



**ADAPT's  
Evidence-Based Practice  
(EBP) Spotlight Series**

# **The PAX Good Behavior Game**

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## **RESOURCE SUPPLEMENT**

October 26, 2021

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# ADAPT: A Division for Advancing Prevention & Treatment

## Mission

The mission of ADAPT is to advance knowledge, skills, and quality outcomes in the field of substance use prevention while supporting successful integration of evidence-based strategies into communities.

## Goals

1. Advance substance use prevention strategies through essential training and technical assistance services and resources.
2. Promote public health and public safety partnerships in substance use prevention.
3. Prepare the future public health and public safety workforces through student engagement in ADAPT operations and projects.

## HIDTA Prevention

ADAPT supports the National High Intensity Drug Trafficking Area (HIDTA) Program by operationalizing the National HIDTA Prevention Strategy. ADAPT assists HIDTAs with implementing and evaluating substance use prevention strategies within their unique communities. ADAPT also keeps HIDTA communities up to date with advances in prevention science. A variety of trainings, technical webinars, and other resources to cultivate, nurture, and support hospitable systems for implementation are offered throughout the year.

## Technical Assistance

Technical assistance is available to all HIDTA communities in the following domains:

- |  |                         |
|--|-------------------------|
| 1. Identification of the Best Available Evidence in Substance Use Prevention | 6. Sustainability       |
| 2. Training  | 7. Early Response       |
| 3. Implementation  | 8. Prevention Messaging |
| 4. Evaluation  | 9. Systems Development  |
| 5. Finance/Budgeting   | • Infrastructure        |
|  | • Assessment            |

## Learn More

Visit us at <https://www.hidta.org/adapt/> to learn about our technical assistance services, event and training announcements, resources, and more!

## Contact Us

For more information, email us at [adapt@wb.hidta.org](mailto:adapt@wb.hidta.org) or reach out to Lora Peppard at [lpeppard@wb.hidta.org](mailto:lpeppard@wb.hidta.org).

## Connect with Us

For frequent updates from ADAPT, be sure to *follow* and *like* us on the platforms below. These platforms provide an opportunity to share resources and connect with each other.



Like our Facebook page today @

<https://www.facebook.com/ADAPT-100681361632663/>



Follow our LinkedIn Company page for the latest insights and updates @

<https://www.linkedin.com/company/adapt-a-division-for-advancing-prevention-treatment>



Follow us on Twitter @

[https://twitter.com/ADAPT\\_CDPP](https://twitter.com/ADAPT_CDPP)



Subscribe to our YouTube channel for informative video content @

[https://www.youtube.com/channel/UCbxhs3Kx69\\_OfAMw628PO7w/](https://www.youtube.com/channel/UCbxhs3Kx69_OfAMw628PO7w/)

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**ADAPT**

A Division for Advancing  
Prevention & Treatment

CULTIVATING PREVENTION



# WELCOME TO OUR NEW WEBSITE

Visit us to learn about our technical assistance services, event and training announcements, resources, and more!



[www.hidta.org/adapt](http://www.hidta.org/adapt)





# ADAPT

A Division for Advancing  
Prevention & Treatment

CULTIVATING PREVENTION

# PREVENTION INTERVENTION RESOURCE CENTER

Access e-learning courses, evidence-based program registries, & other resources to support you in advancing evidence-based prevention programming in your community.



<https://www.hidta.org/adapt/prevention-intervention-resource-center/>

# PREVENTION INTERVENTION RESOURCE CENTER

## Registries of Evidence-Based Programs



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### **Blueprints for Healthy Youth Development**

Registry of promising, model, and model plus prevention interventions.



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### **Washington State Institute for Public Policy (WSIPP)**

Benefit-cost results for public health and prevention programs.



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### **CASEL's Guide to Social & Emotional Learning Programs**

Guide to preschool to high school social and emotional learning programs.



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### **Athena Forum's Best Practices Toolkit**

Toolkit to support best practice prevention programming.



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### **PEW Results First Clearinghouse Database**

Resource that brings together information on the effectiveness of programs from nine national clearinghouses.



**ADAPT**

A Division for Advancing  
Prevention & Treatment

CULTIVATING PREVENTION

## WEBINAR SERIES

# FUNDAMENTALS OF SUBSTANCE USE PREVENTION

Access the series & resource guides online today!



<https://www.hidta.org/adapt-projects/fundamentals-of-substance-use-prevention-webinar-series/>

### Visit us to learn more about:

Program Planning & Evaluation

The Value of Prevention

Risk & Protective Factors

Understanding Evidence

Persuasive Prevention Messaging

What Works (& Doesn't)



**PAXIS** Institute<sup>™</sup>

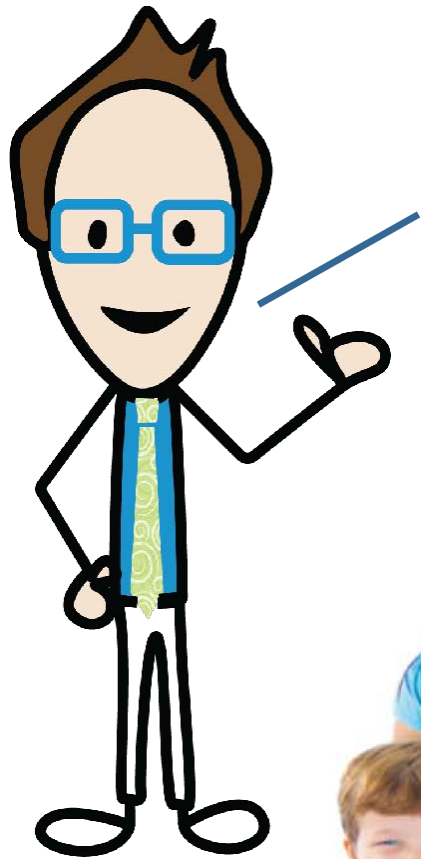
*an international prevention science leader*



# Welcome to PAX

## Spotlight on PAX GBG for Population-Level Protection & Prevention

Presenters: Dennis D. Embry, Ph.D. • Carmen Irving, M.A., CFLE • Jason Fruth, Ph.D.  
PAXIS Institute • [www.paxis.org](http://www.paxis.org) • PO Box 31205, Tucson, AZ 857571 • 520-299-6770 • [info@paxis.org](mailto:info@paxis.org)



Why does America need **simple, powerful** strategies to prevent or reverse children's mental, emotional, or behavioral disorders?



Without well, healthy, and industrious children, our country will not be strong for our challenges.





# Practical consideration for adopting prevention and intervention strategies...

## Scientific considerations

- ❖ Published medical grade scientific studies by multiple investigators.
- ❖ The evidence is easy to find at [www.pubmed.gov](http://www.pubmed.gov) (The National Library of Medicine)
- ❖ Has replications in the “real world” with different populations—race, language, cultures, etc.

## Practical Considerations

- ❖ Not too finicky, and easy to learn and use during normal routines.
- ❖ Can work broadly across people, cultures, languages, and settings.
- ❖ Has easy to understand measures of progress and wellbeing.
- ❖ Affordable, and very cost effective.

**BONUS:** Has been tested compared to other strategies, in other cultures, languages, etc.



# Feasibility

- ❖ PAX has proven successful with similar outcomes with Urban, Rural, Suburban, and Indigenous populations
- ❖ Over 60,000 teachers trained affecting millions of children
- ❖ PAX is funded by federal, state, local, and private sources



# PAX = Peace • Productivity • Health • Happiness



## Peace

Reduce stress and anxiety while improving climate

## Productivity



Increase intentional time, focus, and performance on tasks



## Health

Reduce substance misuse, mental illness, and legal involvement

## Happiness



Promote relationships with peers, adults, and other individuals within the community



*Evidence-based Kernels make up both*



**pax** | Good  
Behavior  
Game

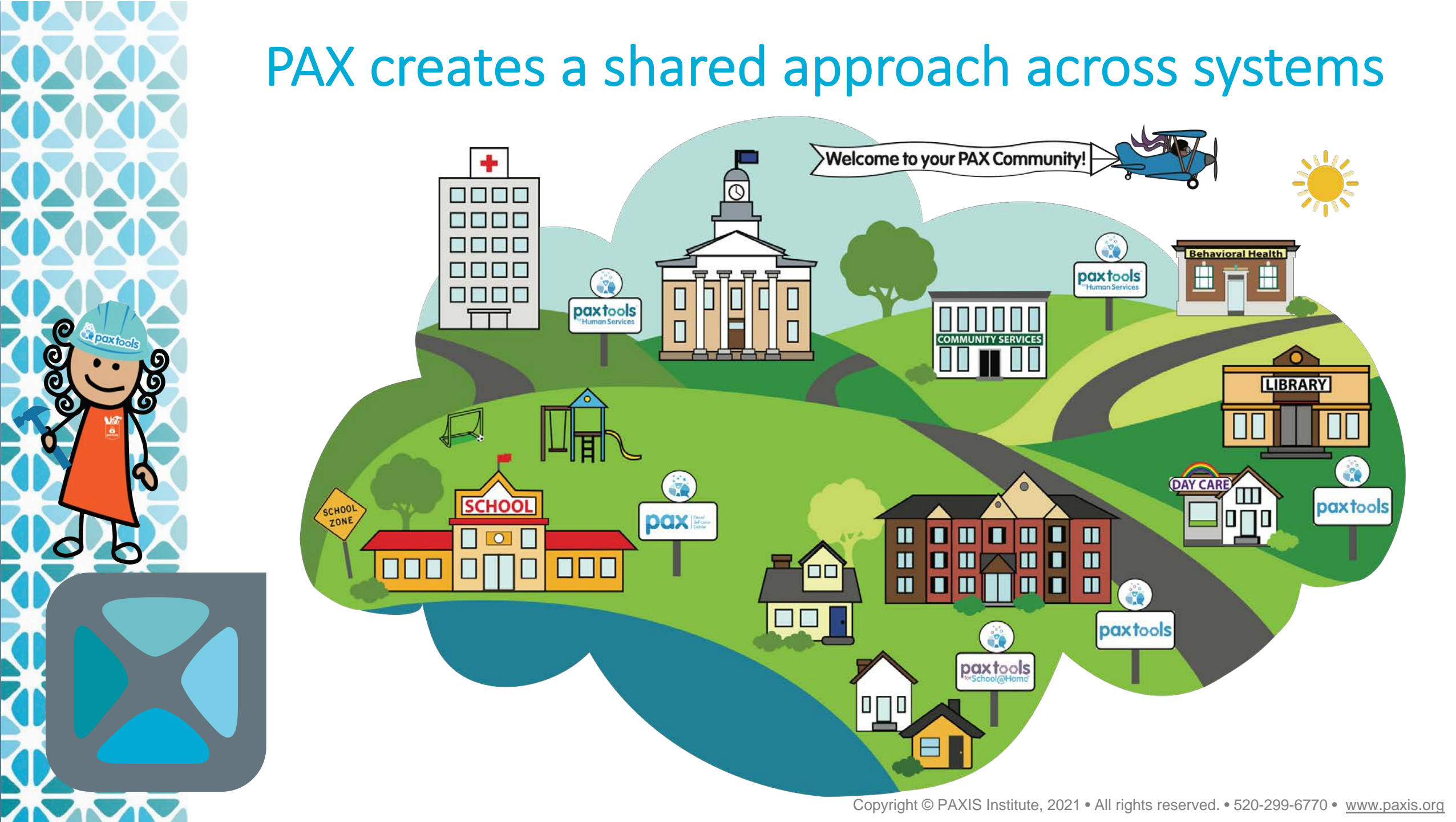
&

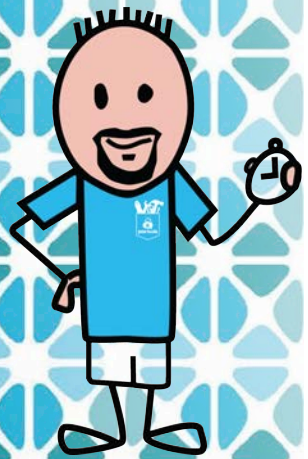


**pax tools**



# PAX creates a shared approach across systems





# PAX<sub>i</sub>s PROVEN Prevention

PAX = Peace • Productivity • Health • Happiness



# What is **pax** | Good Behavior Game ?

PAX GBG utilizes Evidence-based Kernels to teach **self-regulation** and **positive behavior** as a skill set.

Teachers implement the *evidence-based* **PAX Good Behavior Game** through typical classroom procedures.

PAX GBG creates **Nurturing Environments** which

- ❖ Increase academic performance.
- ❖ Improve behavioral outcomes.
- ❖ Improve lifetime outcomes.



# What is the PAX Good Behavior Game?

Classrooms using **The PAX Good Behavior Game**

- ❖ **increase** regulation and pro-social behavior and
- ❖ **decrease** problematic behavior and psychiatric symptoms.

These effects produce:

- ❖ Approximately one additional hour of **learning time** each day.
- ❖ Approximately a 75% reduction in **problematic behaviors**.
- ❖ A significant increase in **standardized test scores**.
- ❖ A significant reduction in **teacher stress and burnout**.



# Acceptability

- ❖ Teachers receive immediate benefits from PAX
  - ❖ Fewer behavioral problems, more focused children, less workplace stress
- ❖ Origins in science and cultural wisdom keeps strategies fair, logical, and comforting
- ❖ Outcomes sought by communities and
- ❖ Culturally-competent strategies and language



# PAX Good Behavior Game integrates with and operationalizes common initiatives including:

**PBIS**

Positive Behavioral  
Interventions and  
Supports

**SEL**

Social-Emotional  
Learning

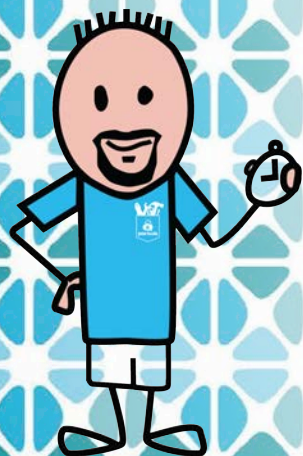
**TIC**

Trauma-Informed  
Care

**MTSS**

Multi-Tiered  
Systems of Support

PAX is **not something extra** teachers have to do.  
It is a way to do **what they already do**.



# How does PAX GBG work?

Unit 4: Strengthening PAX

Unit 3: Living PAX

Unit 2: Launching PAX

Unit 1: Learning PAX

More Strategies for PAX



- ❖ Teachers attend 6 hours of training from the PAXIS Institute to learn and understand PAX GBG.
- ❖ Teachers implement 10 research-based strategies during typical instruction.
- ❖ Teachers play the evidence-based PAX Good Behavior Game several times each day.
- ❖ Teachers receive guidance and ongoing assistance from internal and/or external supports.

[www.paxis.org](http://www.paxis.org)

## *Additional Resources for PAX Teachers*



# Utility

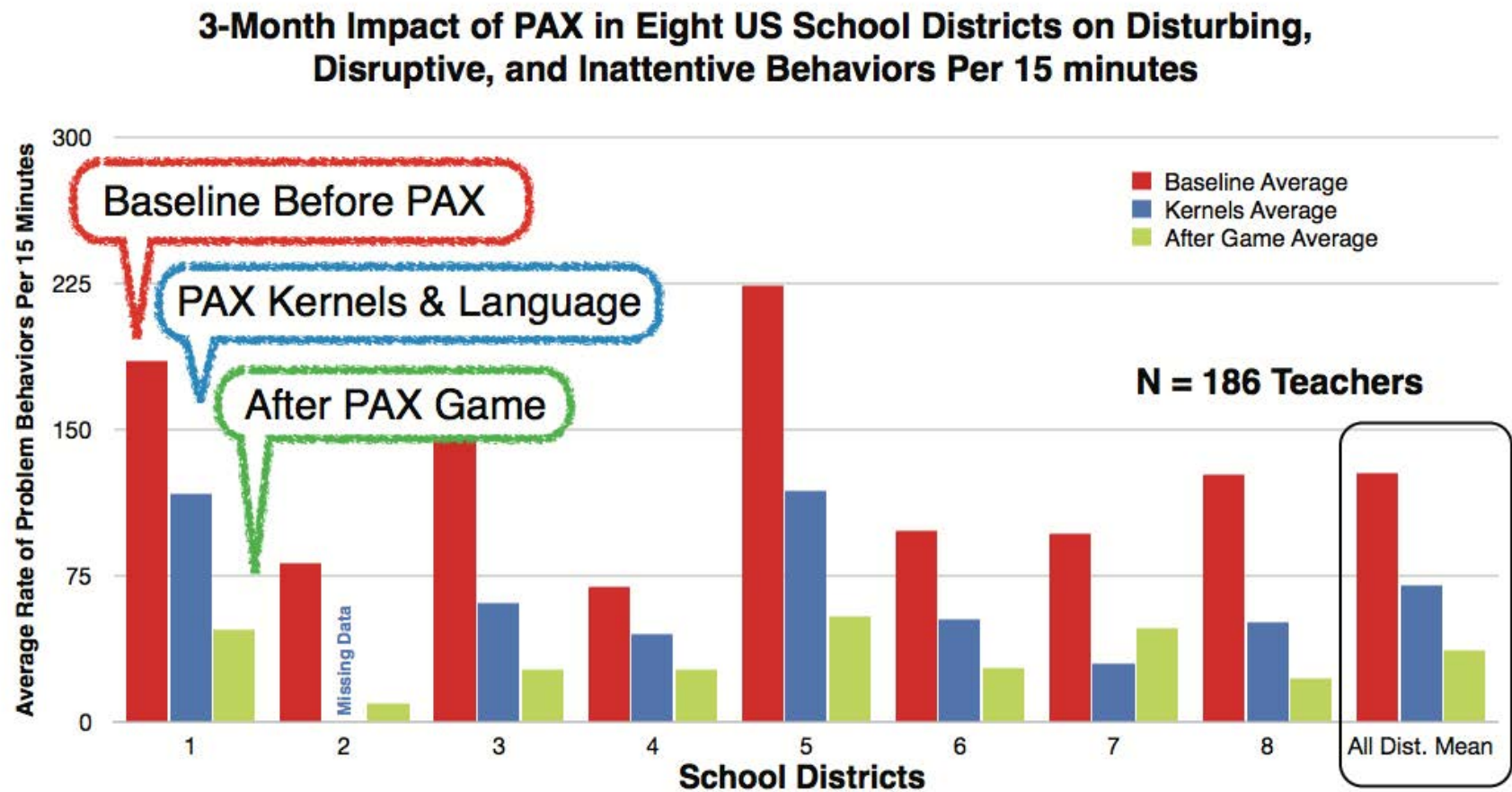
- ❖ PAX develops self-regulation in children
- ❖ This leads to improved immediate, mid-range, and long-term outcomes



What does PAX do?

# PAX Reduces Problematic Behaviors

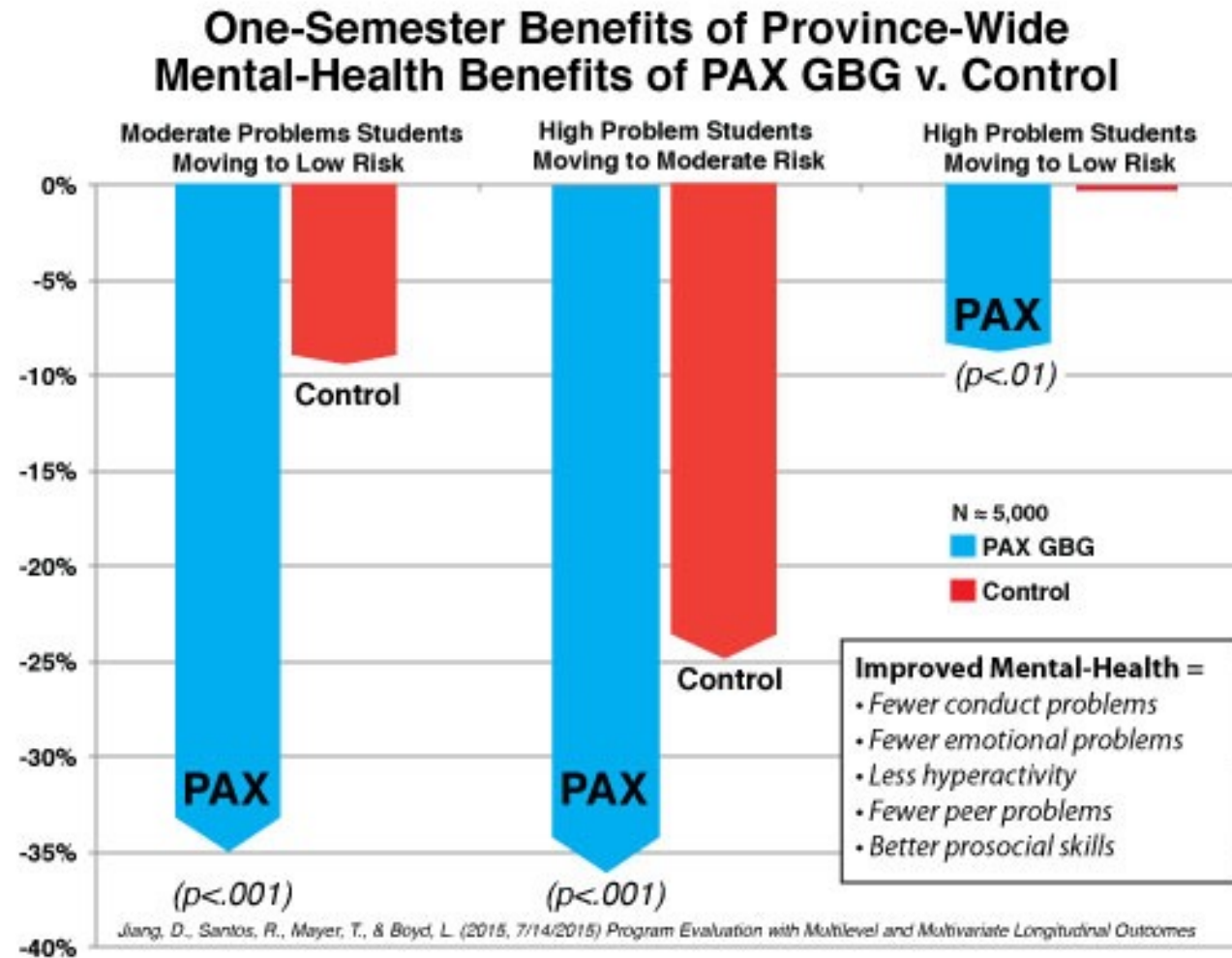
Disturbing, Disruptive, and Inattentive Behaviors decreased after implementing Kernels and decreased further after implementing the PAX Game.



What does PAX do?

# PAX Improves Student Mental Health

PAX GBG reduced the risk of mental, behavioral, and emotional disorders.

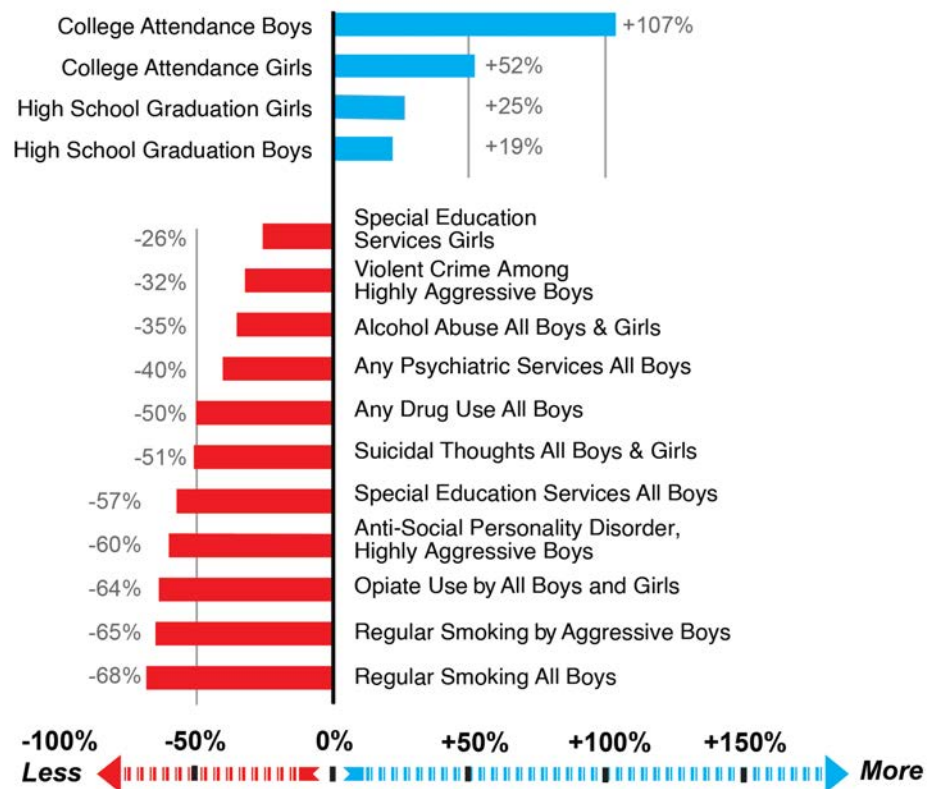


What does PAX do?

# PAX Improves Lifetime Outcomes

## Long Term Benefits of the PAX Good Behavior Game®

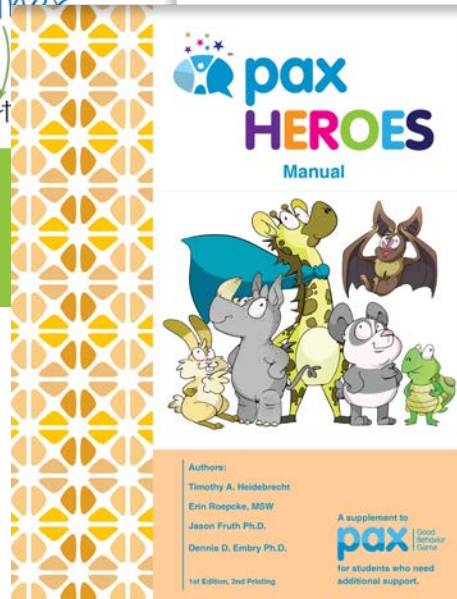
Relative differences between children receiving the Good Behavior Game vs. control in a randomized control trial (GBG/control) -1



These outcomes are derived from two randomized comparative effectiveness trials carried out by Johns Hopkins University. The participants involved were tracked throughout school and adulthood to determine relative differences of a number of long-term outcomes. Relative differences demonstrate outcomes of students who received the good behavior game compared to the outcomes of students who received the business-as-usual control. PAXIS Institute is the official purveyor of the original recipe of the good behavior game for Johns Hopkins University as written by Dr. Jaylan Turkkan. The PAX Good Behavior Game is the commercially available version and is a copyright of the PAXIS Institute.



# PAX GBG Trainings







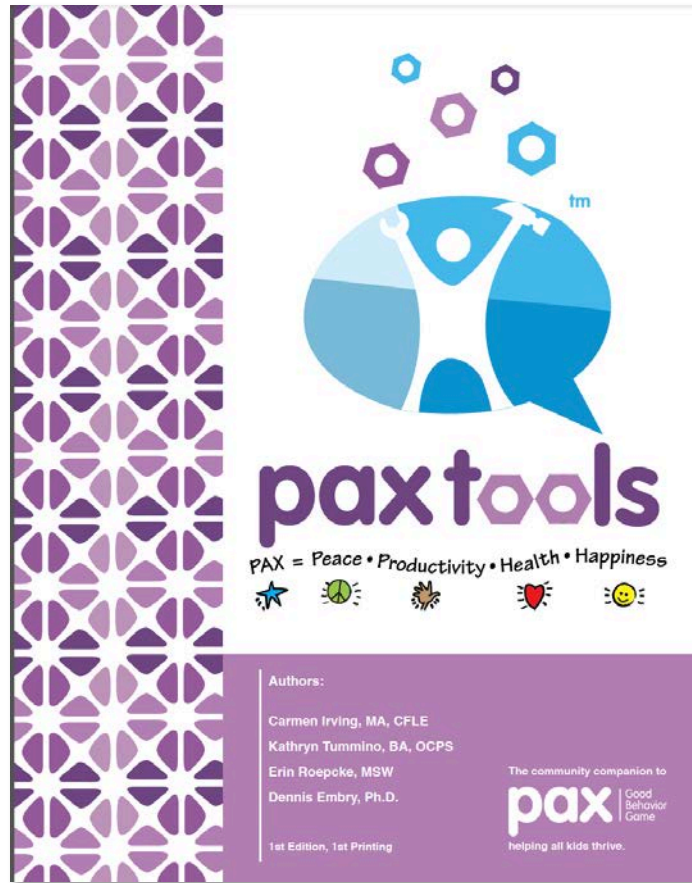
# pax tools



PAX Tools is a collection of **evidence-based, trauma-informed** strategies that support **parents, caregivers, and other caring adults** who interact with children in settings outside of a classroom.



# PAX Tools Community Educator Training



- ❖ Professionals attend a 9-hour training from the PAXIS Institute to become certified to present PAX Tools Community Workshops.
- ❖ Caring adults attend a 2.5-hour PAX Tools Community Workshop in their community.
- ❖ Adults then implement nine evidence-based strategies during everyday interactions with young people.

# Who should become a Certified PAX Tools Community Educator?

- ❖ Parent Educators
- ❖ Health Educators
- ❖ Prevention Educators
- ❖ Extension Educators
- ❖ Volunteer Coordinators
- ❖ Foster Care and Respite Providers
- ❖ Faith-Based Youth Workers/Volunteers

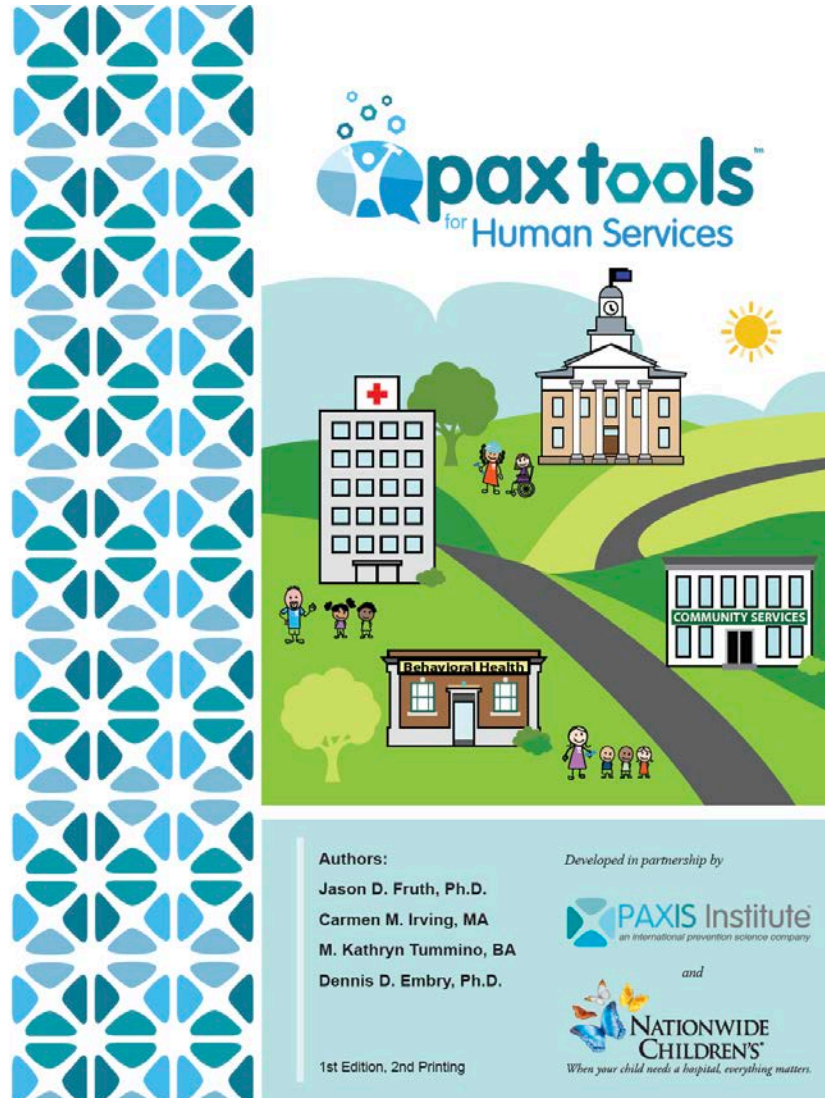


# Who can use PAX Tools Strategies?

- ❖ Parents / Caregivers
- ❖ Foster Parents
- ❖ Before/After-School Staff
- ❖ Childcare Providers
- ❖ Coaches
- ❖ Faith Based Staff / Volunteers
- ❖ Youth Workers



# PAX Tools for Human Services Training



- ❖ Professionals attend a 9-hour training from the PAXIS Institute to become certified to implement PAX Tools Strategies in their professional practice.
- ❖ Apply PAX Tools strategies to common situations when working with children and adolescents.
- ❖ Identify specific strategies to address caregiver needs and provide them with resources and guidance in implementing one or more PAX Tools.

# Who can implement PAX Tools for Human Services?

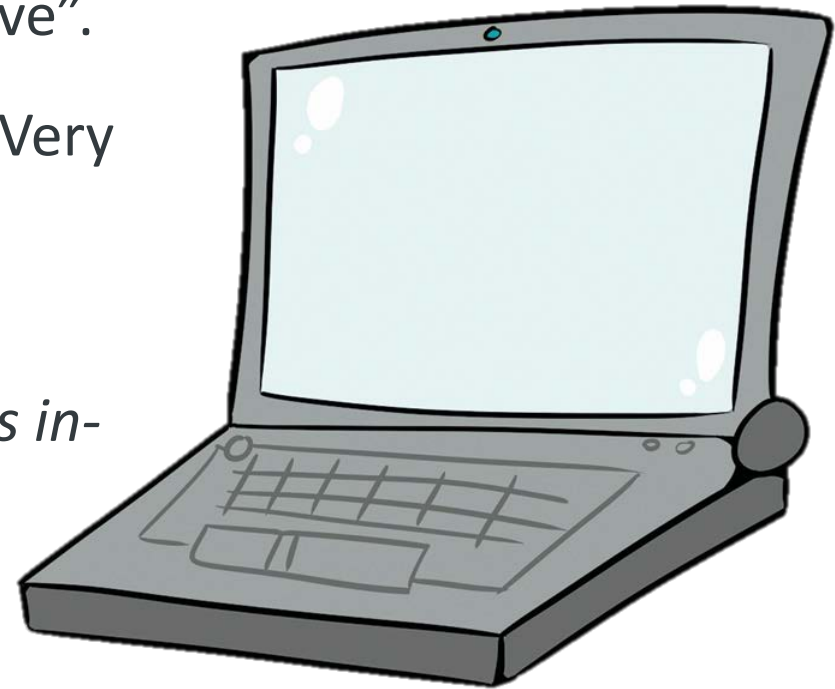
Behavioral Health Professionals  
Before/After-School Staff  
Case Management  
Childcare Providers  
Child Welfare  
Faith Based Staff / Volunteers  
Juvenile Justice workers  
Out-of-schooltime Staff  
Social Workers  
Youth Workers



# Virtual PAX trainings are remarkably effective!

- ❖ **97.9%** of users found their virtual training “Effective” or “Very Effective”.
- ❖ **91.6%** of users were “Clear” or “Very Clear” on how to implement PAX immediately after training.\*

*\*An increase from 84.5% from 2019’s in-person trainings.*



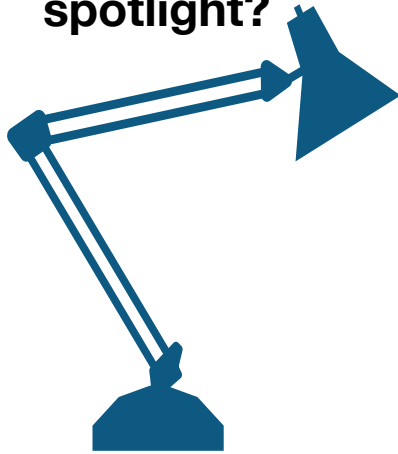
“A young teacher like me—54 years — to create and test GBG the first time. We cannot wait another 50 years to protect every child with GBG”



America could wait for the perfect magic bullet to reduce addictions and related problems for current and future generations.

Or, we could start now, with something proven that can make a huge difference.

## Why the ADAPT spotlight?



**pax** | Good Behavior Game

**NREPP**

National Registry of Evidence-based Programs and Practices

### Predicted Benefits of PAX GBG in Your School, District, Tribe or Community When First Grade Students Reach Adulthood After 2 Years of PAX GBG Exposure\*

**Site Estimate for:** *Census Estimate USA First Graders in 2021*

Enter number of First Graders at school, district, Tribe or community>>>>>

3,680,000

<<< Enter number of First Graders

316,554	Fewer young people will need any form of special education services
204,829	More boys will likely graduate from high school.
245,795	More boys will likely enter university
326,618	More girls will likely graduate from high school (less teen pregnancy)
255,226	More girls will likely enter university
35,752	Fewer young people will commit and be convicted of serious violent crimes
353,795	Fewer young people will likely develop serious drug addictions
242,070	Fewer young people will likely become regular smokers
130,346	Fewer young people will likely develop serious alcohol addictions
178,480	Fewer young people will likely contemplate suicide
242,070	Fewer young people will likely attempt suicide

**\$47,913,600,000**

**Predicted financial net savings to students, families, schools, communities, state/federal governments**

**\$23.67**

**Estimated Cost of PAX GBG Materials Per Child for Lifetime Protection**

**Estimated Direct/Indirect materials costs for target group**

**\$87,093,333**

**\$22.00**

**Estimated Cost of External Training & Technical Supports Per Teacher**

**Prorated per Child's Lifetime**

**Estimated Total Costs of Training Costs for Group**

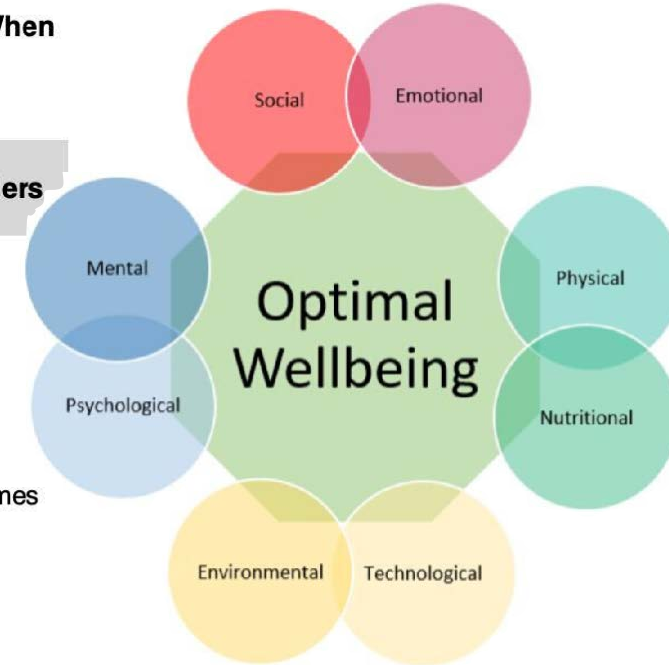
**\$80,960,000**

**\$26.80**

**Estimated Cost of Internal Supports for Implementation and Maintenance by Teachers Prorated per Child's Lifetime**

**Estimated Total Internal Support Costs for Group**

**\$98,624,000**





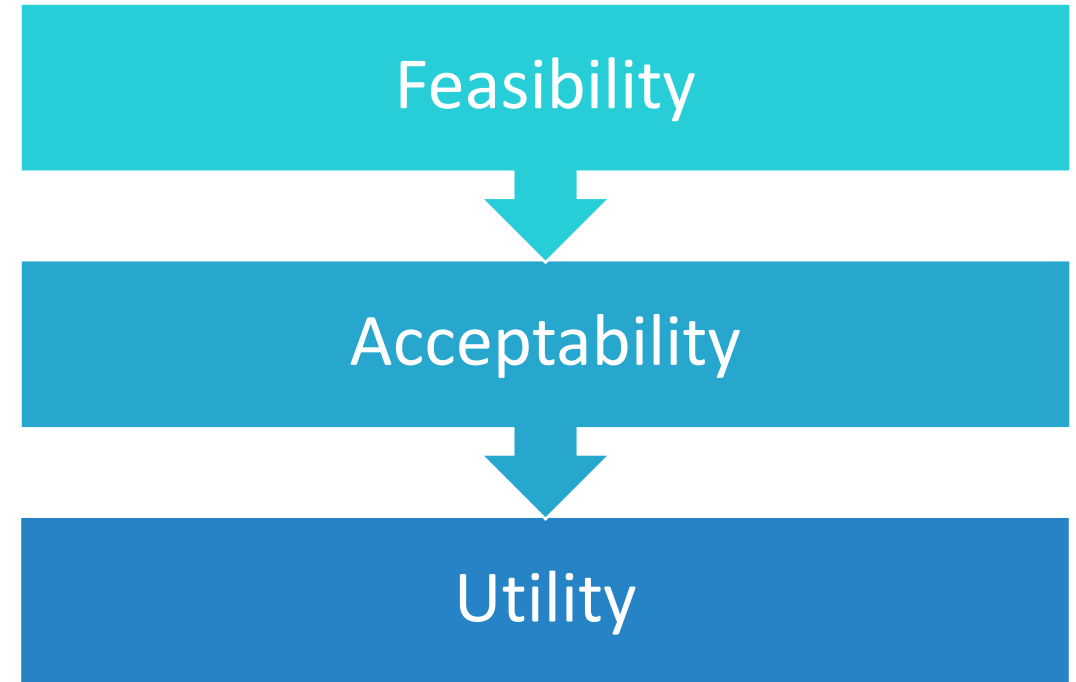
“If not us, then who? If not now, then when?”

– John E. Lewis



# Understanding Evidence

## A Framework for Thinking About Evidence



(Puddy & Wilkins, 2011)

# Continuum of Evidence of Effectiveness

	Well Supported   Supported		Promising Direction / Emerging / Undetermined More Research Needed			Unsupported	Harmful
Effect	Found to be effective		Some evidence of effectiveness	Expected preventive effect	Effect is undetermined	Ineffective	Practice constitutes risk of harm
Internal validity	True experimental design	Quasi experimental design	Non-experimental design	Sound theory only	No research No sound theory	True or quasi experimental design	Any design with results indicating negative effect
Type of evidence/ research design	Randomized control trials and meta-analysis / systematic review	Quasi experimental design	Single group design	Exploratory study	Anecdotal / Needs assessment	Randomized control trials or quasi experimental design	Any design with results indicating negative effect
Independent replication	Program replication with evaluation replication		Program replication without evaluation replication	Partial program replication without evaluation replication		Program replication with evaluation replication	Possible program replication with/ without evaluation replication
Implementation guidance	Comprehensive		Partial	None		Comprehensive	Comprehensive/ partial
External and ecological validity	Applied studies—different settings (2+)	Applied studies—similar settings (2+)	Real-world informed	Somewhat real-world informed	Not real-world informed	Applied studies—same/different settings	Possible applied studies—similar/different settings



# Review of Two Published Articles:

## *PAX Good Behavior Game*

Jiang, D., Santos, R., Josephson, W., Mayer, T., & Boyd, L. (2018). A comparison of variable- and person-oriented approaches in evaluating a universal preventive intervention. *Prevention Science*, 19(6), 738–747. APA PsycInfo. <https://doi.org/10.1007/s11121-018-0881-x>



Smith, E. P., Osgood, D. W., Oh, Y., & Caldwell, L. C. (2018). Promoting Afterschool Quality and Positive Youth Development: Cluster Randomized Trial of the Pax Good Behavior Game. *Prevention Science*, 19(2), 159–173. <https://doi.org/10.1007/s11121-017-0820-2>



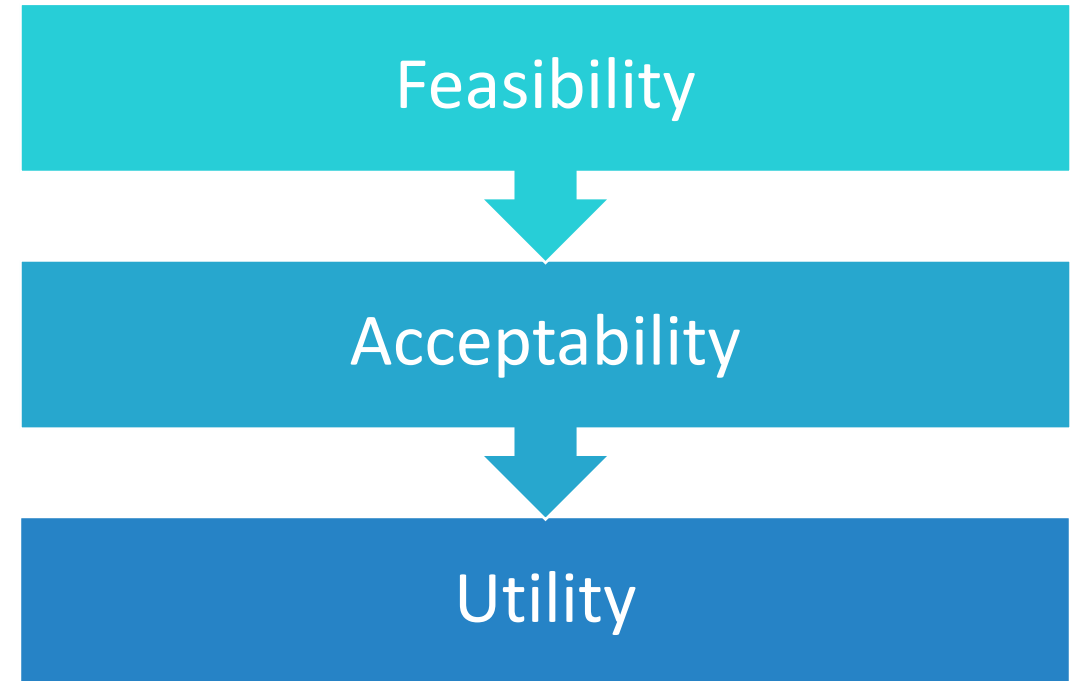
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# Understanding Evidence

## A Framework for Thinking About Evidence



(Puddy & Wilkins, 2011)

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- ❖ PAX is funded by federal, state, local, and private sources



# Acceptability

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- ❖ Outcomes sought by communities and
- ❖ Culturally-competent strategies and language



# Utility

- ❖ PAX develops self-regulation in children
- ❖ This leads to improved immediate, mid-range, and long-term outcomes



# Learn more about PAX!



❖ Visit [www.paxis.org](http://www.paxis.org)

❖ Follow us on Facebook:

@paxisinstitute

@PAXGAME

@PAXTools

❖ Find us on YouTube:

PAX Good Behavior Game

PAX Tools

For more information about PAX or our research base,  
email [info@paxis.org](mailto:info@paxis.org)

# **PAX Good Behavior Game**

## **Resources Recommended by the Presenters**

Resources
<ul style="list-style-type: none"><li>- Randomized Trials and Case Replications of the Good Behavior Game®*/ PAX Good Behavior Game®</li></ul>
<ul style="list-style-type: none"><li>- PAXIS Institute Upcoming Training Flyer</li></ul>



## **Randomized Trials and Case Replications of the Good Behavior Game®\* / PAX Good Behavior Game®**

Visit [www.goodbehaviorgame.org](http://www.goodbehaviorgame.org) or [www.paxis.org](http://www.paxis.org)

The PAX Good Behavior Game is implemented in a single classroom for the lifetime benefits of the teacher and students involved. The PAX Good Behavior Game is implemented in entire schools, districts, states, provinces, and countries at scale to create a public health benefit at the population level. Today, tens of thousands of teachers have implemented the PAX Good Behavior Game across the world, affecting millions of children.

The PAX Good Behavior Game is the single most proven classroom-based preventive intervention and improves an array of outcomes for teachers, students, families, and communities. The PAX Good Behavior Game® and Good Behavior Game® are registered trademarks of PAXIS Institute. The PAX Good Behavior Game derives from the original Good Behavior Game recipe developed by Jaylan Turkkan and implemented in the groundbreaking randomized control trials conducted by Johnson Hopkins University and other institutions. These trials involved over 28,000 participants and demonstrated significant improvements in academic, behavioral, and psychiatric outcomes for young people when they received at least one year of the PAX Good Behavior Game.

PAXIS Institute is the official purveyor of the intervention as it is continuously implemented and improved in comparative effectiveness trials by Johns Hopkins University. Dr. Dennis Embry, developer of the PAX Good Behavior Game, is a graduate of the University of Kansas and the Department of Human Development and Family Life. This university department consisted of pillars of behaviorism including Todd Risley, Don Baer, and Montrose Wolf and gave rise to the Journal of Applied Behavior Analysis. The PAX Good Behavior Game is a direct descendent in function, topography, and even institution of the original intervention developed by Muriel Saunders, Harriet Barrish, and Montrose Wolf at the University of Kansas.

PAXIS Institute encourages and implores for the peer-reviewed publication of all studies involving the PAX Good Behavior Game – regardless of outcome. Continuous study adds to the breadth of understanding that have built and will continue to build and perfect the intervention as it brings Peace, Productivity, Health, and Happiness to people all over the world.

To explore and review the pure science involving PAX and anything else that can be used to improve the lives of humans, visit the National Library of Medicine at [www.pubmed.gov](http://www.pubmed.gov)

Since 1999 when PAXIS began real world replications, approximately 60,000 teachers have been trained to use the Good Behavior Game® by PAXIS Institute in 38 states, multiple provinces of Canada, as well as First Nations in North America, Europe, and Australia. Randomized trials and scale-up/replication studies related to Good Behavior Game (Cohorts 1-2) and PAX Good Behavior Game commercialized for replication at Hopkins and other sites nationally or internationally include:

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\* Good Behavior Game® and PAX Good Behavior Game® are registered trademarks of PAXIS Institute. PAXIS Institute received no federal grants to create the dissemination materials, handbooks, classroom supplies, videos, training protocols, apps, etc. All training materials have registered copyrights.

### Our Randomized Trials at Johns Hopkins

All past and current randomized trials at Johns Hopkins used randomized comparative effectiveness trials.

1. Citations for Cohort 1 Randomized Trial at Johns Hopkins (*principal investigator: Kellam*) [6-21], which involved two years of exposure to GBG (1<sup>st</sup> and 2<sup>nd</sup> grade).
2. Citations for Cohort 2 Randomized Trial at Johns Hopkins (*principal investigator: Ialongo*) [14, 21-26], which had one year of exposure in 1<sup>st</sup> grade.
3. Citations for Cohort 3 Randomized Trial at Johns Hopkins in schools and on-line (*principal investigator: Ialongo*) [21, 27-35]

### Our Other Randomized PAX GBG or Precursor/Replication Trials

4. Citations for Randomized Trial in Pennsylvania in Afterschool Settings (*principal investigator: Phillips-Smith*) [36-39]
5. Citations for Population-Level (All Districts), Randomized Trial in Manitoba, Canada (*Manitoba Centre for Health Policy/Healthy Child Manitoba*) [40, 41]
6. Citations for Randomized Trial in Alberta, Canada (*principal investigators: Prinz and Embry*) [42]
7. Citations for Randomized Trials in the European Union (*Estonia and Northern Ireland*) [43, 44]
8. Citations for PeaceBuilders Randomized Trial K-5 schools (precursor of evidence-based kernels plus GBG) (*principal investigator: Embry*) [5, 45-47]

### Our PAX GBG Case Studies or Population-Level Replications

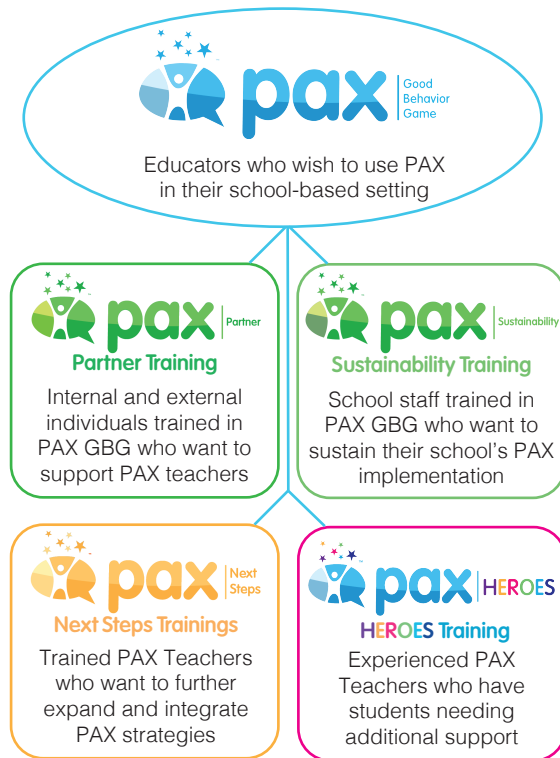
9. Whole County Evaluation of PAX GBG impact on standardized reading and math scores [48]
10. Case PAX GBG replication in the Republic of Ireland [49]
11. Case PAX GBG replication in 200+ K-8 classrooms in South Chicago [50].
12. Case PAX GBG rapid 8-week replication in 186 Title I classrooms across 8 school districts commissioned by the Substance Abuse and Mental Health Services Administration [51].

## Citations and References

- Turkkan, J., *The Good Behavior Game Manual*. 1988, John Hopkins School of Hygiene and Public Health, Department of Mental Hygiene: Baltimore, MD. p. 38.
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## School-based PAX



## Community-based PAX



**PAX** can be implemented in any setting where children and adults interact. When the evidence-based **PAX Good Behavior Game®** is implemented in schools, children benefit from improved behavior, academic achievement, and lifetime outcomes.

**PAX Tools™** extends that nurturing environment beyond the classroom, empowering adults throughout the community to improve young people's behavior and relationships with the use of Evidence-based Kernels. PAX Tools is designed for use at home or in the community by caring adults such as parents, caregivers, and other adults who serve youth in volunteer or professional settings. Wherever a child is learning and practicing behavioral skills, PAX has an appropriate application.

## Register for an upcoming training

 <p><b>pax</b>   Good Behavior Game</p> <p><b>Initial Training</b></p> <p><b>November 15-16</b> <i>click to register</i></p> <p><b>December 13-14</b> <i>click to register</i></p>	 <p><b>pax</b>   Partner</p> <p><b>Partner Training</b></p> <p><b>November 17-18</b> <i>click to register</i></p> <p><b>December 15-16</b> <i>click to register</i></p>	 <p><b>pax tools</b>   for Community Educators</p> <p><b>December 7-8</b> <i>click to register</i></p>	 <p><b>pax tools</b>   for Human Services</p> <p><b>November 1-2</b> <i>click to register</i></p> <p><b>December 13-14</b> <i>click to register</i></p>
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## PAX Good Behavior Game

### Additional Web Resources

Organization	Resources
Centers for Disease Control and Prevention (CDC)	Understanding Evidence Part 1: Best Available Research Evidence. A Guide to the Continuum of Evidence of Effectiveness. - <a href="https://www.cdc.gov/violenceprevention/pdf/understanding_evidence-a.pdf">https://www.cdc.gov/violenceprevention/pdf/understanding_evidence-a.pdf</a>
ADAPT Fundamentals of Substance Use Prevention Webinar Series	Understanding Evidence in Substance Use Prevention - <a href="https://www.youtube.com/watch?v=0Ng46M_YnKQ&amp;list=PLHYq4tqgyBBKov4HsixyR_zZYobFTDV_-&amp;index=8&amp;t=18s">https://www.youtube.com/watch?v=0Ng46M_YnKQ&amp;list=PLHYq4tqgyBBKov4HsixyR_zZYobFTDV_-&amp;index=8&amp;t=18s</a>