



UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

Family  
Resiliency  
Center

Strengthening families  
for life's challenges.

# Annual Report

*July 2011-June 2013*

# LETTER *from the* DIRECTOR

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The University of Illinois is recognized for transforming lives and serving society by educating, creating knowledge, and putting knowledge to work. At the Family Resiliency Center (FRC), we address some of the nation's grandest health challenges, including childhood obesity and food insecurity.

During the past two years, we made significant strides in generating new knowledge about the complex causes of early childhood obesity. In our initial STRONG Kids cohort study we found that preschool-age-children were watching too much television, not getting enough sleep, sedentary much of the day, and had established poor dietary habits by the time they were three years old. Our early analysis indicated that genetic and family factors shape nutritional habits, and that by age three it might be too late to understand how those habits are formed.

Thanks to the Dairy Research Institute, we have launched a transdisciplinary birth cohort study that follows children from birth until age three, examining how individual biology and the family environment interact to form sleep and nutrition habits.

We were fortunate to receive support from Feeding America and Morgan Stanley this past year to evaluate the Backpack Program, a weekend feeding program for children who are likely to go hungry over the weekend. The results of this evaluation have had a significant



**Barbara Fiese**

impact on the policies and practices of food banks nationwide. Although the program was intended to feed children, we found that much of the food was used to extend family meals. The Backpack evaluation brought to light that even when families have limited sources of food, sharing meals is a highly valued family activity.

Most of the work conducted at the FRC has a strong educational component. We routinely engage undergraduates in our field-based research through the HDFS 494 course on childhood obesity prevention and early childhood healthy habits. Students from this course have gone on to careers in health, non-profit organizations, and business.

I anticipate that the coming year will be just as rewarding as the last two years. We plan to launch several new projects in the area of childhood obesity prevention and transdisciplinary education. We are fortunate to have an exemplary team of researchers, educators, and project staff dedicated to solving real problems that affect real families.





## ACCOMPLISHMENTS *in* RESEARCH

### Addressing childhood obesity from many angles

The statistics are staggering: nearly 30 percent of U.S. children are overweight by age three, and one in seven low-income children are obese by their fourth birthday. As these children grow up, they are more likely to face long-term health issues like asthma, type 2 diabetes, sleep apnea, and cardiovascular and orthopedic problems.

As reported in our 2010-11 annual report, the **STRONG Kids** project (Synergistic Theory and Research on Obesity and Nutrition Group) investigated the many risk factors that influence unhealthy weight gain during childhood. The STRONG Kids transdisciplinary research team followed 497 preschool-aged children and families, documenting how genetic, child, and family factors predict BMI and dietary habits. As the project concluded, our researchers identified two new research

areas worthy of further investigation—a need to study children and families even earlier than the toddler years, and a reliable way to measure physical activity in pre-school-age children.

In June 2013, the FRC received a \$1 million Dairy Research Institute grant to help fill critical research gaps in how healthy eating habits are formed from the earliest ages. The **STRONG Kids2: A cells-to-society approach to nutrition** project will provide unique insights into how individual biology interacts with the family environment to promote healthy eating habits and what role milk and dairy consumption play in young children's growth and development.

STRONG Kids2 is studying 400 children from birth to age three, since those early years are a critical time for establishing food preferences. An innovative feature of this project is linking the gut microbiome of the infant with feeding practices in the home. To our knowledge, this is the first study to carefully exam-

ine the interaction between the human microbiota and the family environment.

In November 2011, a \$96,000 grant from the National Cancer Institute funded a series of workshops to help researchers develop new models of physical activity measurement for pre-school children. Unlike school-age children who participate in organized sports and PE classes and whose activity can be measured reliably with accelerometers or other devices, preschoolers tend to have bursts of activity followed by more sedentary periods, making it very difficult to effectively measure their movements.

At the most recent **Illinois Early Childhood Activity (I-CAP)** workshop in June 2013, a team of researchers drawn from computer science, kinesiology, nutrition, human & community development, public health, and recreation & sport tourism examined how emerging technologies could be used in innovative physical assessment models.

## Exploring links between mealtime and children's healthy outcomes

Conducted in the FRC's observational research home between September 2011 and July 2012, **Project DINE**, was a mixed methods study led by FRC Director Barbara Fiese and Post-doctoral Research Associate Blake Jones that explored whether stress affects the amount and types of food people eat. Sixty families were individually videotaped interacting and eating dinner together—half the families had an uneventful, peaceful meal while half were subjected to a persistent loud noise interfering with their meal.

Although researchers are still analyzing the wealth of collected data, preliminary findings indicate a correlation between stress and the amount of food people ate.

One of the goals of the Christopher Family Foundation Food & Family program is to promote healthy eating habits, particularly among children. In FY12, the program funded a new project to identify mealtime approaches that effectively reduce picky eating behaviors

in pre-school children at home and in day care centers. The impetus for this grant was to understand the difference between how parents perceived their child's picky eating at home and how child care staff described the same child's eating preferences at day care.

Led by Food Science & Human Nutrition Professor Soo Lee, the **Mealtime Strategies for Picky Eating** project examined the eating behaviors of pre-school children at home and at either the university's Child Development Lab school or in home-based day care—a setting where very little is known about eating habits. Researchers videotaped 35 children eating the same foods in both the home and day care settings so they can compare the child's eating behavior and the parent's response to it. The goal is to identify positive strategies that parents and teachers can use to develop independent, healthy eaters.

Funded by the University of Illinois Cancer Center 2010 Pilot Grant, the **Families Eating and Talking (EAT) Together** project studied how family mealtimes and routines relate to family life outcomes. Researchers observed the



“At Illinois I was involved with quite a few inter-disciplinary groups, which has helped me reach out and talk to people as a faculty member.

I can figure out the strengths my colleagues bring to the table rather than just having my own perspective. That ability to understand things from different angles builds a better project.”

**Blake Jones**, FRC post-doctoral research associate (2011-2013).

activity, behavior, and communication patterns of 30 diverse, low-income families with a pre-school-age child as they ate dinner together in their own home.

Although the study was small, its findings, which were published in the August 2013 issue of *Eating Behaviors*, were significant for two reasons. First, the study proved the feasibility of videotaping low-income families in their homes during mealtimes. Second, researchers discovered that families spent a significant amount of time engaged in behavior not focused on the meal (i.e., talking on the phone), which leaves less time for more productive behavior like communication.

Funded by a \$118,000 USDA National Institute of Food & Agriculture (NIFA) Post-doctoral Fellowship in 2012, the **Focusing on Obesity, Developing Tools for Interactive Media & Extension (FOODTIME)** project identified barriers that parents encounter as they try to teach their children about nutrition and healthy routines.

As the lead member of a multi-disciplinary team, post-doctoral research associate Blake Jones collected and analyzed data from parent focus groups on the value of existing family nutrition/wellness web sites. He is using this information to develop and design a more useful web tool that parents can use



# RESEARCH

to help their children eat better and get more involved in meal preparation.

Jones, now an assistant professor at Purdue University, will complete the second phase of the FOODTIME project in 2014; he plans to pilot his newly created web site with 100 parents through the highly successful Parenting 24/7 web site developed by U of I Professor Aaron Ebata.

## Feeding America partnership sheds light on low-income Americans' struggles

According to the US Department of Agriculture, 49 million Americans live at risk of hunger, but until now, there was a lack of information about the struggle to obtain other essential household goods.

In September 2013, Feeding America, the nation's leading domestic hunger-relief organization, released a study—**In Short Supply: American Families Struggle to Secure Everyday Essentials**—that found that one in three low-income families had a hard time affording basic household necessities in the past year. Of these families, 82 percent live in households with low or very low food security, meaning they cannot afford enough food for their household members. Additionally, nearly three in four (73 percent) low-income families have cut back on food in the past year in order to afford household goods.

FRC researchers contributed to this study by conducting in-depth interviews with foodbank clients about which household products are essential, strategies to obtain the products, and the consequences of going without the products. The results of the FRC interviews were then used to design a larger, nationally representative phone survey, as well as help foodbanks assess their clients' concerns regarding household products' needs.



Like most projects conducted at the FRC, our researchers considered the real-life experiences of families who face daily challenges such as going without sufficient amounts of food. Our interviews helped explain the often-complicated decisions that families make in balancing the need to feed their children, purchase household supplies for healthy living, and pay for medical expenses.

In another Feeding America collaboration, FRC researchers played a key role in evaluating the organization's national **BackPack weekend feeding program**, which is administered by local foodbanks and provides low-income children with food each Friday during the school year.

Led by Agricultural & Consumer Economics Professor Craig Gundersen and FRC Director Barbara Fiese, researchers surveyed 300 Central Illinois families four times between Oct 2011 and June 2012 about their experiences in coping with hunger.

Among their findings were: nearly  $\frac{3}{4}$  of Backpack-served families were food insecure at the beginning of the school year;  $\frac{1}{2}$  of the Backpack-served households used SNAP benefits and food pantries to ease their food insecurity; and most families shared the food to supplement family meals even though the program originated as a way to address child hunger.

## Seed grant helps attract new funding for military families study

In 2010, an FRC seed grant brought together a previously-unacquainted team of experts in interpersonal communication, military family outreach, and parenting to examine the factors that promote resiliency when a spouse returns from wartime deployment.

Led by Communication faculty member Leanne Knobloch, the team documented the interplay between mental health and relationship dynamics, as opposed to looking at one factor in isolation like most studies have done. The researchers followed 118 couples during a three-month period after the service member returned home.

The **Resiliency of Military Families project** was the first study to show how the depressive symptoms of returning service members and at-home spouses correspond with their reintegration difficulty.

Knobloch recently received a \$640,000 grant from the Department of Defense to begin a new, more extensive study of military families across the full cycle of deployment. This project, which will be conducted in collaboration with Northwestern University and UCLA, will focus on other issues important to military families such as communication and emotions.





## INNOVATION *in* EDUCATION

### Educating and training the next generation of childhood obesity prevention leaders

A hallmark of the FRC is its ability to translate research findings into practical information for policy makers, providers, and families, while training the next generation of academics, practitioners, and leaders.

Graduate student Dipti Dev, a recipient of a Health and Human Services Head Start Research grant, conducted groundbreaking research on child care feeding practices as part of the STRONG Kids project. Her research is the first study to evaluate whether child care providers are adhering to the Academy of Nutrition and Dietetics feeding practices guidelines.

A Food Sciences & Human Nutrition doctoral student, Dev collaborated with Child Development Lab Director Brent McBride, collecting data from 118 child-care providers from one of three types

of centers: Head Start schools, centers receiving federal reimbursement for food, and licensed child care centers.

The results of the study indicated that most providers were promoting healthy feeding by serving nutritious foods and were not pressuring children to eat or restricting them from eating.

However, the researchers found big differences in how the various providers served the food. For example, Head Start teachers and staff were more likely to eat with the children as a way of modeling healthy eating habits because they are required to do so. In addition, they were more likely to allow the children to serve themselves rather than give them pre-portioned meals or snacks. This family-style meal service enables children to learn how to regulate how much they eat.

Dev earned her PhD in November 2013 and she will begin work as a tenure-track faculty member at the University of Nebraska in January 2014.

Her Illinois work was published in *Childhood Obesity* and the *Journal of the Academy of Nutrition and Dietetics*.

The **Illinois Trans-disciplinary Obesity Prevention Program (I-TOPP)** is a unique education initiative, where students earn a doctoral degree and an MS degree in public health in five years. Funded by the USDA's National Institute of Food and Agriculture in 2011, I-TOPP trains the students in diverse disciplines such as nutritional sciences, kinesiology, community health, public-health science, family science, human development, agricultural economics, and public-health practice so they are prepared to find innovative solutions to the childhood obesity crisis.

One of 11 I-TOPP scholars, Anneliese Feld has conducted research demonstrating that the Child & Adult Care Food Program (CACFP), which enables day-care providers to be able to afford serving nutritious foods to low-income chil-

# EDUCATION



“The Childhood Obesity course I’m taking features a different professor each week, talking about how obesity applies

to their field—media, nutrition, exercise, genetics. In the end it’s hard to tackle an issue like childhood obesity if you only come at it from one perspective because there are so many contributing factors. It’s nice to have one class that covers it all.”

**Anneliese Feld**, I-TOPP scholar  
(class of 2017)

dren in their care, may be a protective factor in childhood obesity prevention.

In 2013, Feld began developing a nutritional training program for small center or home-based providers with the aim of increasing the protective effect through simple actions like modeling positive eating behaviors during meals.

Her training will teach providers how to meet new CACFP guidelines that address portion control and increased fruit and vegetable consumption. The training will also help providers budget and plan menus to take advantage of seasonal foods and bulk buying.

In April 2013, Feld presented some of her results at the Society for Research in Child Development biennial meeting in Seattle.

## Providing undergraduates with research opportunities

Our innovative **HDFS 494** course allows undergraduate students to gain valuable field experience, while learning about the complex connections between food and family. Students select from one of two sections of this year-long course, attending lectures and conducting field-based research. Students are trained in mixed methods, develop oral and written communication skills, learn to think critically, and gain experience with community partners; they also present the results of their work at a campus-wide undergraduate research symposium.

The Food & Family section examines how positive interactions around food can promote healthy eating habits, strong family relationships, and reduce the stress of daily living.

The STRONG Kids section examines how genetic, family, community, child care provider, cultural, and media factors contribute to childhood obesity.



## HDFS 494: LEARNING BY DOING

The HDFS 494 course broadened Gayatri Satam’s horizons and confirmed her desire to become a pediatric dentist. According to Satam, the class allowed her to interact with faculty and students outside her molecular and cellular biology major.

“Rather than look at childhood obesity from just the genetic aspect, I was introduced to the social and family aspects, too,” said Satam, who learned about nutrition and also worked with children in child care settings during her research.

After graduating in May 2013, Satam joined the FRC staff of the STRONG Kids2 project, which studies infant-mom pairs to understand how individual biology interacts with the family environment to promote children’s healthy eating habits. She helps recruit participants, conducts home visits, collects data, and trains undergraduate student researchers.

“I’ve been able to work with children, child care providers, teachers, pregnant women, and moms,” she said. “It’s been very beneficial for me, learning how to relate to people of all ages—it’ll serve me well in the future.”





## CHILD DEVELOPMENT LAB

The U of I Child Development Laboratory is a unique campus resource dedicated to the university's land-grant mission of excellence in research, teaching, and outreach. The facility provides National Association for the Education of Young Children (NAEYC) accredited care for nearly 200 children, while also providing pre-med, education, and other health-related students with practical teaching experience.

According to Human and Community Development Professor and CDL Director Brent McBride, the school is a national model for university-based lab schools. Each year, CDL supports nearly 4,000 student observers from 45 different classes on campus.

CDL has helped facilitate FRC projects by bridging the gap between research and practice. For example, researchers working on the [STRONG Kids](#) project have observed and/or interviewed CDL children and parents for studies that are identifying obesity risk biomarkers, positive feeding practices, pre-schoolers' food preferences, and the ties between obesity and food marketing to young children.

FRC researchers are collaborating with CDL on measuring how young children move as part of the [I-CAP](#) project, and they are examining children's eating behaviors as part of the [Mealtime Strategies for Picky Eating](#) project.

**CDL SUPPORTS**

**1,500**

**CLASS PROJECTS**

**EACH YEAR, AS WELL**

**AS FRC INITIATIVES**

**LIKE PICKY EATING,**

**I-CAP, AND SPROUTS**

## Our partnership with The Autism Program

The FRC is a proud partner of **The Autism Program (TAP)**, which is part of a statewide network of resources for individuals, families, and professionals touched by autism spectrum disorders. Funded by the Illinois Department of Human Services, TAP operates a resource room at the FRC, where families and professionals come for reference information, consultation, referral, and technical assistance.

In 2013, TAP Coordinator Linda Tortorelli won a coveted campus employee excellence award for developing TAP into the community's go-to-place for practical research-based information that can improve the lives of individuals with autism. During the last two years, Tortorelli presented 28 lectures on campus, reaching more than 1,300 students. TAP is directed by Human and Community Development Professor Aaron Ebata.

TAP provides students with exceptional learning opportunities, and they play an integral role in the resource room. During the last two years, more than 30 undergraduates and 8 graduate student interns have helped 1,400 visitors—parents, caregivers, school personnel, health professionals, students, and individuals with autism—find useful materials in the resource room such as books, DVDs, teaching kits, and learning aids.

The interns have also developed and led social skills groups, maintained TAP's social media presence, created practical materials for the resource room, and supported a child with autism at the University Primary school.



# OUTREACH

## SPROUTS: Growing healthy habits curriculum

FRC researchers developed a pre-K and kindergarten healthy habits curriculum that is being piloted in local schools. In addition, FRC students hosted a healthy foods informational booth at the local farmer's market to offer young children and their families a chance to taste test a variety of fresh fruits and vegetables.



# FOOD FOR THOUGHT SPEAKER SERIES

## Mealtime Minute public service announcements reach millions

The FRC continued its partnership with the Pampered Chef Ltd., by producing two Mealtime Minutes public service announcements (PSAs) that provide real solutions to common dinnertime challenges. The 30-second **Picky Eating** and **Work-life Balance** spots aired 124 times on 90 TV stations in 34 states, reaching more than 43.8 million homes

The videos can be viewed at <http://vimeo.com/familyresiliency>.



## Translating research into policy and practice

In 2011, FRC researchers wrote a **Social Policy Report** on food insecurity for the Society for Research in Child Development (SRCD), a professional organization that promotes multidisciplinary research in the field of human development.

Our report reviewed the relevant literature on the consequences of food insecurity on children's physical and psychosocial health, academic outcomes, and programs developed to address food insecurity. Among households with children, one in five experience shortages of food that prevent them from living a healthy and active lifestyle.



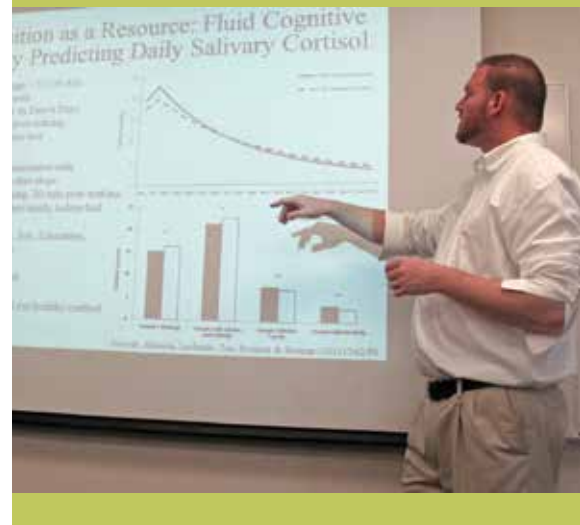
The report recommended continued support for federal food programs including SNAP, WIC, NSLP, and SBP; a need for targeted outreach programs to increase enrollment in low participation programs such as CACFP and the Summer Feeding Program; and greater attention to the role that private food assistance programs play in reducing food insecurity at the household level.

SRCD's Office for Policy and Communications summarized our report's findings in its quarterly Social Policy Report Brief, which was distributed to every member of the U.S. Congress and other relevant stakeholders.

In September 2011, Professor Barbara Fiese joined a panel of experts for an SRCD-sponsored Congressional briefing, Raising Healthy Children: Recent Evidence from Developmental Science in Washington, D.C. Fiese addressed how family mealtimes relate to the management of chronic health conditions in children.

The FRC's Food for Thought Speaker Series features nationally recognized scholars and practitioners who present techniques, methods, or issues of interest to interdisciplinary teams. During the last two years, the FRC hosted four speakers:

- "Family Style Meal Service: Still Best Practice in Child Care Settings," presented by Sara Gable, University of Missouri, Feb. 2013.
- "The Art of Scientific Visualization," presented by Donna Cox, University of Illinois at Urbana-Champaign, Nov. 2012.
- "Staying Active, Staying Healthy: Challenges and Opportunities for Minority Residents of Urban Communities," presented by Monika Stodolska, University of Illinois at Urbana-Champaign, Dec. 2011.
- "The Multiple Roles of Cognition in Stress and Health Research: Opportunities for Human Development and Family Studies," presented by Robert Stawski, University of Michigan, Sept. 2011.



# SOURCES OF FRC FUNDING

Title	Funding Agency	PI's	Amount	Dates
<b>Current Support</b>				
<b>Total \$7,586,728</b>				
<b>STRONG Kids2: A Cells to Society Approach to Nutrition in Early Childhood</b>	Dairy Research Institute	Fiese & Donovan	\$1,100,000	2012-2017
<b>Illinois Childhood Activity Program</b>	National Cancer Institute (NIH)	Fiese & Fitzgibbon	\$96,036	2011-2013
<b>An Integrated Proposal to Advance Parental Management of Daily Routines Associated with Child Obesity and Nutrition</b>	USDA	Jones, Fiese, Donovan, Ebata, & Teran-Garcia	\$118,459	2012-2014
<b>Evaluation of the Backpack Program to Reduce Childhood Food Insecurity</b>	Feeding America	Fiese & Koester	\$100,000	2012-2013
<b>Illinois Transdisciplinary Obesity Prevention Program<sup>1</sup></b>	USDA	Donovan, Fiese, Buchner, Johnson	\$4,500,000	2011-2016
<b>Food and Family Program</b>	Christopher Family Foundation	Family Resiliency Center	\$900,000	2010-2015
<b>Mealtime Minutes</b>	The Pampered Chef, Ltd.	Family Resiliency Center	\$60,000	2010-2013
<b>Illinois School Breakfast Report</b>	Illinois No Kid Hungry Campaign	Koester & Fiese	\$25,000	2013
<b>Sustaining the Psychosocial Wellness of Family Child Care Providers</b>	ACF	Wiley (PI), Schwartz (Co-I)	\$24,996	2011-2013
<b>The Role of Head Start and Child Care Classrooms in Early Childhood Obesity: A Cumulative Risk Model</b>	ACF	McBride (PI)/Dev (Co-I)	\$22,203	2011-2013
<b>Development of Self-Direction in Youth-Program-Family Interaction Systems: Latino and Non-Latino Adolescents</b>	William T Grant Foundation	Larson & Raffaelli	\$640,034	2010-2013

<sup>1</sup>Awarded to Nutritional Sciences, Fiese is Co-Program Director; 3 of the CO-PI's are affiliated with HCD; 10 of the ITOPP faculty affiliated with FRC

Title	Funding Agency	PI's	Amount	Dates
<b>Pending Support</b>				
<b>Total \$11,118,311</b>				
<b>Novel Methods to Assess the Effects of Chemicals on Child Development</b>	NIEHS	Schantz (PI)/Fiese (Co-I)	\$7,925,453	2013-2017
<b>Transdisciplinary Obesity Prevention Program- Undergraduate</b>	USDA	Fiese (PD)/Donovan (Co-I), Teegarden (Co-I), Hammons	\$750,000	2013-2016
<b>Attachment, Self-Regulation, and Preschooler's Food Consumption</b>	NIH	Bost IPI), Fiese (Co-I)	\$414,996	2013-2015
<b>Childcare Teacher Controlling Feeding Practices: Reliability and Relationships with Childcare Policy</b>	NIH	McBride (PI)/Fiese (Co-I)	\$425,220	2013-2015
<b>Adjustment of Military Families During Reunion Following Deployment</b>	NIH	Knobloch (PI), Fiese (Co-I)	\$1,602,642	2013-2016
<b>Completed Support</b>				
<b>Total \$728,528</b>				
<b>Family Routines and Medical Adherence in Children With Asthma</b>	NICHHD/NIH	Fiese	\$388,528	2008-2011
<b>Abriendo-Caminos: Clearing the Path to Prevent Childhood Obesity in Mexican Immigrant Children</b>	Robert Wood Johnson Foundation	Wiley (PI)/Fiese(Co-I), Teran-Garcia (Co-I)	\$75,000	2009-2011
<b>Examining Food Marketing Promotion to Children in the Retail Food Store Environment</b>	Robert Wood Johnson Foundation	Grigsby-Toussaint (PI), Fiese (Co-I)	\$150,000	2009-2011
<b>Family Mealtime Environments in Low Income Families</b>	Univ of IL-Chicago Cancer Ctr	Fitzgibbon & Fiese (Co-I's)	\$50,000	2011-2012
<b>Balancing Household Needs</b>	Feeding America	Fiese (PI) & Koester (Co-I)	\$20,000	2011-2012
<b>Early Childhood Health &amp; Food Project</b>	Illinois Action for Children	Fiese (PI) & Koester (Co-I)	\$45,000	2010-2012

## FRC EXTERNAL ADVISORY BOARD

Gary Evans, Cornell University • Andrew Fuligni, UCLA

Marlene Schwartz, Yale University • Thomas Weisner, UCLA

Complete profiles are at: [familyresiliency.illinois.edu/about/ExternalAdvisoryBoard.htm](http://familyresiliency.illinois.edu/about/ExternalAdvisoryBoard.htm)



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