

Purdue Extension
2018 Annual Accomplishment Report to USDA NIFA
Impact Statements by Planned Program

The Purdue Extension and Research outcomes and impact statements are organized into these seven Planned Programs:

- Childhood Obesity
- Climate Change
- Food Safety
- Global Food Security and Hunger
- Human, Family, and Community, Health and Well-being
- Natural Resources and the Environment
- Sustainable Energy

Outcomes provide the metrics that our Educators and Specialists report across research and Extension program efforts. The impact statements shared highlight a program or project addressing the outcomes and provide narrative on the issue, what has been done, and the results. There are impact statements for research projects, for Extension programs, and for integrated research and Extension activities.

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Human, Family, and Community, Health and Well-being

Title

Business Retention and Expansion

Extension

Tanya Hall, Lionel Beaulieu, Michael Wilcox, Heather Strohm, Hans Schmitz, Emily Del Real, Melinda Grismer, Mark Kepler, Kristi Whitacre

Outcome

357 - # of key stakeholders engaged and active in community and economic development locally, countywide and regionally

Issue

Existing businesses and the local workforce are key barometers of community economic health (as a place to live, work and play). Research shows that small businesses are the major drivers of job growth. In Indiana, 85% of all existing businesses employ less than 100 people. They are the often-overlooked growth machine of the state and the ones most likely to add new jobs to their portfolio. Business retention and expansion is critical for communities as it provides the cultural aspect, quality of life, and longevity necessary for the economy.

What has been done

Purdue Extension Business Retention and Expansion (BR&E) is intended to help focus the energies of community stakeholders on economic assets that exist in their cities, counties and regions, making them stronger and more resilient over time. The program helps local communities understand issues related to their economy, and makes local officials aware of business needs and resulting expansion strategies. A strong relationship among community stakeholders (businesses, residents, local leaders/officials) helps communities understand local business needs and respond, so that businesses grow, stay and become more committed to the community. Special attention is given to small businesses that employ between two to 99 employees, otherwise known as Stage 1 and Stage 2 firms. BR&E communities learn: 1) How to approach business retention and expansion, 2) Models for business visitations and surveys, 3) Tracking feedback and response, and 4) Fostering and strengthening business alliances. In 12-18 months building capacity among local leadership is key and is accomplished through development and implementation of a local task force. Purdue Extension supports these communities throughout, including developing survey questions, analyzing results, writing final reports

and helping to present findings to the community. Research and data are provided to the local task force to help them identify, design, implement and evaluate strategies to strengthen businesses and industries. Purdue Extension takes the lead for the first cycle, then after 12-18 months, the local task force coordinator takes the lead and begins a second cycle of BR&E, targeting a different business sector (e.g., agriculture, manufacturing, retail sector or downtown businesses). Which companies are targeted in each cycle is up to the local task force. BR&E started a couple years ago with a pilot program in Parke County. During 2018, more communities have been added, and Purdue Extension delivered over 30 sessions in Knox, Owen, Fulton, Posey and Vanderburgh Counties.

Results

From the pilot program in Parke County, BR&E has harnessed community support of ten task force members and one full-time coordinator. Members conducted business visits and will complete the results report on identifying red flags and opportunities for growth. During the process, a community readiness assessment was conducted to gauge the support of the community and leverage additional resources as needed. Parke County completed the first cycle of BR&E, and the coordinator stated The company visits allowed insight for the task force which is creating more energy in the community to support local businesses. A strong relationship with the businesses is invaluable. The task force coordinator, began Cycle 2 of the BR&E program, with support from Purdue Extension with curriculum, data, resources and monthly connection. In Owen County, BR&E participants organized a task force, studied data about their county, identified local business participants, conducted interviews, analyzed results and responded to opportunities that resulted from the interviews. They compiled their final report to communicate the story of the local economy to the public. They will wrap up their first BR&E cycle in January 2019. Other Counties are in process of reviewing data and compiling results. Each local BR&E program runs in cycles to continue the dialogue with businesses in the community, in an ongoing effort toward economic sustainability.

Title

Training a Cadre of Facilitators through Facilitative Leadership

Extension

Kris Parker, Tamara Ogle, Kara Salazar, Carmen DeRusha, John Orick, Kristi Whitacre, Patricia Keating, Emily Toner, Jodee Ellett, Tanya Hall

Outcome

821 - NC - # of participants reporting new leadership roles and opportunities undertaken

Issue

Community professionals in fields such as Extension, philanthropy, local government, state government, and natural resources seek facilitation skills training to be able to lead participatory meetings, discussions, and decision-making processes.

What has been done

Purdue Extension taught the Facilitative Leadership workshop twice in Indiana to 37 participants. Each workshop includes a 90-minute webinar and 27 hours of face-to-face instruction scheduled over three days. Participants lead a 10-minute discussion. They plan and lead a 45-minute group facilitation using tools taught in the workshop. Each participant gives and receives feedback to fellow classmates in their small group.

Results

The one-year follow-up survey was completed by 11 of 22 participants. As a result of the training, and in the year following: 1) Eight participants took on new leadership roles, 2) 117 volunteer hours were completed using facilitation skills, a \$2,776 value based on Independent Sector for 2017, 3) participants facilitated groups for the creation of five plans, four of which were adopted and three implemented, 4) 14 partnerships were created, and 5) \$68,000 was leveraged as a result of facilitating activities. 100% of participants said the workshop was extremely or very valuable to their work, community, or volunteer efforts.

Title

Strengthening Community by Strengthening Families

Extension

Barbara Beaulieu, Debora Arseneau, Megan Broughton, Janice Dougan, Elizabeth Beiersdorfer, Teri Hornberger, Brian Howell, Jennifer Monarch, Mandy Medbourn, Terri Newcom, Abby Sweet Morgan, Joni Muchler, Monica Nagele, Amber Noll, Marcia Parcell, Sarah Richer, Marilyn Sink, Alice Smith, Tammy Walker, Lisa Wilson, Samantha Williams, Amanda Galloway, Courtney Stierwalt, Nancy Hudson, Amber Barks

Outcome

6,517 - NIFA FCS1.HCFD1 - # of individuals who learn about healthy child and/or family development

Issue

In Indiana, there are over 400,000 youth ages 10 to 14. This age cohort is subject to social and emotional changes, greater academic challenges, and biological changes. They face academic challenges, seek more independence from their families, and experience increased episodes of sadness or depression which could lead to poor grades, alcohol/drug use, unsafe sex, and other risky behaviors. Parenting can be a very stressful responsibility, however, high levels of stress that persist for extended periods in families can negatively affect a child.

What has been done

Focusing on one of the human development programs provided by Purdue Extension, Strengthening Families Program: For Parents and Youth 10 to 14 (SFP: 10-14), is an evidence-based parent, youth and family skills-building curriculum that: 1) prevents teen substance abuse and other behavior problems, 2) strengthens parent/youth communication skills, 3) increases academic success in youth, and 4) prevents violence and aggressive behavior at home and at school. In seven two-hour sessions, separate sessions for youth and parents are followed by joint family sessions. Youth learn about peer pressure resistance, reducing stress, finding family values, problem solving, goal setting, and resisting substance use. Parents learn what it is like to be a current youth, how to love but set limits, develop family rules and establish consequences, encourage good behavior, build bridges between youth and parents, and protect youth against substance use. The joint session allows families to bond by participating in learning game activities, and projects, such as making a family, identifying family members strengths, strengthening communication skills, and increasing problem-solving skills. There were 96 adults and 92 youth enrolled in 12 programs held in 12 counties during 2017-2018. Program post-/pre-reflective evaluations were completed and data collected from 49 adults and 50 youth.

Results

Post-/pre-reflective assessments for youth showed positive changes in knowledge and actions. Almost twice as many youth indicated they had family meetings (a tool introduced in the program) some or most of the time after the program. There was a 54% increase in youth who indicated they could do things to help themselves feel better when under stress, and in knowing a step to take to reach their goals. 96% of youth responded positively to these: 1) appreciating things parents/caregivers do for me, 2) knowing qualities important in a true friend, 3) feeling truly loved and respected by parents/caregivers. 94% of youth know what their parents/caregiver think about drugs and alcohol. Youth indicated the most valuable things they learned were: 1) how to handle stress, 2) choosing friends, and 2) resisting peer pressure. Sample comments were: 1) I have learned how I could get out of being peer pressured. I now also know how to deal with stress without yelling and getting mad. I also know now how my parents feel when they have to deal with me. I now know what a good friend is like. 2) To understand my decisions not only affect myself but others as well. Parent assessments showed improvements from pre to post for: 1) I often tell my child how I feel when he or she misbehaves (79% increase). 2) I wait to deal with problems with my child until I have cooled down (73% increase). Parent most valuable things learned were: using I messages, listening to their youth, and understanding their youths stress. Parent comments included: 1) I have been practicing the things that I learned during the Strengthening Families classes and it works! 2) My kids are listening better and responding to my coaching, and I am able to no longer lose my temper. Our home is much calmer and peaceful. 3) One parent stated, Everything has been amazing! The change in my home has made life so much better. I am going to make sure my family never goes back to how we use to function. 4) The program contained many valuable lessons about enhancing our understanding of our youths perspective in order to use ways to make our relationships better and in turn, improve our family. We also really like the family meeting time, especially writing down what was agreed upon. Positive changes made by parents and youth involved in SFP: 10-14 will help

improve the time they spend together communicating, working to achieve individual and family goals, and establishing rules and consequences. These skills will help strengthen families and arm youth with valuable life skills. Close relationships, working toward goals and dreams, and having skills to reduce peer pressure are important elements that can help youth resist substance use and abuse. When parents are actively engaged in their children's lives, children are likely to have better academic performance, higher graduation rates, and fewer behavioral problems.

Title

Helping Hoosiers Prevent Heart Disease

Extension

Stephanie Woodcox, Lisa Cangany, Jay Christiansen, Abigail Creigh, Linda Curley, Peggy Ehlers, Jaclyn Franks, Allison Goshorn, Molly Hunt, Jane Horner, Nancy Hudson, Gracie Marlatt, Joanne Lytton, Mandy Medbourn, Joni Muchler, Terri Newcom, Amber Noll, Susan Peterson, Megan Peterson, Tonya Short, Demarcus Sneed, Beth Switzer, Elizabeth Richards

Outcome

179 - # of participants identified dietary recommendations for eating and preparing more heart-healthy meals

Issue

Heart disease is the number one cause of death among men and women across the nation. Each year, about 610,000 Americans die from heart disease, accounting for nearly 1 out of every 4 deaths. Heart disease and stroke cost the U.S. an estimated \$1 billion each day in health care services, medications costs and lost productivity. Heart disease is also the number one cause of death for Indiana. 39% of adults in Indiana have had their cholesterol checked and been told by a healthcare professional that it is high, 32% have had their blood pressure checked by a healthcare professional and been told it is high, and 33% are considered obese, a body mass index (BMI) greater than 30. High cholesterol, high blood pressure, and being overweight or obese are all risk factors for heart disease.

What has been done

Purdue Extension provides education to adults about heart disease and ways to reduce risk for this and other chronic health conditions. Through delivery of Be Heart Smart, Extension Educators help participants identify and monitor controllable risk factors for heart disease, encouraging them to make simple changes to their daily routine that can improve their heart health. Be Heart Smart is offered as a series of four, 1-hour classes. Topics covered during the program include risk factors, cholesterol and blood pressure guidelines, heart-healthy eating plan, stress reduction techniques, and tips on to talk to your healthcare provider. Each lesson provides participants with suggested action items to incorporate heart-healthy behaviors to start making a difference. Be Heart Smart was presented 32 times during the 2017-2018 program year, reaching 286 individuals. Of those reporting, participants of the program were mainly female (72%), aged 61 years or older (40%), and White (89%). The majority (69%) of Be Heart Smart participants are concerned they are at-risk for heart problems. Over half (58%) indicated having a family history of heart disease. More than one in ten (13%) participants has been diagnosed with heart disease, indicating that they are still in need of education on how to improve their heart health and manage/monitor their risk factors.

Results

There was a statistically significant improvement in knowledge by participants on these topics: identifying the most common cause of heart disease, categorizing risk factors as controllable versus uncontrollable, defining a healthy blood pressure and body mass index, understanding how to decrease sodium in the diet including the DASH Eating Plan, describing benefits of physical activity, and practicing techniques to reduce stress. Prior to the first lesson, 69% could correctly identify controllable risk factors for heart disease. At the conclusion of the program, 86% could correctly identify such risk factors. As a result of the program, participants indicated they intend to make behavior changes to help reduce their risk for heart disease: 1) 92% said they would monitor controllable risk factors for heart disease such as blood pressure and cholesterol, 2) 85% said they intend to increase daily physical activity, and 3) 87% intend to employ stress reduction techniques when needed. Participant feedback indicates the program was well-received and beneficial. Comments included: 1) the education received helped me realize how important being aware of any [health] problems can help me live a longer and healthy life, 2) the content increased my understanding of many of the terms and words I have heard all of the time, 3) it was motivating to take more control of my health, and 4) the program gives

me more ideas on eating better and [increasing] physical activity. The findings suggest that after the program, adults are more knowledgeable about risk factors for heart disease, strategies to prevent or reduce personal risk of heart disease, and can incorporate heart-healthy behaviors into their daily activities.

Title

4-H STEM programs prepare youth for careers in Science and Math

Extension

Renee McKee and 4-H and Youth Development Educators

Outcome

666 - # of youth that would like a job that uses science

Issue

U.S. youth are lacking in the fields of science and mathematics. Data from the 2015 Program for International Student Assessment (PISA), show U.S. 15-year-olds as just above average in science literacy and below average in math literacy compared to 72 countries. STEM education is very important, and youth need more opportunities to be involved to increase their mastery level in science and mathematics.

What has been done

Indiana 4-H Youth Development provides educational programming focused on STEM learning and potential future careers. With over 800 youth in 38 different programs across the state participating in a variety of learning opportunities, Indiana youth were provided diverse experiences to excite them to learn and explore via STEM. During the FY 2017-18 program year, 40% (300 youth) of STEM program participants were new to 4-H, noting that this was their first time attending a 4-H event.

Results

Indiana 4-H offers STEM programming that interests and engages youth beyond the classroom. Over 80% of STEM program participants reported learning new things about engineering and over 90% learned new things about science during 4-H programs. As we look toward our youth becoming the future workforce, 76% of 4-H STEM program participants said they would like a job that uses science (666 youth grades 4-12) and 70% would like a job that uses engineering (605 youth grades 4-12). It is through Indiana 4-H programs that youth learn how science can help solve everyday problem - with 80% of participants identifying that they learned this skill during their program. Indiana 2017-2018 4-H STEM program participants reported the following: 1) 73% Ask questions about how things work, 2) 85% Try new things to see how they will work, 3) 69% Compare how different things work, 4) 60% Take things apart to see how they work, 5) 76% Come up with ideas for how to build new things. The future workplace and occupations need not only content competent employees, but also employees who have the critical skills to identify problems, construct solutions, and innovate. Indiana 4-H STEM programs provided a learning environment to develop and foster these skills.

Title

4-H Programs Train Youth in Food Safety and Animal Well-being

Extension

Renee McKee, Courtney Stierwalt, and 4-H and Youth Development Educators

Outcome

19,540 - # of youth certified in Youth for the Quality Care of Animals (YQCA)

Issue

Youth may not be aware of practices for maintaining a healthy animal. It is important that with 4-H programming involving animals, the youth are armed with knowledge of quality care for animal well-being and for the safety of our food.

What has been done

Youth for the Quality Care of Animals (YQCA) is a national multi-species quality assurance program for youth ages 8 to 21 that was implemented by the Indiana 4-H Youth Development Program in 2018 after pilot testing during 2017. YQCA is designed as an annual education and certification program focused on food safety, animal well-being and character awareness for youth producing and/or showing pigs, beef cattle, dairy cattle, sheep, goats, market rabbits, and poultry. The program was been designed by extension specialists and national livestock program managers to ensure it is accurate, current and relevant to the needs of the animal industry and shows and is appropriate for youth. There were 98 Purdue Extension staff certified to provide training and they conducted programs across Indiana's 92 counties. Certification was also possible via web-based instruction.

Results

YQCA was added as a programmatic expectation for all Indiana 4-H members in grades 3-12 who exhibited any livestock species addressed by the training. At the end of the instruction period there were 19,540 Indiana 4-H members certified in YQCA. A total of 13,280 participated in instructor-led face-to-face meetings which often included hands-on activities to enhance participant experiences. There were 6,260 youth who opted to complete the program via web-based instruction which required passing a series of three quizzes to earn the YQCA certification. Acquiring these skills help the youth and their animal, but also address the safety of available meat products in the community.

Title

Digital Ready Businesses – Helping Rural Businesses Compete in the Digital Economy

Extension

Roberto Gallardo, Emily Del Real, Annette Lawler, Heather Strohm, Tanya Hall, Kristi Whitacre, Mary Foell, George Okantey, Monet Kees, Nicholas Held, William Horan, Janet Reed, Crystal Van Pelt, Amanda Galloway, Kirsta Pullen, Hans Schmitz, Julie Rigrish, Cheyanne Geideman

Outcome

2,845,980 - NC 13 - \$ value of grants and resources leveraged/generated by communities

Issue

As the digital economy continues to expand, having an online presence is critical for any business to remain competitive. Rural businesses and entrepreneurs are no exception. A robust, well designed online presence helps rural businesses compete and expand their markets beyond their small local communities/regions.

What has been done

Purdue Extension, in partnership with the Purdue Center for Regional Development (PCRD), is providing critical information and technical support that is designed to expand broadband access and adoption by rural households, business and rural communities in Indiana. In order to help make rural entrepreneurs and small businesses more competitive, Purdue Extension developed the Digital Ready Business curriculum. This curriculum consists of eight face-to-face 1-hour workshops. During 2018, seventeen educators were trained to launch the program delivering 32 workshops reaching 92 entrepreneurs, business owners, and employees throughout Indiana. Expansion is under development to add an online version which will be available initially through an app, and later on a website.

Results

Over the past year, the Purdue Extension and PCRD partnership has realized a number of significant achievements. First, the team completed one of the most extensive studies ever conducted on the benefits/costs of providing broadband to rural households in Indiana. It is this study that prompted Indiana Governor Holcomb to pursue a \$100M investment to expand broadband to unserved areas of the state. Second, in-depth state of broadband reports produced for four regions (encompassing over 24 counties), resulted in formation of broadband task forces working to address gaps in broadband access and utilization in targeted geographic areas of Indiana. Third, Extension and PCRD have teamed up with the Indiana Office of Community and Rural Affairs to develop and implement \$45,550 in Rural Broadband Planning Grants for five communities. Extension also secured a \$65,000 USDA grant to provide and support training and technical assistance for businesses in three counties to implement digital strategies. Fourth, with Digital Ready Business helping

small Indiana businesses and entrepreneurs expand their online presence, knowledge gained by participants exceeded 90% for all eight curriculum modules, including business intelligence, email marketing, planning a website, and social media analytics. Likewise, more than 75% of participants reported they were likely/very likely to apply knowledge learned.

Title

Mental Health and Well-Being in Midwestern Latino Youth: A Resilience Approach

Research

Zoe Taylor, Human Development and Family Studies

Outcome

5 - HHS 3.1 - # of discoveries, innovations, technologies related to Culture and Diversity

Issue

Adolescents can be vulnerable to mental health problems, and this appears especially so for Latino in the U.S. Also, Latino youth in rural communities remain woefully understudied and may be particularly vulnerable to health disparities such as poor mental health (Umaña-Taylor, 2009; Wickrama, Elder, & Abraham, 2007). Additionally, identifying protective factors that have potential to mitigate the magnitude of the stress response may reduce the probability of experiencing mental health problems during adolescence (Shonkoff, Boyce, & McEwen, 2009). Mitigating consequences of such challenges, and fostering systems that promote positive mental health, may be one of the most significant ways to promote well-being and long-term success of Latino youth.

What has been done

The objective of the research is to document the effects of contextual stressors (e.g., discrimination, poverty) on the mental health and well-being of Latino youth in the Midwest, to identify resilience factors (e.g., self-regulation and supportive parenting) that have the potential to buffer or counteract such stressors, and measure the effect of stress on the hypothalamus, pituitary gland and adrenal glands, which are the organs that produce hormones that control the human physiological reaction to stress.

Results

Results of the study with Latino families with a fifth-grade child living in the Midwest suggest that effortful control (a resilience factor which is related to self-regulation of emotional reaction or behavior) may help counteract contextual risks commonly experienced by Latino youth. The study of ego-resiliency (how individuals adapt to environmental stressors, conflict, and change), showed that a supportive family (resilience factor) helped youth develop stronger ego-resiliency and reduced incidence of depressive problems, and, this persisted over time, suggesting it may have long-term effects on reducing depressive problems in Latino youth. Researchers studied the cortisol awakening response (which is an increase in production of the hormone cortisol within 30 minutes after awakening, and believed to be a preparation for stress for the day) of the hypothalamic-pituitary-adrenal system in 119 preadolescent Latino youth and found that youth with both stronger cortisol awakening response and effortful control, had fewer depressive programs. Hence, physiological processes and individual resilience traits were shown to help counter depressive problems in Latino youth. These results may have a positive impact on public health issues relating to Latino youth through informing policy and directing future intervention efforts targeted at reducing stress and health disparities in this population.