbs-inc.org) or (484) 868-8976.*

### Generalization from page 22

into a novel location, the current implementers run the sessions while the learner generalizes skills in the new space. Conversely, when introducing a new staff member into the process, the trainee is typically brought into the designated treatment space for the modeling and practicing portions of SBT. Changing only one of these variables at a time allows for analysis of potential effects on synthesized reinforcement, new EOs that have developed, and the extent to which the learner is happy, relaxed, and engaged in the new context.

We also shape increasingly longer periods of cooperation by continuing the performance-based model implemented from the start of treatment. The critical goal of SBT is to teach learners skills for when preferred items and activities are unavailable for an undetermined period of time (Coffey, Shawler, Jessel, Bain, Nye & Dorsey, 2020). Stretching the response requirement (by using unpredictable and intermittent reinforcement) effectively thins reinforcement by teaching the learner to engage in other activities while synthesized reinforcement is delayed and denied for progressively longer periods of time. While we primarily use performance-based increments in SBT, time units of cooperation (TUCs) are sometimes used for activities in which it is difficult to measure or account for individual responses (e.g., leisure activities such as "reading or looking at books").

An important component of SBT is the eventual introduction of ambiguity to what in the beginning is a clear delineation between learner-led and adult-led time. This introduction of ambiguity can be referred to as "gray" reinforcement because the distinctions between reinforcement and EO time may appear less "black and white" to the learner. Our successful implementation of specific mand (i.e., request) branches during learner-led time (i.e., the withholding of different elements of synthesized reinforcement in order to occasion requests) supports research suggesting the teaching of omnibus mands in FCT does not preclude the development of specific mands (Ward, Hanley, Warner & Gage, 2021). The inclusion of preferred items and activities during adult-led time (i.e., participation or play is guided by the staff member) are described as "fun" branches and occasion the teaching of skills in joint attention, following rules, turn-taking, etc. In addition, for some learners who have experienced sensitivity to specific words or phrases (i.e., "trigger words") the eventual next step after developing tolerance during adult-led time is to introduce these same words in the synthesized reinforcement context.

#### Conclusion

The Interview Informed Contingency Analysis and Skill-Based Treatment has continued to be a rewarding, safe, and effective method of treating severe problem behavior for students at SEARCH Day

Program. Building upon the success of an initial pilot program, the behavior analysts have implemented the process with students of many different learning profiles who routinely demonstrated challenging behavior sensitive to synthesized contingencies. As SEARCH implements the process with more students, and the programs of individual learners are extended and generalized to more contexts, a deeper understanding of these synthesized contingencies is developed. Throughout this process, safety and rapport-building remain the values in which SEARCH staff continue to assess behaviors targeted for reduction as well as the skill development necessary for meaningful outcomes.

*To learn more about the program, visit [searchdayprogram.com](http://searchdayprogram.com).*

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# Online Organizational Software Supporting Care Planning

By **Indiana Lee**  
Freelance Writer

Organizing the care solutions your family needs can be difficult and stressful. Often, this entails coordinating with medical professionals, behavioral therapists, and child life specialists that advocate with you to remove all obstacles to supporting care.

Fortunately, these specialists have also been at the forefront of developing web-based technologies capable of streamlining the care planning experience. Witnessing the needs of countless families around the world, medical and tech professionals have come together to produce online organizational software that increases the transparency, flexibility, and convenience of care.

These are the ways online organizational software is supporting care planning for the benefit of families and care providers alike.

## Streamlining Availability of Information

The first step in care planning is always assembling resources and information you'll need in the course of treatment. Whether you operate a care facility or manage care for yourself or someone else, the availability of information intimately affects the outcome of care. Supportive care teams need real-time, relevant infor-



**Indiana Lee**

mation to plan successful treatment schedules, making online organizational software especially valuable in the battle for transparency.

Adults and children with Autism Spectrum Disorder (ASD), for instance, often are best supported by networks of medical, mental, dental, and other care professionals who understand the unique issues and challenges these individuals face. Supportive care planning means assembling and coordinating this care while ensuring that all parties have the information they need to create the best outcomes.

That's where organizational software comes in. These tools are becoming in-

creasingly popular with the advent of cloud computing and smart devices all connected by the Internet of Things (IoT) and 5G technology. Big data moves across the web, and care planning tools connect metadata to search requests with the help of Application Programming Interfaces (APIs). For care planners, this means:

- Access to provider insurance network information
- Filters for specialized care
- Reporting and alerts for important medical data like **allergies**, which tends to go overlooked in children with ASD
- Authorizations for sensitive data
- **Virtual learning** and educational materials

The best organizational software allows you to manage this information all through comprehensive dashboards. But **internet safety** should not be forgotten. Online care planning tools should support HIPAA regulations with built-in precautions that help all users stay safe on the web.

The right digital platform allows you to coordinate and schedule care transparently with providers so that no important detail is neglected. At the same time, this transparency should not compromise data integrity.

## Supporting Flexible Care Planning

Then, an online organizational software supports care planning by enabling personalized solutions at scale. This means that legal caretakers, care facilities, and **child life specialists** who work to mitigate psychosocial risks to children can craft individualized plans with all the little tweaks and specifications needed to fit a host of different needs. The personal nature of the work all but demands agile and adaptive systems.

Fortunately, flexibility is one of the primary attributes making online organizational tools invaluable to care planners. Here's what flexibility should look like for your pick of software:

**Customizable:** Every caretaker works with a range of individuals who all need specialized treatment and personalized care plans. Online organizational systems support customizable flexibility by making it possible for providers to define plans around individual goals while minimizing the ground-work. Rather than track down and communicate information regarding services, needs, symptoms, and more, organizational software tracks these data so that child life specialists can focus on producing an optimal care plan.

**Inclusive:** Naturally, care software should

*see Care Planning on page 28*

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## Next Gen Sibs from page 21

phenotype" without a diagnosis, or psychiatric comorbidity like ADHD (Miller et al., 2019). Right now, there is very little research on this group, and the first step is working directly with parents and grandparents to collaborate on a research project that will help answer questions around recurrence and early signs of autism in children, grandchildren, nieces, and nephews.

This research is aimed at identifying these children as early as birth to better understand their early signs of ASD for better detection, diagnosis, and facilitation into specific intervention settings.

*Dr. Alycia Halladay is the Chief Science Officer at the Autism Science Foundation. If you are a parent of an autistic adult and sibling older than 18, a sibling yourself, or married to a sibling of someone with Autism Spectrum Disorder and are interested in sharing your thoughts and ideas on this research question, please contact Dr. Halladay at [ahalladay@autismsciencefoundation.org](mailto:ahalladay@autismsciencefoundation.org).*

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### Older Adults from page 15

and demanding jobs having low position, status, and pay.

Personally, I am convinced that this is a recent development. Autistics have always (at least in modern history) been with us, and those with strong technical inclination have held gainful employment and contributed to society in various capacities. Temple Grandin has observed that she encountered many such individuals (usually visual thinkers) in the maintenance departments of meat plants where she worked. Steve Silberman, in his book *NeuroTribes*, has suggested that the early amateur (“ham”) radio community had many individuals who were probably on the spectrum (I am licensed as KF2BF). As a child who was obsessed with virtually anything mechanical, electrical, or electronic, I can remember the numerous radio/TV/appliance stores and repair shops that existed at the time, as well as the many publications aimed at electronics enthusiasts (which I eagerly devoured). What this implied was that anybody inclined towards these things could make a good living from them. There is no doubt in my mind that many autistics, although never diagnosed as such, who had strong interests in and talent for anything technical likely had plenty of opportunities to be gainfully employed and live independently – things that nowadays elude a high percentage of the autism community.

#### What This Means for Older Workers

Ironically, it was the development of modern technologies, particularly digital, computer, and communications, that was responsible for eliminating so many jobs in general and disproportionately many of those for which autistics were best suited. The fact that electronic devices and appliances became so inexpensive to produce eliminated most repair and technician jobs (and those which remained became more stressful and less lucrative), and computer software has done the same for occupations such as proofreading, bookkeeping, library, and research, which doubtless provided employment for many autistics in earlier days when such jobs were plentiful. As much as the new technologies may have created some new jobs, these are far fewer in number than the many which were lost, and there is also the question as to how many of the new jobs are suitable



**Karl Wittig, PE**

for autistics.

The situation is even more dire for older autistics who were eliminated from such jobs and found themselves unemployed. It is difficult for any older person who has been doing a specific type of work for many years to suddenly adapt to a different occupation, even when prospective positions have some semblance to their former jobs. In many cases, however, all available openings are completely unrelated to anything that they were either trained for or had ever done. For autistics, who typically have difficulty adapting to change, this can present formidable if not insurmountable challenges.

A recent trend in the job market is an insistence on the part of employers of hiring only so-called “digital natives”, or individuals who were born after the proliferation of modern computing and communication technologies, who were exposed to such since early infancy, and who have used them their entire lives. This is seen by some as a form of de-facto age discrimination. Obsolescence has been the scourge of engineers and other technical workers since the mid-20<sup>th</sup> century when the newer technologies of transistors and integrated circuits (microchips) displaced the older vacuum tube-based electronics. Those who were not skilled at or could not adapt to the new technology found themselves unemployed and unemployable. A similar situation now exists for older workers who are not digital natives – this includes older technical professionals like myself (I am considered unusual for my generation

because I was first exposed to computers while still in high school – most of my contemporaries were even older when they first used a computer!), as well as nontechnical workers who nevertheless are now required to use these technologies (often extensively) in the course of their work. Once again, older autistics are severely affected by this trend.

I have directly experienced all of this throughout my life and career. Since early childhood, I had a strong affinity for taking things apart and assembling them, and subsequently developed electronics skills such as soldering and using electronic tools and test equipment. Later, as an engineering student, I studied electronic design and subsequently spent a major part of my professional career as a circuit designer. Some years afterward, I studied computer science, which extended my career by more than a decade. As it happens, all the skills that I had acquired over the course of my life, which once made me highly employable, are now all but worthless apart from my retirement hobby of repairing and restoring old equipment – it makes me very grateful that I was even able to retire. Many former colleagues and co-workers avoided obsolescence by pursuing careers in management or consulting, or by moving to a different profession or occupation. After I was diagnosed on the autism spectrum, I realized that these options would not have been viable for me, and the results would almost certainly have been disastrous.

#### Technology and Older Adults

It is widespread conventional wisdom that older adults have far greater difficulty learning to use and adapting to new technologies than do younger individuals. While this may be a generalization, I have found that it is often true and that it was certainly the case for me and for many of my contemporaries (I am a senior citizen). I must emphasize here that I am referring to the day-to-day use of pervasive technologies such as social media and smartphones (for all my technological experience and interest, I still use a basic cellular phone and have no social media presence outside of my direct involvement with the autism community), and *not* to technical skill or expertise.

For older adults on the spectrum, this can be even more significant. A variety of assistive technologies are used to help chil-

dren and adults on the autism spectrum in numerous ways, and many autistics have reported that they prefer digital means of communication (email, texting, social media, etc.) to more traditional means, as the former allows them to circumvent their social and nonverbal communications deficits. While these can be helpful, and even a blessing, for many younger autistics, they may offer little benefit for older adults who are unable to adapt to the newer means of interacting. Even when training is made available to them, becoming acclimated to, and incorporating the new technologies into their lives, can be very difficult indeed.

One ubiquitous feature of modern technological life is the frequency at which the means of interacting with and using technology (e.g., user interfaces) are changed, sometimes significantly and often without notice. Although this does not seem to be much of an issue for younger individuals, and perhaps not for many younger autistics (especially those with an interest in technology), it can be a source of immense frustration and even anger for older autistics who always had difficulty adapting to change. Once again, this is entirely an issue of acclimation to the use of technology in daily life, and not of technical ability or knowledge.

Yet again, I have both personally dealt with these issues and encountered other older adults in the autism community who have had similar experiences. Despite the many years I spent both designing digital hardware and writing computer software, not to mention a graduate computer science degree, I am always aggravated whenever I am forced to interact with technology in a new and different manner (especially when it was not that long since I had to learn the current method). I also know at least one person who has worked with computers his entire career and is constantly frustrated by the rapid rate at which user interfaces and application programs are regularly changed.

Despite our long and proud history of involvement with technology, not to mention the benefits that modern technologies have brought about, the modern age has created a variety of new challenges for the autism community, especially for older autistics, and especially in the always-challenging areas of employment and daily living.

*Karl Wittig, PE, is Advisory Board Chair for Aspies for Social Success (AFSS). Karl may be contacted at [kwittig@earthlink.net](mailto:kwittig@earthlink.net).*

### Care Planning from page 27

be inclusive to all users who need it. But while finding the right tools for planning and organization, an inclusive system is a system that will be compatible with online tools used by care providers, cloud services, and patient devices. You want software that is both mobile-friendly and highly trusted by the larger community of care specialists if you are to produce the optimal outcomes possible with the help of technology.

**Adaptive:** Finally, online organizational software helps care planners by offering adaptive insights and potential. This is

possible through the ability of these tools to fit an existing workflow, replicate paper-based processes in a digital form, and communicate medical data and behaviors from a secure dashboard. From here, all parties that make up your care team can be sure they are acting off the same information, regardless of the platforms supporting that information.

A customizable, inclusive, and adaptive organizational software can fundamentally transform the way we plan care for our patients, clients, and loved ones. Transparency and adaptability offered by these digital environments for medical information connect people to ideal medical treatment - from diagnosis to pharmaceuticals. By in-

tegrating them, you can automate and scale some of the more tedious elements of care so that the patient’s goals always remain in focus.

#### Enhancing the Convenience and Potential of Care

Technology is enhancing the convenience and potential of care. Online organizational software provides the information and connectivity you need to plan optimal treatment and expand the potential of every patient. Meanwhile, the virtual data environment contains the foundation we need to personalize and improve care while developing insights that can even

lead to [vocational opportunities](#).

The best part of modern care planning software is that it can ensure all patients are seen and understood even when resources are scarce. As you look for methods to better support care planning in your own life or practice, look for organizational software that offers all these benefits and more.

*Indiana Lee lives in the Northwest and has a passion for the environment and wellness. She draws her inspiration from nature and makes sure to explore the outdoors regularly with her two dogs. Indiana has experience in owning and operating her own business. Feel free to follow her on Twitter @indianalee3.*

### Job Shadow from page 17

These three tools allowed a variety of aspects of a job site to be highlighted for students with opportunities to check understanding during their engagement with the activity. ThingLink was utilized to provide the foundation for the job shadow. Within this tool, a variety of pages can be linked together. To illustrate its use, a case example of a Bakery Job Shadow will be utilized, created by a graduate student and special education teacher, Eva Balich. [Link to example here.](#)

The opening page displays a Bakery and four different hotspots. When a user clicks on the #1, a welcome message appears providing a preview of the activity. The message states, "Today you will see what it's like to work in a bakery! You will learn about bakers and cake decorators. You will practice some skills. Maybe you can work in a real bakery someday! Watch the video below to begin." The audio was recorded for this section as soon as the window opens it is read aloud by a teacher for the user. This built-in accessibility removes text barriers and provides multiple means of representation of the content: text and video. The remaining two hotspots on the example define what a baker does and provide an example of what a baker would bake: a baguette. The interactive nature of ThingLink allows a teacher to identify important visual aspects of a workplace environment and embed specific resources to supply background knowledge, expand on a concept, or elicit a response.

The second page of the example transitions to kitchen safety. When the user clicks on the #1, the following text appears with the teacher's narration, "A baker must remember kitchen safety rules. A baker always washes their hands to keep germs out of the kitchen. A baker is very careful when using knives. A baker wears oven mitts to protect their hands from the heat on the stove and in the oven. Watch the video to learn more about Kitchen Safety." A button is included directing the user to a video on Kitchen Safety.

The second hotspot on the page is over the mixer and links to a video on making bread dough. This YouTube video can have



**Image of a Kitchen from the Kitchen Safety page with three hotspots and an arrow to return to the home page**

the closed captions enabled and the speed can be increased or decreased based on student needs. Personalized videos of a student working within the space and executing a variety of tasks can be linked through YouTube into ThingLink.

The final hotspot utilized in this example is for an interactive activity. ThingLink allows the creator to link to any external website. For this example, a Boom Cards activity was embedded that allowed the user to sort clean and dirty dishes. The Boom Cards platform allows the designer to embed audio, provide reinforcement, and create a wide variety of interactive activities to check understanding and maintain processing of content.

#### Teacher Experiences

Linda Davis, a Vocational Coordinator at a special education transition program, shared the following about the use of virtual job shadow technology: "ThingLink has given us the opportunity to continue with job shadows and tours of businesses for our students during COVID since we are not allowed to go on field trips. The students enjoy the interactive piece and the

videos were easy and fun to create." The accessibility of the platform provides the opportunity to extend its use throughout vocational experiences.

#### Moving Forward

Initially used during the pandemic, this strategy can continue to support successful vocational placements for many individuals by providing increased practice and exposure to their work environments and expectations prior to, during, and after on-site job experiences. Utilizing a variety of educational technology to match a student's needs within a vocational setting to pre-teach and review content outside of the setting can promote student success within the community (Van Laarhoven et al., 2012). Combining these more simulated training opportunities with actual on-site vocational experiences can provide greater benefit for individuals with ASD. This can better prepare individuals for the work setting and thus individuals with ASD can be more independent with workplace expectations.

*Thank you to Eva Balich and Linda Davis for their participation in this project*

and their willingness to contribute.

Lauren Tucker, EdD, is an Assistant Professor at Southern Connecticut State University. To receive additional information about assistive technology opportunities, follow [Lauren's Wakelet account](#), join the [mailing list](#), or connect via email, [tuckerL7@southernct.edu](mailto:tuckerL7@southernct.edu).

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### Robots from page 12

they are focusing on another entity separate from themselves. The other entity has a similar set of joints and movements as the individual, therefore allowing the person to see similarities with their own limbs and practice gaining perspective of another person. This is very helpful for building imitation skills, turn-taking, and communication.

Additionally, robots can provide support in understanding emotions. The robots have different ways to present many facial expressions. Some have flat screens for faces. These are used to demonstrate which expressions are associated with each emotion and the situations where someone might experience that emotion. The RAI system can lead the individual through roleplaying activities to learn appropriate actions and responses when they see these expressions.

All of these features combine to make the robot an effective educational and therapeutic partner. The robot is very patient. It is predictable and yet dynamic at the same time. Individuals become familiar with the rhythm



**Timothy Gifford**

of the interactions which is very calming for them. This calm interaction provides a safe place for the individual and the consistent

positive interactions with the robot often lead to it becoming a trusted companion.

The dynamic interactive ability of the robot, combined with carefully constructed content, creates an environment where the individual can learn about social interactions and then practice them. This safe space can be very powerful as a way for the individual to build confidence. The individual can practice and experiment with the robot without fear of accidentally offending it. Then, after the skills have been taught and practiced, the individual can try them with their cohorts in school, at home, and on the job.

The RAI system is semiautonomous, meaning that control of the robot's actions is shared between the Contextual AI in the software and the facilitator. There is always a human in the loop when the system is delivering interventions to children. This is very important since fully autonomous systems may become confused about what a child is saying or the meaning of a particular behavior. The facilitator can always redirect the robot's actions or adjust the level of content delivery. The Contextu-

al AI control system automates the robot so it can dynamically lead the individual through the various lessons and activities. This reduces the workload for facilitators, freeing them up to do more observation and assessment during the interventions.

RAI is ideally suited to serve individuals with varying learning styles. The activities, games, and lessons that the system leads the individual through can be adjusted for each individual who receives an intervention. The flexibility and tunability of the RAI system support Universal Design for Learning. With RAI, the content and interventions can be adjusted to meet the learning style of each individual.

Assistive technology provides a substantial benefit to the special needs community, and Robot-Assisted Intervention integrates multiple types of technology into a multimodal communication tool that brings real benefits to individuals with special needs and the community that supports them.

*For more information about MOVIA Robotics' Robot-Assisted Intervention, please visit [www.moviarobotics.com](http://www.moviarobotics.com).*

**Smarter Tech from page 23**

desires. Each specialist then works to install the technology and provide training on its use. At the six-month mark, each participant completes a survey that both informs the center whether the device is providing the expected level of independence and contributes to a data set that YAI will use to refine the program, pursue additional support, and ultimately, advocate with the [State Office for People with Developmental Disabilities \(OPWDD\)](#), our agency's lead funder, to make some technology eligible for Medicaid reimbursement.

Although both the shutdown and related safety requirements during 2020 delayed the center's launch, we are now well on our way to understanding the dimensions of independence that can be realized with smart technology. Many of the technological supports being used are retail items that can be purchased off-the-shelf. Others are more specialized, with applications that allow people with more significant support needs to access commonplace items like smart speakers and home hubs.

At the halfway mark, we have observed four primary categories into which technology is playing a new role: home, health, community, and safety. By way of illustration, these short examples provide a glimpse into the independence and quality of life improvements we have already observed:

**Home:** Jan has autism and visual impairments, so she needs significant support to navigate her world. After the assessment, she received a tablet, Echo Dots, and Flic buttons as part of her technology plan. The Dots are set up in various parts of the home and she can use Flic buttons to operate the Dots and play music that she finds calm-



**Judith Bailey-Hung, MA**

ing. Several months into the pilot, Jan can now access those independently, dramatically decreasing her dependence on family members and giving her more control of her environment.

**Community:** Tyrone has had several falls at home and was anxious about being independent in the community. He received a smartwatch that will notify others if he has a fall. The smartwatch also allows him to send an alert to supports if he is feeling unsafe. Tyrone now feels comfortable going back out in the community and returning to his day program where he can really be himself.

**Health:** It is well known that the pandemic

significantly impacted people's ability to access medical providers, particularly if they lived in a home without a computer, tablet, or smartphone. The center helped equip people with tablets that allowed them to access telehealth and gain support with taking medications on time. Sam resisted any change in his routine until a specialist approached him about a medication dispenser. Since receiving this technology, he has not missed a dose and gets by without reminder phone calls from YAI staff every day. If Sam does miss a dose, a notification goes to his YAI community habilitation staff member.

**Safety:** Technology has also been provided to help alleviate anxiety for some people with autism. Mark was highly anxious about whether he had closed his apartment door after he left his home. At times, his anxiety would lead him to return home to check. Part of Mark's technology plan included a door sensor and motion sensor which connects to his smartphone and notifies him if his door is open.

For everyone receiving support through the center, smart technology has led to increased independence and freed up staff or family caregivers for less routine and repetitive tasks. For example, a tablet using [Google Action Blocks](#) can allow a person to control their environment, turn on their television, and select content of their choice. For one participant, the specialist created an Action Block that allowed him to call his father in another state when he wanted to, not when someone was available to assist.

Glancing ahead, as YAI recognizes more and more uses for smart technology, direct support staff will benefit from a greater

understanding of its value and practical lessons in its safe and productive use. We have enrolled select program staff in an enabling technology credential called [Tech First Shift](#). Staff completing the 4-session training will become technology ambassadors, guiding their colleagues in day and residential programs on how to support others' use of smart technology. The center also created an online database of tools anyone can use to demystify devices and ease people into using them.

Although we continue to gather and assess data from the initial months of this pilot, it is already clear that I/DD providers have only scratched the surface on the potential of smart technology to revolutionize our field, particularly at a time when attracting and retaining qualified staff is so difficult.

*Judith Bailey-Hung, MA, is Coordinator, Behavioral Intervention Specialists and Supervisor, Center for Innovation and Engagement at YAI. For more information, visit [www.yai.org/technology](http://www.yai.org/technology) or contact [judith.bailey@yai.org](mailto:judith.bailey@yai.org) to learn more.*

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Shift Are You Ready for Technology Matrix- [www.techfirstshift.com](http://www.techfirstshift.com)

**Transitioning from page 21**

week's sessions, they frequently will not accept late assignments, they often neither take attendance nor report absences to anyone, and they often do not check homework. Importantly, while by law they must provide accommodations to the student, they cannot (also by law) make modifications to the curriculum.

Moreover, a student who had an IEP in secondary school received support and instructions by teachers and other professionals with extensive and specific training in how to teach to students with learning differences. Most instructors in college have little to no training in how to teach at all. Some professors—and I like to think I was one—obtained significant on-the-job training in graduate school and beyond, and many have learned how to teach quite well. However—and this is an extremely important point—college professors almost never receive training in how to teach neuroatypical students.

As Wil Del Pilar, vice president of higher education policy and practice at the Education Trust, puts it: “[Faculty] are not trained to meet the different learning outcomes or style of everyone, or the unique needs of students.” In short, a neuroatypical student who has been taught their entire life by highly trained professionals will enter an environment that is highly unstructured, appearing on day one in a class of hundreds of students with professors who have no experience in teaching students



**Mary E. Sokolowski, PhD**

with learning differences.

Students' primary (and often sole) points of contact will be individual professors who typically do not even know each other, much less collaborate to support individual students. Lesson seven is knowing that the responsibility for communicating with those faculty members—the core members of a student's learning team—falls 100% on the student. Professors are prohibited by law to talk to parents about any student's performance in their class. Self-advocacy and social skills are critical in gaining these team members' support.

For example, while professors must, by law, provide accommodations, they are also prohibited by law from inquiring

further about why a student needs them or how they help the student. So even if a professor has years of on-the-job training in teaching neuroatypical students, they will have no idea which learning difference their students actually have. Those professors might have innovative approaches that they are not sharing because they have no idea if they would be beneficial. Plus, while professors can seem intimidating—with “no exceptions” or “no extensions” plastered across the syllabus—solid self-advocacy skills can help students cut through those warnings and learn when, and how, to ask for exceptions, extensions, or any other additional support above and beyond that which is required by law. By contrast, the simple rule “if you don't ask the answer is always no” applies here as well: if a student does not approach their professor in a timely manner for extra help, exceptions, or extensions, they will not be simply offered. Finally, in most cases, professors don't communicate with advisors at all unless there is already a problem, and by then it is often too late to salvage a student's grade.

Lesson eight provides a context for how college is taught today: the type of professor that students are most likely to meet is an adjunct faculty member. Nationwide, about 75% of all college and university faculty are adjuncts. This does not mean they are second-rate teachers, but they are second-tier employees. The conditions of being an adjunct faculty member impacts these professors' ability to connect mean-

ingfully with students outside of the classroom: adjuncts frequently do not have offices and since pay is extremely low, most adjuncts teach at multiple college campuses, often living far from the college campus and carrying extremely burdensome course loads. Sometimes they might need additional jobs just to make ends meet. I know this all too well as I spent over a decade as an adjunct at a list of colleges too long to summarize here.

It's not that adjuncts want to be inaccessible, but it may feel that way to the students. It's also difficult to find and build mentoring relationships with adjunct faculty. A neuroatypical student may find a great professor who really “gets” them and with whom they can connect easily. That student may even want to ask for a recommendation someday. But students cannot count on their professors being around the following semester, and without advanced planning, may have no way to contact those professors after the semester ends. These are just some of the reasons why students must be firm and clear in initiating and maintaining contact with their adjunct professors.

Lesson nine is that in order to navigate all of these factors and be successful in college, neuroatypical students need to develop an advocacy plan in advance. Key elements of the plan include building a team of supportive adults, getting to know the staff at the disabilities resource center and

*see Transitioning on page 34*

### *This Is Me from page 18*

- support memory by providing a structure that ensures no important strategies are left out; and
- provide a joint focus of attention which can make it easier for young adults with ASD to connect meaningfully with the people they share their story with.

Multiple members of a young adult's education team should be included in the initial phase of creating a TiME story. A typical team might include the young adult, their SLP, classroom teacher, job coach, and any other adults who know them well. Including multiple people familiar with the young adult ensures that the list of strategies included in their story is both comprehensive and relevant across multiple contexts. As much as possible, it is important that the young adult play a role in creating this list, including vetoing strategies they do not want included.

Once strategies are identified, the SLP (or another member of the team) works in tandem with the young adult to create their story. TiME stories should be written in first person from the young adult's perspective (e.g., "Say my name to get my attention"), and language should correspond to the young adult's comprehension level. While sections included in the story are based on each young adult's strengths and needs, most stories include sections on receptive language ("How to Talk to Me"), expressive language ("How I Talk to You"), social/pragmatic language ("How I Interact"), executive function ("Tools to Help Me Remember"), self-advocacy ("Speaking Up for Myself"), and an "About Me" section for additional information such as medical information and information about likes/dislikes.

Young adults create their stories on their iDevice using story creation applications such as *My Pictures Talk* by Grembe Inc. or *Pictello* by AssistiveWare. Again, to the greatest extent possible, young adults should be included in:

- typing their strategies into the app;
- deciding whether each page should in-

### *Cell Phones from page 19*

prepare them for post-school success (Horn et al., 2021). Our research (i.e., Horn et al., 2021) contributes to the extant literature on location-based learning by utilizing technology to increase independence in transition-age students with ASD. Our findings support the use of VM, an instructional practice with a strong empirical base specific to teaching students with ASD. We encourage practitioners, parents, and caregivers of transition-age youth with ASD to consider VM when teaching new skills. Further, and perhaps the most important takeaway, is the recommendation to utilize technology to increase integrated community independence. The latter is significant as it [technology] can provide support to individuals in a natural, age-appropriate manner while simultaneously increasing independence (Horn et al., 2021).

## The "How to Talk to Me" Module

[Click here to download The "How to Talk to Me" Module](#)

Receptive language is the ability to understand or comprehend language. A receptive language disorder can result in difficulty understanding what people mean when they use gestures, like shrugging or nodding; difficulty understanding oral or written communication, including following directions; and answering questions. In the receptive language or the "How to Talk to Me" section of a This is Me story you can include information and strategies that will support the comprehension skills of the individual. Content of this section can include ways communication partners can modify their speaking style to support the needs of the individual.

### What can be included:

- How to simplify language (i.e. reduce complexity, reduce number of words, use known vocabulary)
- How to adjust speaking rate
- How to gain an individual's attention before speaking
- How to provide visual and written supports
- How to pair modeling tasks with verbal language

### We recommend including this section because communication partners:

- Often do not gain the attention of an individual before interacting with them
- Often speak quickly
- Often use unfamiliar vocabulary or complex directions
- Often have misconceptions about how to talk to someone with a disability
- Often explain tasks vs. showing how to complete a task

This can result in communication breakdowns, a lack of success in that environment, and the need for additional comprehension support from others.

clude a photo or video to accompany the strategy, and then modeling each strategy; and

- deciding how best to audio-record the written caption for each page (e.g., recording themselves or someone else reading the caption aloud).

Throughout the process, it is important to check in with the young adult to make sure they understand the words in their story. Instructions for how to work with young adults to create a customized TiME story have been published in a peer-reviewed journal by Pouliot et al. (2017), and a manual is available for purchase at [This is Me: A How-to-Guide](#) that includes suggestions for strategies and phrasing of strategies.

#### Sharing *This is Me* Stories

TiME stories are all about empowering young adults to take ownership of their communication with the important adults in their life. Working with them to ensure they can effectively share their stories is key. Teaching should begin in a structured environment with limited distractions. The young adult will need to learn how to navigate through their story (e.g., making sure the volume is high enough, pausing between strategies to give enough time for each video clip to play), and practice pragmatic skills for sharing their story (e.g., turning their iDevice toward their

conversation partner, maintaining proximity to them). As young adults become more comfortable sharing their stories, they can expand their audience to include other familiar adults, and ultimately the new adults in their lives. However, because individuals with ASD demonstrate a wide range of language and cognitive abilities, the degree to which they are able to share their stories independently will also vary.

#### Outcomes

We have conducted two studies of the impact of TiME Stories (formerly known as Communication Stories), and findings suggest that TiME stories can:

- increase viewers' knowledge of young adults' support strategies;
- strengthen young adults' self-esteem and relationships with their workplace supervisors; and
- positively impact the communication behaviors of job coaches and workplace supervisors (Müller et al., 2018; Müller et al., under review).

A third study, currently under way, will help us continue to build the evidence-base for digital transition portfolios in general, and TiME stories in particular, across different contexts and users.



**Annemarie L. Horn, PhD**

*Annemarie L. Horn, PhD, is an Assistant Professor in the Department of Communication Disorders and Special Education at Old Dominion University in Norfolk,*

*Virginia. She is also the Program Coordinator of the Special Education Adapted Curriculum (K-12) Program. Dr. Horn's research focuses on enabling technologies to improve educational practice and post-school independence for students with autism spectrum disorder and intellectual disability. Dr. Horn was selected as the 2022 Council for Exceptional Children Division on Autism and Developmental Disabilities (DADD) Tom E. C. Smith Early Career Award recipient for her nationally recognized contributions to teacher education. Please feel free to contact Dr. Horn at [ahorn@odu.edu](mailto:ahorn@odu.edu).*

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*Dr. Eve Müller is Coordinator of Program Evaluation and Outcomes Research, Danielle Pouliot Evans is Speech Language Pathologist, Ann S. Kern is Director of Speech Language Therapy Services, and Kelly Offutt is Speech and Language Specialist at Ivymount School and Programs in Rockville, MD. For more information on TiME stories, contact Danielle at [devans@ivymount.org](mailto:devans@ivymount.org), and for outcomes research, contact Eve at [emuller@ivymount.org](mailto:emuller@ivymount.org).*

#### Footnotes

1. Labels are important. Some individuals prefer person-first language (e.g., "young adults with ASD"), whereas others prefer identify-first language (e.g., "autistic young adults"). We have used person-first language throughout this article since that's what most of our students use.

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### Scene Cue from page 16

cubby and taking a backpack off a hook, while repeating the spoken direction. Because the SC augments a spoken direction with visual information that is highly concrete, the learner completes the direction with less involvement from the mentor.

Mobile technology and wearable technology (i.e., smartwatch) are effective and convenient conveyers of SCs – both static and dynamic. SCs are simple to create and store using photo and video applications. Folder, album, and/or tagging systems make it easy for mentors to access the SCs associated with a particular activity or setting. For a learner who works in a pizza shop, mentors could make a folder called “Pizza Shop Job” that might contain SCs for directions like “fold the box,” “sweep the floor,” “put the sodas in the fridge.” Other folder examples could be “Getting Ready” (“put your lunch in your backpack,” “put on your coat,” “put on your shoes”), “Gym” (“get the basketball,” “throw the beanbag through the hoop,” “jump onto the box”) or “Princess Dolls” (“make the doll eat/dance/sleep”). Research supports the use of SCs on smartphones, tablets, and even smartwatches, in which case a mentor texts a specific SC to a learner’s smartwatch at the moment it is needed (O’Brien et al., 2020). Depending on the learner’s needs, the SCs presented can be either dynamic or static. Some learners may always require the concreteness of dynamic SCs, while others may be successful with static SCs after some practice. Some may eventually be able to transition from static SCs to symbolate strips; indeed, when graphic symbols are paired with SCs over time, there is potential for learners to map language concepts onto them.

The SC is a tool that harnesses consumer technology to help learners develop direction-following skills and experience more

**Table 1.**

Direction Type	Purpose	Example	Example scene cues to create and store
Control	Used to regulate learner’s behavior	Sit down, quiet, stop, stand up	<ul style="list-style-type: none"> <li>• “Stand up” (person moving from seated to standing position)</li> <li>• “Criss cross applesauce” (person moving their legs into position)</li> </ul>
Routine	Guide learner’s participation in daily routines	Open, put, get	<ul style="list-style-type: none"> <li>• “Open the box” (hand reaching over to box and taking off the lid)</li> <li>• “Get your blue folder out of your desk” (hand reaching into desk, grasping and pulling out blue folder)</li> </ul>
Instructional	Promote learner’s ability to follow instruction within classroom or vocational setting	Circle, cut, point, show	<ul style="list-style-type: none"> <li>• “Point to the red square” (page of shapes/colors with a hand pointing to red square)</li> </ul>
Play-based	Enable learner to participate in games or pretend play	Throw, draw, roll, kick, push, pop, give	<ul style="list-style-type: none"> <li>• “Roll the dice” (hand picking up dice, shaking them, casting them onto a surface)</li> <li>• “Draw a card” (hand drawing the top card from a card deck)</li> <li>• “Push the stroller” (hand pushing a dollhouse doll’s stroller across a surface)</li> </ul>

independence with daily activities. Though SCs have many advantages, they are not a generative language – that is, they are not composed of units that can be flexibly combined to make various and predictable meanings, like spoken or written language – but they may help move learners toward generative language by more explicitly representing concepts visually. That, combined with the potential for increasing independence and decreasing frustration, can improve the daily lives of both learners and mentors.

For more information, contact Anna A. Allen, PhD, CCC-SLP at [aaa.ccc.slp@gmail.com](mailto:aaa.ccc.slp@gmail.com).

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### Confidence from page 20

a Secretary of Education in another. The Officer of Education helps members to be recognized for their achievements.

With my growing confidence, I began writing about my life experience to help others. I recently had the opportunity to help others in a big way. Through Toastmasters, I gave a talk to parents of children in Malaysia. I talked about positive influences in my life and answered questions. I did fine, but I hope to get better at this type of exchange as more opportunities come up in my life. I got feedback that I changed parents’ perspectives about the situations they are in by my sharing of how important it is to just love your child no matter what. The feedback made me feel great. This was

a fulfilling experience and it makes me want to keep expanding.

The best part of all of this was that my friend, mentor and father figure came back into my life (it was a happy moment) after I became involved with my new organizations. He and my grandmother-mentor figure are always behind me. They were there or in spirit for the speech I gave to the parents in Malaysia. I am also learning that I can be independent and rely on myself with increased confidence.

My experiences and success have fueled my confidence and have inspired me to greater challenges. I have to make sure that my newfound confidence doesn’t make me arrogant and that I lose my patience with others. I continue to learn about standing up for myself; even when dealing with dif-

ficult individuals with big personalities. I have to continue to learn ways to diffuse disagreements and to not let situations get out of hand. If there is conflict, you have to find ways so there are not casualties. It is important to know that one can stand up for themselves and still show compassion and problem solve.

By learning to be a better problems solver I am capable of making things better. I am learning not to apologize for my perspective when I disagree with someone; they are entitled to their opinion but so am I. I can show humility and courage in those situations. Moreover, by working with others, in spite of our differences, we can succeed together.

I feel like I am getting stronger every day and am ready to take on more of the world.

I won’t let myself or lack of confidence get in the way. I can take on advocacy issues head on. That is my goal.

My name is Angela Chapes and I am an autistic adult with anxiety and OCD. I have had depression in the past. I am 39 years old. I was not diagnosed with autism until my late 20’s. It was years later that I started figure out who I was. Thanks to the positive and supportive people in my life. I have a very encouraging job. I am transforming and growing at lightning speed. Learning all I can about leadership, advocacy and other organizations that can help shape my future. I want to be a voice for individuals with autism and mental illness. I love being busy, writing and speaking.

For more information, you can email Angela at [aechapes@yahoo.com](mailto:aechapes@yahoo.com).

**Spectrum Innovates from page 6**

engaging in the experiential activities in the Innovation Hub environment (CASEL, 2020; Martin, Vidiksis, & Koenig, 2019; Waters, 2016). These are social emotional learning and life skills competencies that all adults need to lead a self-defined successful life, but the skills, concepts, and learning process are also tailored specifically to autistic young adults' needs. We developed our SEL curriculum using elements from Autism Education Trust's (AET) Progression Framework (2019) and through research conducted with autistic researchers and participants. It is necessary to include the autistic lived experience perspective in any SEL curriculum for autistic people.

Autistic people deserve equal opportunities to create a life that aligns with their interests, passions, and goals. Although autistic people possess several strengths and abilities that can lead to successful and sustained employment, as previously mentioned approximately 85% are under or unemployed. Access to fulfilling employment can lead to increased autonomy and a better quality of life (De Neve & Ward, 2017). Spectrum Innovates Pathway Program aims to create a space for autistic young adults to engage their technology-related special interests and utilize their strengths in hands-on learning activities that mirror real-world challenges in efforts to prepare them to enter continuing STEM-related education or the workforce. Autistic individuals interested in STEM have so much to offer the field of technology with their natural cognitive and personal strengths, and with the right environmental supports, accommodations, and opportunities to practice life skills in a neurodiversity-affirming environment to grow as their authentic selves – the symbiotic relationship between autistic people and technology can flourish.

Samantha Alba, SIPP's Social Emotional Learning Facilitator, can be contacted at [salba@spectruminnovates.org](mailto:salba@spectruminnovates.org). SIPP's Director of Programs, Eleanore Bednarsh, can be contacted at [ebednarsh@spectruminnovates.org](mailto:ebednarsh@spectruminnovates.org). Please see *Spectrum Innovates Pathway Program (SIPP) Overview* for more information.

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**Accessibility from page 19**

practices, it can serve as a helpful supplement to decrease wait times for treatment plans and mitigate some of the common issues related to in-person care, such as travel time and conflicting schedules.

As the chair of the New York State Assembly's Subcommittee on Autism Spec-

trum Disorders, I always welcome any and all questions and concerns readers may have. I encourage you to contact my office at 518-382-2941 or send me an email at [SantabarbaraA@nyassembly.gov](mailto:SantabarbaraA@nyassembly.gov) with your comments, questions or concerns on this matter or any other issues. You can also find more information on my website at [www.nyassembly.gov/Santabarbara](http://www.nyassembly.gov/Santabarbara). Stay

safe, stay healthy!

Footnotes

1. [ncbi.nlm.nih.gov/pubmed/35110994](https://pubmed.ncbi.nlm.nih.gov/35110994/)
2. Ibid.
3. Ibid.

4. [ncbi.nlm.nih.gov/pubmed/35110994](https://pubmed.ncbi.nlm.nih.gov/35110994/)
5. [ncbi.nlm.nih.gov/pubmed/35110994](https://pubmed.ncbi.nlm.nih.gov/35110994/)
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7. [osc.state.ny.us/files/reports/pdf/broadband-availability.pdf](https://osc.state.ny.us/files/reports/pdf/broadband-availability.pdf)

## Autism Spectrum News Editorial Calendar

Spring 2022 Issue:  
**Education and Autism**  
 Deadline: March 3, 2022

Fall 2022 Issue:  
**Relationships and Sexuality**  
 Deadline: September 6, 2022

Summer 2022 Issue:  
**Understanding & Treating Co-Occurring Conditions**  
 Deadline: June 7, 2022

Winter 2023 Issue  
**Understanding and Promoting Autism Advocacy**  
 Deadline: December 1, 2022

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### Self-Modeling from page 16

individual. Although the individual must successfully engage in the behavior for video self-modeling, it may be a behavior that they require prompting to perform or perform infrequently. For instance, when working on shoe tying it is critical to ensure the learner has the fine motor ability to complete the individual steps of the skill, but they do not need to be able to independently tie their shoe.

3. Record and edit the video. In this step, the video is recorded, edited, and evaluated. In general, the video should take place in the setting or settings in which the individual is expected to perform the target behavior, as this has been found to produce greater effects (Bellini et al., 2007). Next, when recording the video, the individual can either be recorded while naturally performing the behavior or performing the behavior with prompting. If the behavior is prompted, it is important to edit the prompts out of the video so that the video shows the individual independently engaging in the behavior. When the video is completed, it can be evaluated for any necessary edits such as sound quality adjustments. If there are distractions or disruptions to the video or audio quality that cannot be edited, it should be rerecorded. Again, using the above scenario of shoe tying, when making the video, someone can tell the learner exactly what to do for each step (e.g., tell them to hold the laces in each hand, to make an X, and so on) and provide additional prompts for how to perform steps (e.g., physically prompt the learner to pinch the laces, model looping one lace around the other). Once the entire sequence of steps has been completed, the video can be edited so that the final video shows the learner tying their shoes unaided.
4. Implement the intervention. Prior to actually implementing the intervention, it is critical to determine *who* will implement it, *when* it will be implemented,



**Christina Wood, MEd, BCBA**

and *how frequently* the individual will receive the intervention. Further, it is necessary to decide if and what additional practices will be incorporated into the intervention (e.g., task analysis, prompting, reinforcement). Once these decisions have been made, you are ready to implement. The individual should watch the video immediately before they are expected to use the skill (e.g., watching a video of tying shoes before getting ready to go outside). Additionally, research suggests that individuals should view the video two to four times per session (Shukla-Mehta et al., 2010).

5. Monitor progress. It is important to set a goal for the individual and collect data so that progress can be monitored. Goals should be clear, objective, and attainable. With video self-modeling, it may be especially appropriate to include self-monitoring data to involve the individual in the progress monitoring process.
6. Plan next steps. Lastly, upon reviewing the data, a decision should be made to continue, make adaptations to, or discontinue the intervention. If the intervention was effective, it could be expanded upon to target a new skill. If the individual was not making sufficient progress with the intervention in place, adaptations to the intervention should be made to



**Amy Thatcher, MEd, RBT**

make it more effective. If the intervention was not effective at all, it should be discontinued and an alternative intervention should be implemented.

Video modeling interventions, including video self-modeling, have proven to be effective for varying age ranges and skills while incorporating observation, modeling and imitation, the key elements of Bandura's social learning theory (Bandura & McClelland, 1997). VM is easily implemented, following the basic steps presented above, individualized, and can be used with other practices as part of a treatment package. With advancements in technology, the ease of implementation of VM and acceptability of using technology within society demonstrates the adaptability of VM as an effective intervention across ages and behaviors.

*If you would like more information about Lehigh University Autism Services please contact our office via phone at (610) 758-2441 or visit our website at <https://ed.lehigh.edu/center-for-promoting-research-to-practice/autism-services-clinic>.*

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### Transitioning from page 30

actively asking for their help in identifying resources beyond those which are required by law, regularly making use of the resources available, and working hard at getting to know instructors. While it is a highly personal and individual decision, students might also consider the benefits of disclosing their diagnosis to professors and academic advisors: this might provide them with helpful information about how to address specific learning needs beyond the accommodations required by law. Programs like CIP can be invaluable for students with learning differences who benefit from additional support with transitioning from high school to college.

Lesson ten takes us back to the beginning, standing at the mountain top called “finish-

ing high school.” It might be helpful to work with young adults to assess their readiness for college by asking realistic, and sometimes quite difficult, questions about whether they want to proceed directly to college at all. This is something that we spend time on during the application process at CIP as well as in a student's first semester. Taking a semester or even a year off between high school and college and finding ways to develop executive functioning, communication skills, and self-advocacy may make the difference between success and failure in college. And if the team is certain that college is the next step, start slowly and expect big changes ahead. Personally—having spent so many years teaching at the college level—I think it's worth it. But students must also believe that with all their heart.

*Before joining The College Internship*

*Program, Mary worked for twenty years in the field of post-secondary education as an instructor and administrator. She served as adjunct faculty at several colleges and universities in the northeast. As National Enrollment Specialist at CIP, Mary is responsible for initiating and developing relationships with neurodiverse students and their families. She guides families through the CIP admissions process, from their first inquiry to their potential enrollment at one of five national centers.*

*The College Internship Program is a comprehensive transition program for young adults on the Autism Spectrum and with Learning Differences. Our Mission is to inspire independence and expand the foundation on which young adults with Autism, ADHD, and other Learning Differences can build happy and productive lives.*

*For information about CIP, contact our National Admissions Office at 877-566-9247 or email [admissions@cipworldwide.org](mailto:admissions@cipworldwide.org).*

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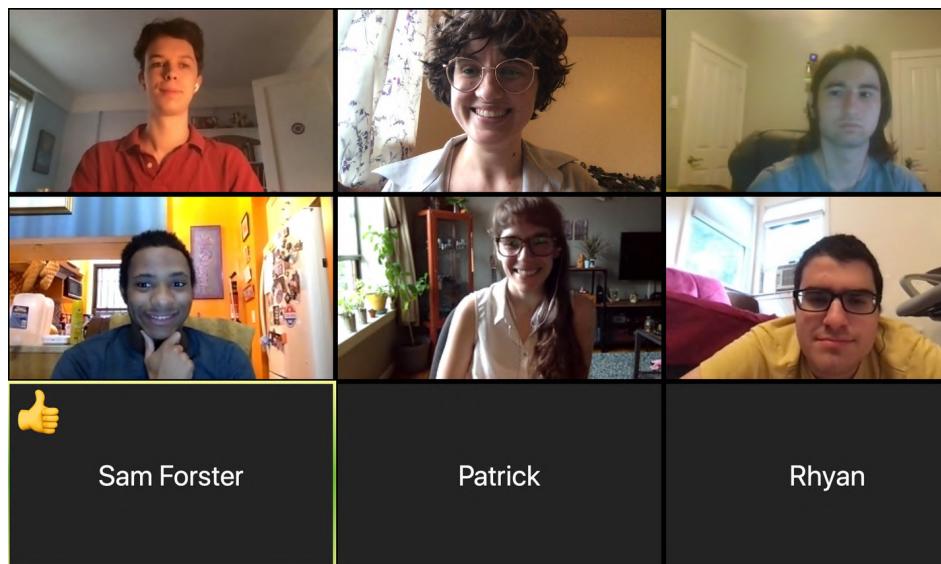
**Remote Work from page 14**

2004), specific support staff (e.g. Friedman, Warfield, & Parish, 2013), family (e.g. Citera, Wehman, West, & Burgess, 2021), and friends (e.g. Brownlow, 2010), was highlighted as a strong facilitator to employment” (p. 35). This describes the CRISP internship environment: a team of TKU mentors alongside internship supervisors who are well-informed about the strengths, challenges, and interests of each intern.

Working remotely was a mixed experience for interns. During the pilot summer in 2020, 3 out of 7 interns indicated that working remotely improved the experience for them, 1 indicated that it took away from the experience, and 3 indicated that they expected they would have felt about the same regardless of format. In summer 2021, 2 out of 13 interns indicated that working remotely improved the experience, 2 indicated it took away, 7 indicated it would have felt about the same, and 2 named benefits to remote work, but ultimately preferred an in-person experience. One intern noted, “Working remotely was nice for the internship work, but not for the [work-readiness instruction from TKU staff]. If I had to choose I would rather be in person, although I know that wasn’t possible this year.”

Anecdotally, interns named benefits like not needing to travel, comfort in their own space, and flexible scheduling. Harmuth et al. (2018) found that strong responses to sensory stimuli were named as a possible barrier for autistic employees. The way this barrier is described in the study suggests it is largely grounded in a lack of acceptance that could be mitigated by diversity training for neurotypical employees. Still, flexibility to control one’s own sensory diet and schedule could create a more positive and comfortable working environment.

Remote work has the potential to position pre-vocational learners to focus more on core job skills by removing secondary factors that may influence their experience. For example, a long commute, distracting



**TKU CRISP interns meet over Zoom during the summer 2020 pilot**

environments like open offices, significant demands for tasks like planning (leaving on time, having transit fare, packing lunch, planning for weather, etc.), or expectations for workplace socializing (e.g. chatting around the water cooler) are all potential stressors that could result in negative feelings about the experience that are wholly unrelated to the job itself. The absence of these factors could allow interns to dedicate more energy to foundational work skills such as communication, time and resource

management, and self-advocacy. Hopefully, this period of focused skill-building can increase confidence when entering work environments that introduce additional distractions and demands.

Amidst positives, virtual internships are not without challenges. Special attention must be given to establishing communication expectations since interns cannot visit a colleague’s desk for questions. To replace this informal support system accompanying in-person internships, CRISP

	# of responses (2020); 7 interns	# of responses (2021); 13 interns
Working remotely improved the experience for me.	3	2
Working remotely took away from the experience for me.	1	2
I think I would have felt about the same about the experience if the internship had been in person.	3	7
Other/Write-in responses	N/A	2

interns connected with peers and TKU mentors using the messaging app Slack for timely support. This is an area where exploring additional technologies could be beneficial. It is also important to note that participation in virtual programs requires adequate access to digital devices and high-speed broadband internet, which approximately 30% of K-12 public school students lack in the U.S. (Common Sense Media, 2021).

Looking toward Summer 2022, TKU intends to run a hybrid version of CRISP that offers remote and in-person internship options. This will support our work with a broad community of employers and interns while addressing challenges of remote and in-person programming.

*Jessye Herrell is Education Manager at Tech Kids Unlimited. If you would like to learn more about Tech Kids Unlimited, please visit [TechKidsUnlimited.org](http://TechKidsUnlimited.org) or email us at [info@techkidsunlimited.org](mailto:info@techkidsunlimited.org).*

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**For more information, visit the website [www.aane.org](http://www.aane.org) or contact the facilitators:  
Bonnie Kaplan - [Parenttalk@gmail.com](mailto:Parenttalk@gmail.com) | Judith Omidvaran - [Judyomid@aol.com](mailto:Judyomid@aol.com)**

### Socialization and Life Skills Group for Adults with an Asperger/Autism Spectrum Profile

This support group, Opening Doors, is now in partnership with the Asperger/Autism Network (AANE). This group is for adults who have an Asperger or similar autism spectrum profile. Learn, socialize and receive support from others who share common experiences. Focused on: Socialization, Mindfulness, Creativity, Self-Advocacy, Health and Well Being, Career Counseling, Relationships and Fun!

**For more information, contact the facilitators:  
Anna L. Nasci, OTR/L, MS, NCC, LMHC | Masako Hashimoto, MS, NCC, LMHC - [OpeningDoorsWestchester@gmail.com](mailto:OpeningDoorsWestchester@gmail.com)**

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- A searchable online database of over **1,100** articles available for free
- An online archive of over **50** quarterly issues going back to 2008

## About Autism Spectrum News

Autism Spectrum News (ASN), published by the 501(c)(3) nonprofit organization Mental Health News Education, began as a quarterly print publication in 2008. In response to readership feedback, ASN became an online-only publication in 2021. ASN was developed to provide the autism community with a trusted source of evidence-based information and education, the latest in scientific research, clinical treatment best practices, family issues, advocacy and vital community resources.

ASN raises the level of the autism field by serving as a central repository of quality, practical information written by leading professionals in autism service delivery and research. The publication's content guides individuals, parents and service providers in the right direction from the very beginning, while taking efforts to avoid the promotion of unsafe and unproven interventions and treatment methods.

In keeping with the publication's evidence-based mission, the esteemed [ASN Editorial Board](#) will only accept articles and advertising offering science-based information and/or treatments proven safe and effective for autistic individuals.

ASN provides hope through education by collaborating with leading autism organizations and educational institutions that are improving lives every day. The publication serves to unite and improve our evolving systems of care and advocate on behalf of autistic individuals and their families to reduce the harmful effects of stigma in the community.

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