

Psychology researchers use IT to study children's personalities

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Credit: Pennsylvania State University

Walk into any daycare center and you're sure to see almost every personality represented in the tiny humans inside. Some will be running around, shouting mightily. Some will be keeping to themselves, playing

quietly. Many others fall somewhere in the middle.

Alyssa Palmer, a psychology major who graduated in May, is interested in the kids on the wilder end of this spectrum. Throughout her senior year at Penn State, she studied "exuberant" children—those who chat people's ears off and seem unafraid of anything—in Penn State's Emotion Development Lab.

While much of the research that takes place in the lab is aimed at better understanding "fearful" children—those who tend to be more afraid or cautious with new people or situations—Palmer wanted to do something different.

"There's not a lot of people researching or writing about exuberant children. I think many people's gut reaction is to ask why exuberance would cause problems because being outgoing and unafraid are usually seen as good things," said Palmer. "I wanted to make sure nothing was being overlooked by not examining these children more closely."

Specifically, Palmer looked at how exuberance affected the way children interacted and got along with their peers. She suspected that children with high exuberance and more "effortful control"—or self-control—would be more likely to be accepted by their peers.

Digitally analyzing behavior

To test her hypothesis, Palmer used a [software program called Interact](#) to analyze videos of kindergarten-age children as they played and socialized. The software allowed her to "code" the footage, giving numerical values to certain behaviors. For example, if a user is coding happiness, a laughing child might be given a 5 while a frowning one might get a 2.

Palmer worked with two other coders for reliability and to avoid bias. The three of them went through the footage slowly, making sure nothing was missed.

"We did something called 'microcoding' with these videos," said Palmer. "We would watch 10 seconds of footage, pause and code for the behaviors we were evaluating."

The coding team looked at the different activities the children engaged in, whether they played alone or with a peer, and how they responded to their peers, among other things. Once the videos were coded—which took an entire semester—Palmer was left with numerical data that could then be analyzed.

Kristin Buss, a psychology professor and director of the Emotion Development Lab, said the software is a big step up from the way things used to be done: with paper and pencil and a stack of coding sheets they filled out as they watched the videotapes.

"Thankfully, all the coding work can now be done right in the Interact program," said Buss. "The technology has advanced over the past several years where now we can put the digital recording in the program, set up a list of behaviors we want to score and fill everything in as we go."

After the coding was complete, Palmer ran the numbers through the statistical software SPSS Statistics. When she started combing through the results, Palmer said she was slightly surprised.

"Exuberance ended up resulting in less peer acceptance in this study instead of more, like we originally thought," said Palmer. "But, exuberant children were accepted by their peers more often if they had higher ratings of effortful control."

Buss said this supports research already done on children with high exuberance.

"Research that emphasizes the good side of exuberant children focuses on their positivity and shows that they're more socially competent with peers. They tend to be leaders in the classroom," said Buss. "But work that focuses on the potential downsides tends to show that they might be at risk for disruptive behaviors if they can't regulate their behavior."

Finding children's early pathways

Palmer's work is just a piece of the lab's ongoing mission to better understand children's emotional development and [personality](#). Many researchers believe that much of a person's temperament is something they're born with and that understanding a child's early behavior is helpful to predicting how their personality will affect them later in life.

"We essentially think that temperament is biologically-based predispositions to behave in certain ways," said Buss. "And so nature might push you to be more fearful, or push you to be more angry, or push you to be more approach oriented, and then your environment shapes that further through a variety of different ways."

Buss said that identifying these early differences in temperament—or "early pathways"—can help clinicians decide on the best course of treatment if a fearful child continues to be anxious later in life.

"I want to find the risk factors that get a 2-year-old who's highly fearful to an adolescent who's very socially anxious and needs treatment," said Buss. "If we're trying to treat a 13-year-old and know nothing about their history, it's hard to tell if the anxiety is coming from the way they're wired, so to speak, or if it's coming from a trauma. But if we know those early signs, it's easier to tell where the anxiety comes from."

For Palmer, the project was the first in what she hopes to be many studies on how children are able or unable to regulate their emotions.

"Now that I've got my degree from Penn State, I'm moving on to get my Ph.D. in child psychology at the University of Minnesota," said Palmer. "I'm hoping to continue studying how children cope in extremely stressful situations, like those who are homeless."

But even though the researchers in the Emotion Development Lab spend a lot of time analyzing child behavior, Buss is quick to say that parents don't have to share their intense scrutiny.

"Oftentimes, kids will grow out of a lot of those fearful tendencies. If you talk to temperamentally fearful people when they're older, they might still get that feeling in the pit of their stomach but have learned how to deal with it," said Buss. "For the most part, kids are very resilient. Most kids fall within that normal range of doing great, doing fine."

Provided by Pennsylvania State University

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