

HEALTH & WELLNESS

IN THE LAB

# New Job Skills Advice for Adults With Autism

By Shirley S. Wang

Knowing what an employer wants to hear can make all the difference during a job interview.

For adults with an autism-spectrum disorder, those answers can be harder to come by. And without work, they face the prospect of a much less independent life.

But early evidence suggests some job-training programs geared for these individuals appear to improve interview skills and self-confidence.

Much of the focus on autism, a developmental disorder characterized by social deficits and repetitive behavior, has centered on the diagnosis and treatment of young children. But for parents and experts, the question of what happens when these patients grow older and age out of social services looms large. More than half of adults with autism in the U.S. are unemployed, according to studies.

Parts of the job-seeking process can be missed or misinterpreted by people with autism. They may not engage in small talk to ingratiate themselves to colleagues or employers. Networking can make them anxious. Many need to hear that they should write a cover letter even if a job description only asks for a résumé, says Lydia Brown, a former project assistant at the Autistic Self-Advocacy Network and an Arabic and Islamic Studies student at Georgetown University.

Scientists from Northwestern, Vanderbilt and Yale universities are studying whether interview skills can be improved through a computer-based program that uses a virtual-reality interviewer dubbed Molly.

On screen, Molly is a young but professional-looking brunette whose voice comes from an actress who recorded 2,000 questions and answers related to job interviews.

Technologically, she is based on sophisticated person-simulation software originally designed to train FBI agents to interrogate witnesses, says Dale Olsen, who developed the initial technology in 1995 when he was a scientist at Johns Hopkins University's Applied Physics Laboratory. He is now the chief executive of a Columbia, Md.-based company called Simmersion, which sells training systems using the technology.

The trainees start by filling out an application processed by the program to determine the most appropriate questions for applicants. For instance,



Kat Wyand, seen performing on a New London, Conn., radio show in 2013, says job training at Northwestern University tailored for those with autism helped her.

if people have gaps in their work history, Molly may ask applicants to explain them.

In addition, Molly can be programmed to three levels, from nice to brusque. Trainees learn to navigate these situations by choosing from a set of responses to each question. After each selection, they hear feedback about how well they answered.

The feedback is intended to help trainees build rapport with an interviewer. For instance, when asked if they have experience, some trainees initially may respond "no," without realizing that such a response may hurt them. Gradually, they may learn a more effective response, like, "No, but I'm a fast learner."

In the study, 26 adults ages 18 to 31 were assigned either to work with Molly on up to 20 trials over a 10-hour period, or to their usual treatment. They all were also interviewed by researchers at the beginning and end of the study.

The data showed that those who worked with Molly reported better self-confidence and better performance scores in the mock interviews over time. A preliminary data analysis, still unpublished, suggests that those who received training with Molly were more likely to get competitive positions than those who didn't, says Matthew Smith, research assistant professor of psychiatry and behavioral sciences at Northwestern.

He is also first author on the study, which was published in the Journal of Autism and Developmental Disorders.

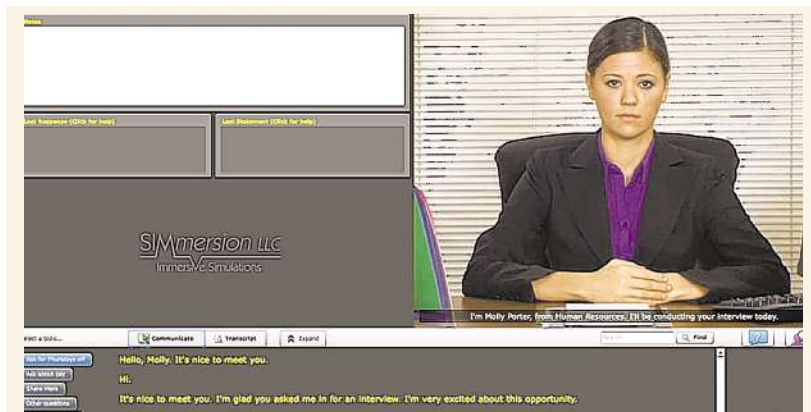
Kat Wyand, 25, was diagnosed with Asperger syndrome, a mild form of autism, when she was 16, and told by teachers and therapists that her deficits with social skills would prevent her from getting a job. Ms. Wyand was devastated. She went on to get a bachelor's degree in audio arts and acoustics at Columbia College in Chicago, but had trouble finding work. She says she sent out a number of applications but received few interviews and doesn't know why.

When she heard about the study at Northwestern, she immediately got in touch. She says she learned what to say to start an interview, and to condense her answers, since she had a tendency to ramble. However, with the computer program, she says she wasn't able to get feedback on her body position or tone of voice, which is something she has trouble with.

Since then, she has found a part-time job as a bookkeeper at an art gallery where she had been volunteering. Now she is considering teaching guitar, something she previously wouldn't have considered.

"I've lifted myself from the depression, but it's taken years," Ms. Wyand says. "Now I'm feeling hopeful that I actually have talents that I can use and get employed."

Other programs with research evi-



## The Computerized Guru

Virtual job interviewer Molly, above, tailors her feedback to different answers:

**MOLLY: HOW ARE YOUR COMPUTER SKILLS?**

**ANSWER:** I've done a lot with computers, and I'm very comfortable using them.

**FEEDBACK:** This is a good response if you have past experience working with computers.

**ANSWER:** I'm not very good with computers.

**FEEDBACK:** This is not a good way to present yourself in a positive light. There are better ways to share your lack of skills. Asking about training or stating that you think you could learn if you had a chance would be a better option.

**ANSWER:** I haven't had a lot of opportunities to work with computers, but I'm interested in learning more. Do you provide training?

**FEEDBACK:** This is a good way to reveal your lack of experience. Molly will not expect you to be perfect, and there is likely a training program in place.

**ANSWER:** I can do anything with computers. If you need to fix them or upgrade them or hack into something, then you should hire me.

**FEEDBACK:** You sound like you are not honest. Molly is not going to want to hire someone who offered to hack into a computer for fear you will do something similar while at work.

dence behind them include JobTIPS, a Web-based service that includes videos, printable guides and assessments. In a randomized study, 22 teens between 16 and 19 years old completed the training, while another group didn't. Those who went through JobTIPS exhibited more effective interview skills after the training, according to the paper published in the Journal of Autism and Developmental Disorders in 2013.

Other programs take a more traditional, internship-based approach to job training. At Virginia Commonwealth University, Paul Wehman has been running a trial since 2009. It assigns six to eight high-school students with autism each year to a nine-month internship program at area hospitals, with others getting treatment as usual in school.

Trying to take advantage of some of the skills of people with autism, such as attention to detail, intern-

ships have included ambulatory surgery rotations where students sterilize surgical equipment. Students have also worked in the pharmacy, where they fill bottles of medication.

Two years after the internships, of the 20 who were employed after graduation, 17 are still at the job, two were terminated and one moved away, Dr. Wehman says.

Marsha Mallick, director of the University of Wisconsin-Madison's Waisman Center, which helps teens with autism move into adulthood, says that she supports any program that increases the likelihood of employment. But interview training hasn't been demonstrated as the most effective strategy, she says.

She suggests that parents network and think creatively to help their children obtain, as soon as possible, jobs that give gratification and occupy many hours a week. A job is "therapeutic," she says.

# Will Getting Grounded Help You Sleep Better and Ease Pain?

By Laura Johannes

**The Claim:** Our bodies receive a charge of energy from the Earth when we walk barefoot outdoors, according to companies that sell products designed to give users the same effect. The process, sometimes called "earthing," improves sleep, eases chronic

pain and imparts a sense of well being, companies say.

**The Verdict:** There is little credible proof of health benefits, scientists say. Several studies show connecting subjects to an electrical ground changes bodily measurements, such as a marker of central-nervous system activity in infants. But the studies are "preliminary at best," poorly designed and too small to be meaningful, says Steven Novella, a clinical neurologist at Yale University School of Medicine in New Haven, Conn., and executive editor of the blog Science-Based Medicine, which looks at controversies in science and medicine.

By living indoors and wearing shoes, "we have accidentally disconnected from the Earth," says Clint Ober, founder and president of Earth FX Inc., Palm Springs, Calif. The company's products, such as a fitted sheet for \$180 and a \$140 half sheet, are woven with conductive silver and are typically plugged into the ground, or third, socket, of wall outlets.

The Pluggz line of shoes, including \$39 flip-flops and women's shoes starting at \$109, have circles in the sole infused with a carbon powder that conducts electrons from the Earth, says Sharon Whiteley, chief executive of Listen Brands Inc. in Tucson, Ariz.

John Cohn, a fellow of the Institute of Electrical and Electronics Engineers, a New York professional society, says it's true that coming into contact with the Earth can cause the body to pick up electrons. Dr. Cohn and other scientists also say that plugging a conductive item, such as a sheet, into the third hole of a wall socket will have the same result, since it is connected to the ground.

But Dr. Cohn and others say the energy exchange isn't an unusual event. The body gains and loses electrons all day rou-

tinely, says Chad Orzel, chairman of the department of physics and astronomy at Union College in Schenectady, N.Y., and nothing makes the Earth's electrons special. "Every electron is identical to every other electron in the universe," he says. Moreover, say Dr. Cohn and Dr. Orzel, any electrons picked up will remain mostly on the skin—making a positive health effect seem unlikely.

Advocates of earthing's positive benefits point to a company-financed, eight-person study that found decreases in post-exercise muscle pain in subjects who spent evenings and nights grounded.

Grounding was tested by Penn State researchers in a study of about 20 infants hospitalized after birth in the intensive-care unit. The study was presented as a poster pre-

sentation at a meeting of the Pediatric Academic Societies earlier this month in Vancouver, British Columbia. When the babies were grounded using an electrode on their legs plugged into a grounding socket, scientists measured improved activity of the vagal nerve, which is involved in the body's relaxation response.

The improved vagal-nerve activity—which a previous study linked to reduced risk of an inflammatory bowel disease common to newborns—disappeared when the electrode was removed, says Charles Palmer, a study co-investigator with no financial connection to Earth FX. The result is "very intriguing" but needs to be replicated by other scientists, says Dr. Palmer, chief of newborn medicine at Penn State Hershey Children's Hospital in Hershey, Pa.



Pluggz flip-flops, right, have circles in the soles that are infused with carbon powder to help conduct electrons from the Earth. Above, Earth FX's half sheet plugs into a socket or connects to a rod in the ground.

✓Yes

✓Yes

✓Yes

✓Yes

✓Yes

xNo

✓Yes

✓Yes

✓Yes

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