# Past, present, and future of Prevention with – Mark Greenberg

November 14, 2017

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Aaron Wagner: Hi, everyone. I'm your host, Aaron Wagner. Joining me today is Mark Greenberg. Mark is Edna Peterson Bennett Endowed Chair in Prevention Research, Professor of Human Development in Psychology, and Founding Director of the Prevention Research Center for the Promotion of Human Development at Penn State. He served as the Director of the Prevention Research Center from its inception in 1998 until 2013. Mark, thank you very much for sitting down to talk.

Mark Greenberg: Sure, glad to.

Aaron Wagner: You founded the Edna Bennett Pierce Prevention Research Center. Why do you think the Center was needed at Penn State?

Mark Greenberg: Well, I was trained as a psychologist, and really trained to do clinical work with kids. I began to realize early in my training that no matter how many children we treated successfully, we would never reduce the public health problem, mental health problems or school failure in children. I moved towards the area of prevention, but there wasn't a field yet. I was at the University of Washington for 20 years. In 1997, when I moved here, prevention science was just beginning to jell as a field. It's really multidisciplinary because it brings together psychologists, psychiatrists, social workers, methodologists, all kinds of people into a new area. These new fields are hard to create because the structure of universities is around established departments.

I had this goal of developing the field of prevention science and Penn State created this unbelievable opportunity to do so. Because of the endowments that Edna Bennett created, we were able to know that we could work in perpetuity in this new field as it evolved. The reason I came to Penn State was really because of Edna's philanthropy that allowed us to really break through and integrate ideas into this new field of prevention science.

Penn State really became one of the maybe four or five leaders in the world really in this field. It's really due to the philanthropy that allowed us to really work in a new way and not be so subject to the sort of the structure of universities and to the funding requirements of agencies.

Aaron Wagner: That's fantastic. Talk to us a little bit about what it was like in the early days. You had this opportunity. You came here. What happened?

Mark Greenberg: Right. Well, I think that Penn State already had this unusual interdisciplinary structure that fit prevention science so well because just as I came, the Children, Youth and Families Consortium was beginning. The whole idea was to break down the sort of territorial boundaries between colleges and departments, and to really think about what the scientific questions are. Almost all scientific questions are multidisciplinary. They can't be answered by people in one field. This was a perfect setting in which to create prevention science. I found lots of colleagues here that were already at the sort of the cusp of interest in this area and it just jelled.

First of all, the fact that the Methodology Center was already here with Linda Collins' leadership. Linda was already deeply thinking about the methodological innovations needed in prevention science. Was an incredible help to me. She was a great colleague to work with from the beginning. Karen Bierman was running the Child Studies Center. She was already also doing prevention work. She and I had already worked for 10 years together on a large project fast track. I already had a sense that when I got here that if I listened well to people that were already here, things would just grow, and they did.

Because of the support of Edna Bennett Pierce, I was able to bring young scientists here, a number of them, Celene Domitrovich, Mark Feinberg, Janet Welsh, who were early in their careers. They, as they grew as research scientists, began to take on their own projects, and the Center expanded.

One of the interesting things about the early years was that the Center began the same time the Children, Youth and Family Consortium began that Karen Bierman and I began. Then she became the Director. One of the clear priorities for Penn State and Children, Youth and Families was to invest in understanding much more about rural children and life in rural areas, and how to promote well being in rural areas that have often been ignored. We spent almost all of our research time and funding on disadvantaged children in urban areas, but rural children, the higher percentage of rural children are poorer than children in urban areas, and they are also poorer. That is, their families have less income than urban families. There's a lot of distress that goes on in rural environments. The bucolic idea of rural life is not actually the way it's lived for many people.

We began two large projects early on in the Center's development. One was the PROSPER Project, which is a large scale community based project. Involved 28 communities in Iowa and Pennsylvania. Now is still going on 20 years later. The second was the Family Life Project. That's a basic science project studying the lives of rural children and their families in America that's shared with the University of North Carolina. These are both very large program projects. They helped the Center to both do basic science and to do preventative interventions in parallel as the Center was just getting off the ground. Both of these projects are still existing. They're quite long term projects.

Aaron Wagner: That's pretty incredible.

Mark Greenberg: Yeah. When I came, the idea was to do both basic science and to do preventative interventions. But a key focus for me was developing the next generation of prevention scientists, or the first new generation. Working with both the Methodology Center and HDFS, we were able to create great training programs. I think one of the legacies of the Center is going to be the strong influence we've had on the future generations of prevention science.

Aaron Wagner: You mentioned the collaboration, the training collaboration I assume you're referring to the PAMT Program, the Prevention, and Methodology Training Program. Can you talk about some of the history of collaboration between the PRC and the Methodology Center?

Mark Greenberg: Right. I just think that the methods innovation is so critical to this field because prevention science is a complicated field in which the kind of questions that we're asking and the kinds of designs that we're using to test if interventions work are very complicated. Many of the problems that exist in analyzing the data have not had solutions. What's incredible to work with in the Methodology Center is that the Methodology Center has not just been about applying methods, but about creating new methods that solve problems that herefore were never solvable.

A perfect example of that, of course, is the latent class work that's been done at the Center. Most of our interventions are done on universal populations, by universal I mean for let's say every child in the school. We're trying to prevent, let's say, aggression. Because 80% or 85% of the children in the school have very, very low rates of aggression. Just doing main effect analysis, will never help us understand if the program is actually working. Being able to understand how to create model based classes of students to understand in which subgroups the effects are occurring is one of the critical breakthroughs in prevention science.

Of course, there are many others at the Center. The Methodology Center has done the optimizing interventions. When I came, I didn't understand much about how to impute missing data, which now seems like a common endeavor that we all do. But these were really innovations at the time. As prevention science encounters new problems and understanding the effects of programs, the parallel work by the Methodology Center in innovating solutions to those problems has been really critical to move the field forward.

Aaron Wagner: Thank you. Over the course of your career, you have worked on a broad range of topics. What do you think the thread is that connects ... Not speaking globally about the PRC here, but really about your personal research. What is the thread that connects everything that you have done?

Mark Greenberg: Well, of course, I'm interested in both basic science and in improving the well being of children. The concept that links those two for me is the concept of emotion regulation. My advisor, my original teacher was Mary Ainsworth, the famous attachment theorist. Originally, I was working in the field of attachment in my early years as a scientist. But I really wasn't interested in attachment relations per se. I was interested in how children and parents learned to regulate their emotions with each other. That really is the focus of most of my work in social emotional learning is how to help children and adults regulate their emotions in ways that help them to promote well being and reduce disorders.

Emotional regulation's been a theme that's followed throughout almost all the work that I've done. I think it's because it's really the key concept that ties together the promotion of well being and the prevention of mental disorders because almost all mental disorders are disorders of the regulation of emotion.

In the earlier years of my preventive intervention work, I was one of the developers of the PASS curriculum, which is a curriculum that teaches children how to regulate their emotions so they can use their cognitive abilities more effectively. That work has continued and PASS is now used in about 5,000 schools around the world.

Aaron Wagner: That's amazing.

Mark Greenberg: It's gratifying to see that schools can adopt a complex evidence based model and use it effectively. As I moved on in my career, I began to think about emotional regulation in other context. During the last decade or so, as you know that the Prevention Center has developed a program on PEACE, which is promoting empathy, compassion and awareness. We began to think about systems change level issues, not just the children, but what about the adults in schools. Over the last 10 years or so, we've developed a series of new intervention models that are really focused on emotion regulation in adults, both teachers, now we're working with principals. In fact now, in collaboration with the Healthy Aging Center, we're now working with staffs and residents in long term care centers.

All of this has been centered around what's the concept of mindfulness. What mindfulness really does is it's a new way to think about how people can learn to regulate their emotions. I started with young children, infants and toddlers, and moved to school age children. Now has broadened out very much into our mindfulness work with adults.

Aaron Wagner: As a former classroom teacher, I really would have enjoyed having access to some of that when I was in the classroom. I think going through that, especially with my students, would have been really valuable. While you were the Director, the Prevention Research Center became the Edna Bennett Piece Prevention Research Center. Can you talk a little bit about the impact that Edna Bennett Pierce had on prevention science?

Mark Greenberg: Edna Bennett Pierce is really a remarkable woman. She had a vision for how science could be used to help to promote the well being of children and families. Actually, it was the meeting with her that made me decide to come here to Penn State. I had a very nice offer already. It was the meeting her as a person, and understanding what her commitment was to both to Penn State and the development of new science, and how it could promote the well being of children, that really made the decision for me clear.

Since then, for the past 20 years, Edna and I have had a very close relationship, where I felt this responsibility ... Not a heavy responsibility, a very positive responsibility ... to carry out her vision. As the Center's progressed, she's been quite involved in seeing what we're doing, talking to her about new ideas, and what the next steps in the field would be that she might potentially help us to move towards.

The most important of those the last couple of years has been our new work on caring and compassion. It's a topic very close to her heart. It's how do we develop a more caring and compassionate society. That's led to her new funding of the endowed Professorship in Caring and Compassion that Rob Roeser has just assumed and also, a new permanent graduate fellowship in that area.

She has not just been a funder. She has been a real collaborator in this process. Her vision has been essential to the development and the growth of the center.

Aaron Wagner: That's really fantastic. It just really is. Looking to the future, what do you see as the next big challenges or opportunities in prevention research?

Mark Greenberg: Well first of all, I'm really excited that Stephanie Lanza has taken the Directorship of the Center. That she'll provide that kind of vision that I think is really important for the future.

There's a number of challenges, but I'll focus on two. One is to make public policy turn in a stronger way to reliance on science in making public policy decisions. 20 or 30 years ago, we didn't have much evidence that preventative interventions could work. Now, for example, in the area of social emotional learning, we have a meta analysis with 217 studies, conclusively showing that when we do preventative interventions in school with children, they can have effects on children's well being, as well on their academic achievement.

Now we're in a different phase. Now we have the evidence to show that these preventative interventions can work when they're implemented well. Now we have to develop the will, public policy will, to use the science to create systems change. This is a different question. This now means we have to enter the public policy arena and the Center's been doing this through its work with the Prevention Coalition. Our work with Johnson Foundation on policy. There's a lot of ways in which the Center has moved towards a policy framework. Max Crowley's new work on economic analysis is all part of this issue of the need for scientists to now engage with public policy makers in creating policy in which science plays a larger role.

20 years ago, we really couldn't do that because we didn't have the evidence to say, "Here is what should be done." Now we actually know what should be done. Now the question is, "Are we able to engage the right policy levers to actually see broad scale public health change?" Because at the beginning of science always begins as randomized trials that are very carefully done. But the goal in the end is to find successful programs that really can help broad public policy reach. They can actually change the public health. Now we're at the point where we actually can do that. We actually can change the public health, but we have to have the science ... More attention to be paid to the science. That's the first challenge, I think.

I think the second challenge is that all the other areas of the modern world are changing, technology, other areas of science, et cetera. The question is always, "How do we bring new innovative ideas and methods to bear on the problems of prevention science?" Because, as I said at the beginning, everything is multidisciplinary. No single discipline will likely solve any large problem. The idea that we would take ideas from public health, from psychological methods, from political science, from social work, from other areas, especially new areas in technology, and integrate these in order to improve the efficiency and the effectiveness of our programs, is really a key issue.

It means we need to be in a university that has a broad mandate, and in which there is a great integration across ideas. That's why Penn State is actually a perfect place to do this kind of work.

Aaron Wagner: Yeah, I really agree with you on that point, absolutely, yeah.

Mark Greenberg: I'm very positive about Penn State's future in this field. Because of Edna's support for endowments in perpetuity, prevention science is just going to continue to grow here at Penn State, just as Methods is continuing to grow. I think the future for Penn State's opportunity to make national impact on the well being of children and families is spectacular.

Aaron Wagner: Well, Mark, thank you very, very much.

Mark Greenberg: Sure.

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