The 2014 alumni recognition symposia and banquet

New grant for study of marijuana and brain connectivity

Network science at home and abroad

Early language skills linked to behavior problems
The 2014 alumni recognition event

On October 17th students, alumni, friends and faculty came together for our annual symposia and banquet.

Alumni in the spotlight

Five outstanding alumni were honored with a series of awards.

In the News

Shiffrin receives President’s Medal

On October 14 IU President Michael McRobbie presented the President’s Medal of Excellence to Richard Shiffrin.

Up in smoke

PBS researchers were awarded a $275,000 grant to study brain connectivity in current and former marijuana users.

Cognitive training to treat alcoholism?

Peter Finn received a $2.3 million NIH grant to study the use of cognitive training techniques to improve decision-making related to alcohol consumption.

Networking Russia

Stanley Wasserman, in collaboration with faculty from the National Research University Higher School of Economics in Russia, is setting up an International Laboratory for Applied Network Research.

Introducing “An InExact Science”

Alumni Lisa Cantrell’s new podcast explores basic questions of psychological science—and the mysteries of everyday human experience—through beautifully designed sonic landscapes.

From language to behavior

A recent study suggests that poor early language skills can lead to behavior and attention problems which can in turn contribute to social or academic problems in adolescence and later adulthood.

Keep the momentum going

We enlist your help in sustaining our future while supporting your interests.

On Friday, October 17th PBS pressed ‘pause’ on business as usual in order to press ‘play’ on its annual Alumni Recognition Event, fittingly in sync with other IU Homecoming festivities.

The event: A daylong celebration of the extraordinary people and the formidable, game-changing science that has propelled members of this community into occupations both in and beyond the academic and scientific worlds.

The people and the science were brought into focus through a series of alumni and faculty symposia and a late-afternoon poster session exhibiting the work of current students. The evening’s banquet capped the day and allowed for full visibility of some truly remarkable alumni and the PBS community-at-large.

“Homecoming and alumni recognition events like this allow us to reflect on the shoulders we stand on and the broader context on which we as a department have an effect,” said PBS Chair Bill Hetrick in introducing the award recipients. “They also let us understand how our students are moving beyond our influence. It’s humbling to be a part of this expanding influence through our alumni.”

In evidence throughout was the bold, boundary-crossing science characteristic of PBS from the start: the kind of science that breaks new ground and addresses pressing social issues: in young alumni award winner Amy Marshall’s studies on PTSD and social support, and fellow young alumni award-winner Brian Mustanski’s research on increasing rates of HIV in young black gay men; in the work of alumni Teresa Treat bearing on the rape crisis on college campuses; in PBS professor Karns James work on the cognitive neuroscience of reading and writing at a time when US illiteracy rates are as high as 20%; in alumni Scott Gronlund’s research on legal methods used to identify suspects; in alumni Joshua Guiley’s studies of amphetamine effects on adolescent development; and PBS professor Brian D’Onofrio’s uses of big data to understand major mental health issues: Do ADHD medications increase the risk of suicide? Does paternal age increase the risk of psychiatric problems in offspring?

The list of course goes on.

“I drank the Kool-Aid of translational research while at IU,” said Mustanski (PhD ‘04), now a professor at Northwestern on accepting the young alumni award, recounting how PBS enabled him to cross the borders between traditionally distinct fields of sexuality, behavior, genetics, and health. “Over the years,” he
Alumni in the spotlight

The PBS Alumni Recognition event culminates in a banquet to honor five outstanding alumni with a series of awards.

This year the following alumni received awards:

My Marshall (PhD '04) and Brian Mustanski (PhD '04) each received a Young Alumni Award.

Marshall is an associate professor in the Department of Psychology at Pennsylvania State University whose research interests include intimate relationships, family violence, and post-traumatic stress disorder.

Mustanski is an associate professor in Medical Social Sciences, Preventive Medicine, and Psychology at Northwestern University. He is director of the IMPACT LGBT Health and Development Program, which seeks to conduct translational research that improves the health of the LGBT community and increases understanding of sexual orientation and gender identity.

Receiving Distinguished Alumni Awards were David T. Pfenninger (BA '73) and Wilson (Bill) Geisler (PhD '75).

Pfenninger’s career spans academia, clinical psychology, business, and technology. Formerly an assistant professor at the Indiana University School of Medicine and a clinician and administrator at the Roudebush Veterans Administration Medical Center in Indianapolis, he became the founder and key entrepreneur of several successful companies. Currently, he is an executive consultant, investor, and board member to companies at the interface of Internet technology, human behavior, and cognition.

Geisler joined the psychology faculty at the University of Texas in 1975, where he is currently the David Wechsler Regents Chair and director of the Center for Perceptual Systems. Bill’s primary research interests are in perception and perceptual neuroscience, with an emphasis on vision in humans and monkeys.

John Monahan (PhD '72) received the Richard C. Atkinson Lifetime Achievement Award.

Monahan, an expert in law and psychiatry, is a leading thinker on the issue of violence risk assessment. He currently holds the John S. Shannon Distinguished Professorship in Law at the University of Virginia. Last year he attended the department’s 125th Anniversary Celebration to deliver a lecture, “Danger and Disorder,” in which he challenged the links made between violence and mental illness in American media and culture. The award is named in honor of its first alumni recipient, president emeritus of the University of California and a distinguished scientist, administrator, and teacher.

Look no further! Be a part of the celebrations next year. Mark your calendars for Friday, October 16, 2015. We’d also love to hear your suggestions on alumni who might be eligible for our awards. If you know someone you’d like to nominate (including yourself), let us know. Send your suggestion to pbschair@indiana.edu.
PBS in the news

Al Sporns was named the Robert H. Shaffer Endowed Chair. This endowed chair honors Robert H. Shaffer, who was a distinguished faculty member and Dean of Students at IU. The $1 million endowment was established by the College Class of 1967 on the occasion of their 40th graduation anniversary. Al Sporns was also named co-director of the new IU Network Science Program. Read more about this new commission.

Shariene Newman was selected as a 2014-15 fellow for the Academic Leadership Program, which helps develop leadership skills of professors who are strong candidates for pursuing careers in academic administration. The program is sponsored by the Committee on Institutional Cooperation, made up of careers in academic administration. The program is sponsored by the Committee on Institutional Cooperation, made up of the universities in the Big Ten conference and the University of Chicago. Participants attend three seminars hosted by Committee for the Fall 2014 Thermometer initiative, “Eat, Drink, Think: Food from Art to Science.” Read more about it here.

A film crew from NFL Films came to shoot a segment on Ben Mote’s Critical Approaches class, “Prediction, Probability, and Pigskin.” The feature aired in the fall season of “NFL Films Presents” on Fox Sports. Isaac Petersen was interviewed for an NIH podcast, as well as the Kids Count Radio Show, for his study with Jack Bates and Angela Staples on the link between language skills and behavior problems. The story also appeared in the Epoch Times, the Daily Meal and Education Week, among other news sources.

Ken Mackie is cited in an article in Al Jazeera America, “Can medical marijuana solve our opioid addiction problem?”

Shiffrin receives President’s Medal

On October 14, IU President Michael A. McRobbie presented the President’s Medal for Excellence to two highly distinguished IU faculty members, George Kuh and Richard Shiffrin.

Shiffrin is Distinguished Professor and Luther Dana Waterman Professor of Psychological and Brain Sciences in the College of Arts and Sciences. Widely known for his contributions to cognitive science, he also directs the department’s Memory and Perception Laboratory.

“The Presidents’ Medal for Excellence is the highest honor an IU president can bestow. First presented in 1985, it is awarded to those who have distinguished themselves in academia or public service. Shiffrin joined the IU faculty after graduating from Stanford University, where he and Richard Atkinson developed the Atkinson-Shiffrin model, giving a mathematical basis for a theory of memory for the first time. Their article is one of the most highly cited in the history of the behavioral sciences.

“Professor Shiffrin has made numerous contributions to the modeling of human cognition in areas ranging from perception to attention to learning,” McRobbie said. “He is also known for his longstanding efforts to develop explicit models of human memory, especially the Atkinson-Shiffrin model, which has been called one of the most significant advances in the study of memory since William James.”

Shiffrin’s subsequent discoveries have also been groundbreaking. In 1977, he and Walter Schneider proposed a theory of attention that divided automatic from control processes and showed how processes could become automatic through mapping. He helped create the Search of Associative Memory model in the 1980s and the Retrieving Effectively From Memory model in the 1990s. At IU, he has served as advisor for many students and postdoctoral researchers, some of whom serve on the faculties of leading universities or as scientists for NASA, IBM, Microsoft and the US Army Research Institute. He co-chaired the Alliance of Distinguished and Titled Professors, served on the committee to form the School of Informatics, helped establish the Department of Statistics and was instrumental in establishing IU’s Cognitive Science Program.

He has also received many major awards in the field of psychology, including the Warren Medal of the Society for Experimental Psychology, the William James Fellow Award and the David E. Rumelhart Prize for Formal Modeling of Human Cognition, known as the “Nobel Prize of Cognitive Science.”

The President’s Medal for Excellence is a reproduction in silver of the symbolic jewel of office worn by IU’s president at ceremonial occasions.
Up in smoke

BS researchers were awarded a $275,000 grant from the National Institutes of Health to study the effects of marijuana on brain connectivity in both current and former users.

Led by professor Brian O’Donnell and associate professor Sharlene Newman, the study will analyze how marijuana use affects both brain networks and specific regions. It will be the first study to apply network analysis to understand changes in brain connectivity related to current and past marijuana use.

The researchers will pursue a number of questions, including how its use might alter the course of brain development in adolescence and early adulthood; whether earlier use would cause more severe effects; how much is too much for particular age groups; and whether discontinuing use allows for recovery.

“Given the recent decriminalization of marijuana in several states and its widespread use, there is an urgent need to determine how marijuana affects the brain, and whether such changes are related to those observed in psychotic disorders,” O’Donnell said.

Cannabis sativa (marijuana), which according to surveys has been used by more than 30 percent of the adult population in the United States, is known to affect several aspects of mental functioning, including attention, learning and judgment of time. It can induce symptoms typical of psychosis, such as paranoia and sensory distortions.

Studies across a number of countries have also found that adolescents who use cannabis are at a higher risk of developing schizophrenia, a psychotic disorder, later in life. O’Donnell, a schizophrenia researcher, suggests that while scientists don’t know if it directly causes schizophrenia, for those with a genetic risk for this illness, cannabis may contribute to its occurrence. He points out that more than 40 percent of schizophrenia patients use cannabis.

A pilot study published by O’Donnell and Newman’s research group indicated that brain networks in people who used marijuana were less efficiently organized than those in non-users. Yet, “the effect of cannabis on the organization of the brain is still little understood,” O’Donnell said. In part, he said, this is because of the difficulty of studying an illegal substance classified as a narcotic.

The research team includes IU computational neuroscientist Olaf Sporns, whose pioneering work on brain network analysis helps conceptualize the interaction between different parts of the brain.

The current project will draw on the measures Sporns has developed to look at network properties as a whole and the pathways that connect the nodes within the neural systems under investigation. As Sporns’ research shows, networks that facilitate the interaction and exchange of information between brain regions are necessary for nearly all, even the simplest, physical and mental tasks.

Cannabis affects several brain functions, including pain perception and our sense of time, as well as learning and memory, O’Donnell said. As such, it has a wide-ranging effect on the brain, especially as these systems develop.

“We know from other studies where the cells that respond to cannabis are located in the brain, so we can zero in on regions that have a high density of these receptors,” O’Donnell said. “They are dense, for example, in the hippocampus, which is involved in learning and memory, and are present in the cerebellum, which is critical for coordination of movement and involved in our perception of time.”

Cannabis is also unlike other drugs such as opiates, nicotine and cocaine, which are highly addictive and which reshape the brain to seek out more of the drug.

“When many drugs rapidly decay and leave your system, cannabis stays in your body for weeks, so that, even though you may not feel high any longer, some of the physiological effects are still present,” O’Donnell said.

The researchers are now getting ready to recruit three groups of 30 people, ages 18 to 40, to participate in the study. One group will include current users. Another group will include those who have used it in the past but have quit for at least a year. The third will consist of people who have never used cannabis. The challenge will be finding people who smoke marijuana but don’t use any other drugs or drink heavily. Participants must also be without serious mental illness or incidence of head trauma.

In addition to using brain-imaging technology to explore the organization of brain networks, the researchers will give the candidates various tests of memory and attention. They will also interview candidates about how much and how long they took marijuana and test them for personality traits that often accompany its use, such as unusual beliefs and odd perceptions, which are often seen in psychotic disorders.

O’Donnell said the project offers a unique opportunity to bring together “an extraordinary group of researchers to address a public health problem of enormous importance, given the widespread use of cannabis and the trend toward legalization in many states.”

In addition to Sporns, researchers include IU neuroscientist Ken Mackie, a consultant on the project who has done fundamental research into the brain systems on which cannabis acts. Also on the team are brain-imaging experts, Dai-Jin Kim, Aina Puce and Newman, who is also co-principal investigator, as well as Williams Herrick, a schizophrenia researcher and chair of the IU Department of Psychological and Brain Sciences. The study will be funded for two years.

“There’s a popular perception that marijuana is a relatively benign drug,” O’Donnell said. “My guess is that this may not be the case.”

“Given the recent decriminalization of marijuana in several states and its widespread use, there is an urgent need to determine how marijuana affects the brain, and whether such changes are related to those observed in psychotic disorders.”

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Cognitive training to treat alcoholism?

Clinical psychologist Peter Finn received a $2.3 million grant from the National Institutes of Health to study the use of cognitive training techniques to reduce risky or impulsive decision-making in those with early-onset alcoholism and a history of impulsive, antisocial behavior.

The study will focus on the role of working memory in decision-making related to alcohol consumption and on determining whether cognitive training, which consists of methods for focusing one’s attention, can improve working memory and thereby enhance decision-making abilities.

“Working memory reflects a kind of memory-attention interaction, which enables us to control our attention, to focus on a particular topic, shift our attention away and shift it back at will,” said Finn, professor in the Department of Psychological and Brain Sciences in the College of Arts and Sciences. “Our work shows that there’s a common vulnerability to substance use disorders, ADHD and antisocial personality disorder. All are associated with similar problems with impulsive and risky decision-making and a low working memory capacity.”

In recent years, cognitive training techniques have become widely used as interventions for a variety of psychiatric conditions such as ADHD, obsessive-compulsive disorder, antisocial personality, memory loss and major depression. Yet little well-controlled research has been done to support its effectiveness, Finn said.

The new study is not a clinical trial, Finn explains, but it has enormous potential to affect future treatment.

“It will also have direct implications for the development and refinement of training programs to focus attention, modify impulsive, risky decision-making in those with alcohol dependence and externalizing psychopathology in general, and for understanding the factors that may predict the positive impact of those programs on impulsivity in those with alcohol dependence and antisocial behavior in general,” he said.

Looking at three different groups, Finn and members of his lab will set out to better understand and assess the usefulness of these techniques. Two of those groups include young adults whose alcohol abuse began before age 20. In one of these two groups are people who also have a history of impulsive, antisocial behavior, who as children frequently got into trouble and have broken the law as adults. A third group consists of individuals with no history of substance abuse or antisocial behavior.

The first part of the study examines the effect of an attentional refocusing technique on working memory capacity and risky decision-making. The second will investigate the effect of a working memory training program on working memory capacity and decision-making.

The study also has important implications for the problem of relapse in alcoholism, which often occurs in times of stress, and can reduce working memory capacity even further. Average people generally make riskier and more impulsive decisions when their working memory is compromised as a result of stress, information overload, high or low emotional states, or other factors, Finn said.

“But for people with low working memory capacity, who are already making bad decisions, when you put them under a cognitive load (of stress, etc.), their decisions can have catastrophic negative consequences,” he said.

“Working memory reflects a kind of memory-attention interaction, which enables us to control our attention, to focus on a particular topic, shift our attention away and shift it back at will.”

Networking Russia

Stanley Wasserman, professor and founding director of the Network Laboratory at Indiana University, has received a $1.5 million grant to set up an International Laboratory for Applied Network Research at the Russian university.

The grant, which was awarded by the HSE, provides funding from 2014 to 2016, at which point, Wasserman believes, the lab, given its strengths, will continue to gain support, with either additional funding from the university or external grants. Quite a few network science institutes now operate at universities in the US. This is the first one in Russia.

Wasserman, who holds a joint appointment in the departments of Statistics and Psychological and Brain Sciences in the College of Arts and Sciences, will serve as the academic supervisor of the lab—consulting, teaching, and collaborating with faculty and students at the school and ensuring the lab’s connectedness with the broader world of network science. He has also been named a Research Professor at HSE.

As a leading methodologist in the field of network analysis, Wasserman designs studies and analyzes data for researchers around the world in such varied areas as management, community psychology, and public health. He is also the coordinating editor of Network Science, a major new journal in the field published by Cambridge University Press. His book “Social Network Analysis: Methods and Applications” is a classic in the field, still in print after almost 20 years, and widely used in university courses. His work has also contributed to putting Indiana University on the leading edge of advancements in the field itself. He was one of the first to contribute to the book “Network Evolution,” and through conference grants, collaborations, and teaching, he continues to be an important network research presence on campus.

Wasserman’s relationship with the Higher School of Economics in Russia began two years ago when he taught a standing-room only introductory seminar on network analysis at the school. At that point, says Valentina Kuskova, director of the new lab, he and others recognized the enormous demand in Russia for knowledge of the discipline and set out to develop the current laboratory.

Wasserman’s participation has key to the project’s visibility and success, Kuskova explains. “This lab would simply not have been possible without him. Wasserman,” she states, “is a visionary. As a scientific supervisor, he goes beyond providing ideas, inspiration, and encouragement. His results speak for themselves. We are well on our way to establishing and popularizing the field of network research in Russia.”

The new International Laboratory, one of twenty at the school, is itself a network made up of four hubs, each on different HSE campuses—two in Moscow, one in St. Petersburg, and one in Perm. United by common methodologies, tools, and techniques, the research applications span multiple disciplines and areas: political science, education, psychology, management, international business, sociology, and economics. The lab has already taught two week-long workshops in network analysis (one in Moscow in June and a second in St. Petersburg in August) and has a number of joint projects well underway.

“In order to really study who behaves the way they behave and why, you need relational data,” said Wasserman. “This enables us to see social influence in action.”
Introducing “An InExact Science”

Psychology and science often seem worlds apart. But when the two meet up in Lisa Cantrell’s new podcast, An InExact Science, sparks fly between them, igniting visions of a long, happy, future mutually beneficial to both.

Since she graduated from PBS last year and began her new gig as a postdoctoral research fellow at the University of California, Davis, Lisa Cantrell (PhD 2013) has been dreaming up, plotting out and putting together episodes for her podcast project, An InExact Science. The first podcasts have appeared online in January. They will begin airing on KDVS in Davis.

In An InExact Science, Cantrell plumbs the mysteries of every day human experience by offering the perspectives of top researchers in psychological science alongside the stories of “ordinary people”—(aka non-scientists). In this way, she seeks to build “a small bridge,” as she calls it, “between what we sense every day and the empirical evidence of science.”

“How do we experience happiness? How do we learn a first language and why is learning a second sometimes hard? Under what circumstances do we feel regret? Why do we remember certain events but not others? Why do we sometimes misremember? Where does religious belief come from?”

These are the questions that propel a podcast that, she announces in her promotional video, will be “about us, POR us, and will invite science to pull up a chair, stay a while, have a cup of cof fee—heck, stay for dinner! And explain at least a little of why we experience the things we experience.”

But the conversation is hardly one-sided. Language, memory, music, religion or regret—whatever the topic might be—she will also expose what she calls “the beautiful side, the phenomenological side, of what it feels like to experience a particular thing” so that the topic is “not just objectified in the way that science does to explain things.”

In putting these views together, she seeks to produce something artfully and beautifully designed. “I love listening to podcasts that do really well,” she explains, “the way they move information along and shape a topic. The shows that are really good”—she mentions Radiolab, Snap Judgment, and 99% Invisible—“create a space that has layers. You feel like you’re in a certain room or environment just by the sounds that are happening. They have a beautiful organization and structure.”

But not only is the podcast artfully designed, it is also poised to prompt what she calls a “science-art-what-up?” cycle. Alongside top researchers and a story-telling public, she is inviting local artists to produce promotional materials. (Go to the website and you will find buttons, posters, t-shirts, coffee mugs.) And she is drawing on the music of local musicians to include in her show. (One of the first episodes includes music of the Bloomington band, Boomer’s Holiday.)

Not surprisingly perhaps, Cantrell herself comfortably occupies the worlds of both art and science. A South Carolina native, she started college at Furman University as a visual arts major, but shifted gears when she realized this path would most likely provide little means of support. Not knowing what to do next, she took time off from college and traveled in Latin America. She worked in an adolescent rehabilitation center in Chile while living and painting in an art collective, and she taught preschool English in Mexico.

The experience brought home to her the mysteries of language learning, and on her return to college, she took a psychology course that got her “super hooked,” as she puts it …

...Ultimately landing her straight in the lab of one of the foremost researchers on language learning and early development, PBS Distinguished Professor and Chancellor’s Professor, Linda Smith. The first episode of An InExact Science, in fact, is on language and features an interview with her former advisor. Listen to this episode here.

Now she is working in the Infant Cognition Lab of Lisa Oakes, a professor of psychology at UC Davis, and is studying visual attention and memory in infants and the use of eye-tracking methodology. In virtually all of her spare time, she can be found working on the podcast, uniting art and science in what she hopes will be a long-term relationship with the “science-art-what-up?” cycle.

From language to behavior

A recent study tracks the links between early language skills and subsequent behavior problems in young children. Poor language skills, the study suggests, limit the ability to control one’s behavior, which in turn can lead to behavior problems such as ADHD and other disorders of inattention and hyperactivity.

“When children use language in the form of private or self-directed speech as a tool that helps them control their behavior and guide their actions, especially in difficult situations,” said Isaac Petersen, a graduate student in the clinical science program. “Children who lack strong language skills, by contrast, are less able to regulate their behavior and ultimately more likely to develop behavior problems.”

Early childhood development has increasingly become a focus for public policy — in debates over universal preschool, recognition of a “word gap” between rich and poor children, and new pediatric recommendations on reading to infants.

“Children’s brains are most malleable earlier on, especially for language,” said professor of clinical science John Bates, co-author of the study. “Children are most likely to acquire skills in language and self-regulation early on. Many of the states are starting to focus on preschool, enabling toward universal preschool. But early development specialists are not necessarily available. I would have programs more readily available to families — and focused on children most at risk as early as possible.”

The paper, “The Role of Language Ability and Self-Regulation in the Development of Inattentive-Hyperactive Behavior Problems,” appears online in the journal Development and Psychopathology. It is also co-authored by Angela Staples, a visiting assistant professor in PBS.

Many previous studies have shown a correlation between behavior problems and language skill. Children with behavior problems, particularly those with attentional deficits and hyperactivity, such as in ADHD, often have poor language skills. Whether one of these phenomena explains the other and directly causes it was until recently an open question.

“Children who lack strong language skills, by contrast, are less able to regulate their behavior and ultimately more likely to develop behavior problems.”

In a longitudinal study published last year, Petersen, Bates and several others concluded that the arrow points decisively from poor language ability to later behavioral problems, rather than the reverse. The current study shows that it does this by way of self-regulation, a varied concept that includes physical, emotional, cognitive and behavioral control. Self-regulation is integral to children’s capacity to adapt to social situations and to direct their actions toward future goals. The absence of self-regulation abilities is a key predictor and component of future behavior problems.

A number of studies have sought to explain the role of language in the development of self-regulation in terms of the cognitive and neurological mechanisms by which they are linked. This study...
traces the way they unfold over time and the role of self-regulation in this process.

To do this, Petersen, Bates, and Staples followed a group of 120 toddlers for a year, beginning when they were age 2 ½ and following up when they were 36 months and 42 months old. At each of these points they tested the children’s language skills and behavioral self-regulation, using tests for verbal comprehension and spoken vocabulary, as well as three tasks measuring self-regulating abilities. They also used parent and secondary caregiver assessments of behavioral problems. Their findings suggested that language skill predicted growth in self-regulation, and self-regulation, in turn, predicted behavioral adjustment.

The study lends renewed force to the argument that early childhood may offer a pathway for reducing social inequality. For what makes the “developmental cascade” from language to behavior particularly troubling, the researchers point out, is that children most at risk for a deficit in language ability, those from lower-income households, are often the least likely to get the services needed to remedy the problem.

Studies, for example, have shown a “word gap” between children of low income and those in affluent families, who hear 20 million more words by age 3 than their low-income counterparts. This gap results in less developed verbal and reading skills. If, as this study suggests, poor language skills lead to problems with self-regulation and behavior, this can in turn contribute to the less easily reversible and more costly social or academic problems in adolescence and later, adulthood.

Petersen said the study indicates that we could look more closely at language skill earlier on. But, he advises, “Don’t expect all children to be at the same level early on. If their language is slow to develop and self-regulation is lacking, they are likely to catch up with proper supports.”

“Among those who are slow, some could develop problems. If, by the age of 3½, a child is still lagging, it may be worth pursuing treatment for language and self-regulation skills — the earlier the better,” Petersen said.
We want to hear from you!

If you would like to suggest a story or feature for this newsletter, please let us know by sending a message to pbschair@indiana.edu

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