



GOING WHERE THE DATA THE DATA LEADS

CHES Professor Follows
a Diverse Research Path

Armed with a degree in psychology from St. Thomas University in Miami and a desire to further her education, Maria Hernandez-Reif found a master's program in lifespan development that interested her. After just one class under Florida International University professor, Dr. Lorraine Bahrnick, she found her calling. Helping with research in the Infant Development Lab Bahrnick directed, Hernandez-Reif says, "I fell in love with babies. The idea that researchers had developed ways of asking babies questions and getting, from their looking behavior, what they knew, just hooked me. So, I completed my master's and my PhD with Dr. Bahrnick."

Hernandez-Reif's graduate work had focused mainly on how babies use their hands to explore the world around them, known as active touch. Dr. Tiffany Field, an infant researcher at the University of Miami School of Medicine, focused on passive touch which is the application of pressure to the skin. Hernandez-Reif thought doing postdoctoral work

become an associate professor in pediatrics and co-director of the Institute.

In 2006, Hernandez-Reif accepted a position as a professor in our department of human development and family studies and founded its Pediatric Development Research (PDR) lab where she has continued her love for researching and writing. Hernandez-Reif explains her passion for these scholarly pursuits, "Oh my goodness, I love every aspect of research, from brainstorming what should we study, to where are we going to find the individuals to study, to how do we collect the information? And then of course, doing the data analysis is very exciting. Did we get the answer that we wanted? Were we right in our assumption?" She adds, "And for me, one of the most interesting things is that we are rarely right. Oftentimes, we have surprising findings that then lead us down a new path to continue to investigate."

Hernandez-Reif has followed a divergent path in her 24-year career. She says, "I think I'm not traditional in the sense that many researchers focus on one or two lines of research and continue down that path. I take many turns and twists depending on what's interesting at the moment. Still, within my eclectic research programs, it is a focus

with Field, would complement her own research. Those initial instincts were correct and led to a lifelong interest in massage therapy and complementary and integrative medicine.

Hernandez-Reif became a research assistant professor in the school's department of pediatrics where she continued working in Field's Touch Research Institute. She went on to

on mothers and children that is key and [at the] heart of most of my studies."

One of the first studies Hernandez-Reif tackled after moving to Alabama involved pregnant women and depression. She noted research indicates that if a woman is depressed during pregnancy, it affects how the fetus develops and the

infant's attachment to the mother. Conducting the study in collaboration with Drs. April Kendrick and Dan Avery, Hernandez-Reif says, "We found in our sample of about 100 participants that almost half of the women we assessed were experiencing depression." The depressed mothers were less likely to read, sing or talk to their unborn child suggesting they were less engaged with their child.

Massage is the subject of much of her research. "I have probably collaborated on 75 to 100 massage therapy studies. And over and over and over again, we found pretty much the same thing. Massage reduces your stress level. And it reduces your cortisol, which is a stress hormone that we can examine in saliva, in urine and in blood. Because massage relaxes you, it helps the different systems in your body to better function or be better regulated," says Hernandez-Reif.

Following one of those research twists and turns, she found an unexpected positive effect of cortisol. Although high levels of this stress hormone have known negative effects, there are some indications that infants with high levels of cortisol actually sleep better at night. This finding has become the basis of an ongoing study conducted in the PDR lab.

Four years ago, she completed a program evaluation of Pre-K for a public city school system. Her findings indicated that Pre-K successfully prepared most students to enter kindergarten.

And another interesting study by Hernandez-Reif determined that infants learn a word more quickly if you sing the word to them. While the studies mentioned touch on the magnitude of her research, there are too many more to mention.

Combining a robust research agenda with her teaching duties seems to come naturally. Hernandez-Reif teaches both graduate and undergraduate courses on infant and toddler development. She explains how one feeds the other, "My lectures are research-based. So it's hard not to talk about research when I'm in the classroom. And I like to engage with undergraduate students in the same way that I engage with graduate students. I think maybe that's why I'm successful. I don't see myself as the lecturer. . .I'm there to facilitate learning." Hernandez-Reif's classes are presented as a seminar, where it's discussion-based and they have a topic of the day.

Hernandez-Reif gets great satisfaction from being in the classroom with 'young brains' and believes that it is her role to excite them about the material she delivers. She says, "The questions that students ask keep me thinking and keep me on my toes. I really appreciate learning from students as much as sharing information that I know with students."

And her students seem to appreciate her as well. In 2021, the family of a former student honored Hernandez-Reif and her colleague, Dr. Kimberly Blich, by creating a scholarship in their names. The student, now a first-grade teacher, credits the passion these faculty members have for the welfare of young children with inspiring her work in the classroom.

A new multi-disciplinary collaborative, Partners for Alabama Families and Communities (PAFC), has captured Hernandez-Reif's heart recently. Maternal-child health outcomes in West Alabama were the driving force behind this initiative by UA colleagues, Drs. Jen Nicholson, Amy Lee, Holly Horan, Cathy Lavender, John McDonald, David Albright, Robin McWilliams and retired physician, Guillermo Godoy.



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MARIA HERNANDEZ-REIF

Dr. Maria Hernandez-Reif and Dr. Holly Horan were invited speakers at the 32nd International Confederation of Midwives Triennial Congress in the Philippines. Delivered virtually, Hernandez-Reif presented “The Science of Touch. Benefits for Healthy Development and Potential Link to Immunity.”



Dr. Hernandez-Reif demonstrates how she would collect saliva samples from a young volunteer.

“Something I want people to know is that researchers have the unique honor of creating, discovering, and sharing new knowledge with the world. Most recently, through the collaborative work with PAFC, I discovered the true meaning of community-based research. This approach encourages researchers to turn to communities and partner with them to study topics and research questions that are generated by and of interest to the community,” says Hernandez-Reif.

“For example, last year a non-profit Latin immigrant organization created and conducted a survey to ask about the needs of Hispanic immigrants living in Tuscaloosa. I analyzed the survey data and helped the Latin non-profit develop and submit a manuscript on the findings. As a result of these findings, the Latin non-profit organization is now focused on creating programs to promote youths to develop career or vocational goals. In addition, the Latin non-profit group in partnership with PAFC faculty members and a local center for sexual survivors, have written and submitted grant applications to create and assess bilingual services for Spanish speaking survivors of sexual violence,” she continues.

In Hernandez-Reif’s view, “Research is necessary to improve the human condition, and perhaps is best accomplished when academic or institutional silos are reframed to value communities, letting them guide and direct where research efforts should be focused.”

What new research path will Hernandez-Reif follow? “In PAFC, we are very interested in implicit bias in the healthcare system. In fact, that’s what we think may in part contribute to the poor maternal-child health.” Hernandez-Reif looks forward to the next phase of her career as she continues to grow and learn about community needs, working to improve maternal and child health in Alabama.

As passionate as Dr. Hernandez-Reif is about finding ways to help mothers and children thrive through her work, what she prizes most is her own family. So it is no surprise that this loving wife and mother has positively influenced so many other families. And by training students to follow in her footsteps, her influence will expand exponentially throughout this community and others across our country.