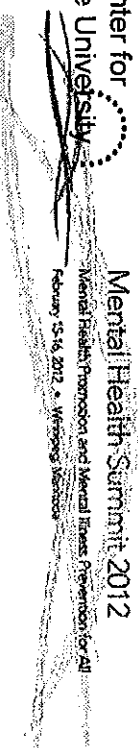
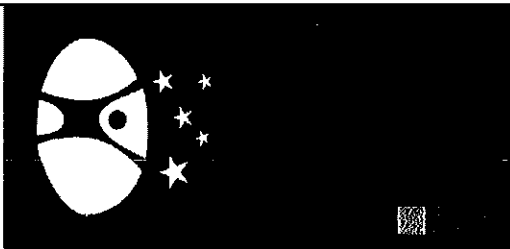


# The PAX Good Behavior Game A Non-Pharmaceutical Behavioral Vaccine for Promoting Wellbeing and Preventing Mental and Related Illnesses

Dr. Dennis D. Embry, president/senior science, PAXIS  
Institute;  
Co-investigator at Johns Hopkins University Center for  
Prevention, the University of Manitoba, and Yale University

Adapted from the:



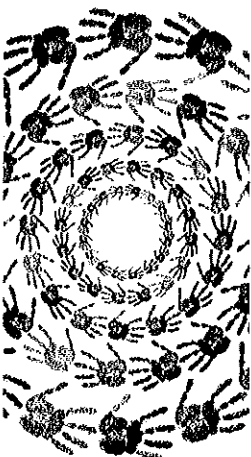
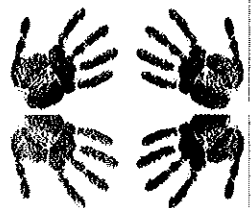


## What is a behavioral vaccine?

A behavioral vaccine is a repeated simple behavior that:

- ⓐ decreases morbidity,
- ⓑ decreases mortality,
- ⓒ or increases wellbeing.

Embry, D. D. (2011). Behavioral Vaccines and Evidence-Based  
Kernel: Non-pharmaceutical Approaches for the Prevention of  
Mental, Emotional, and Behavioral Disorders. *Psychiatric Clinics  
of North America*, 34(March), 1-34. doi:  
10.1016/j.psc.2010.11.003

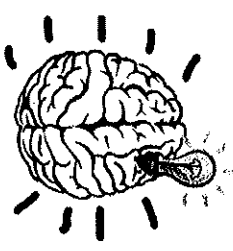



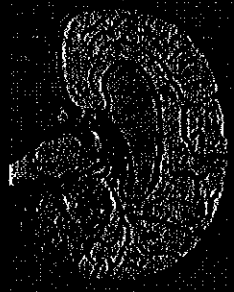

# Behavioral vaccines can be used by:

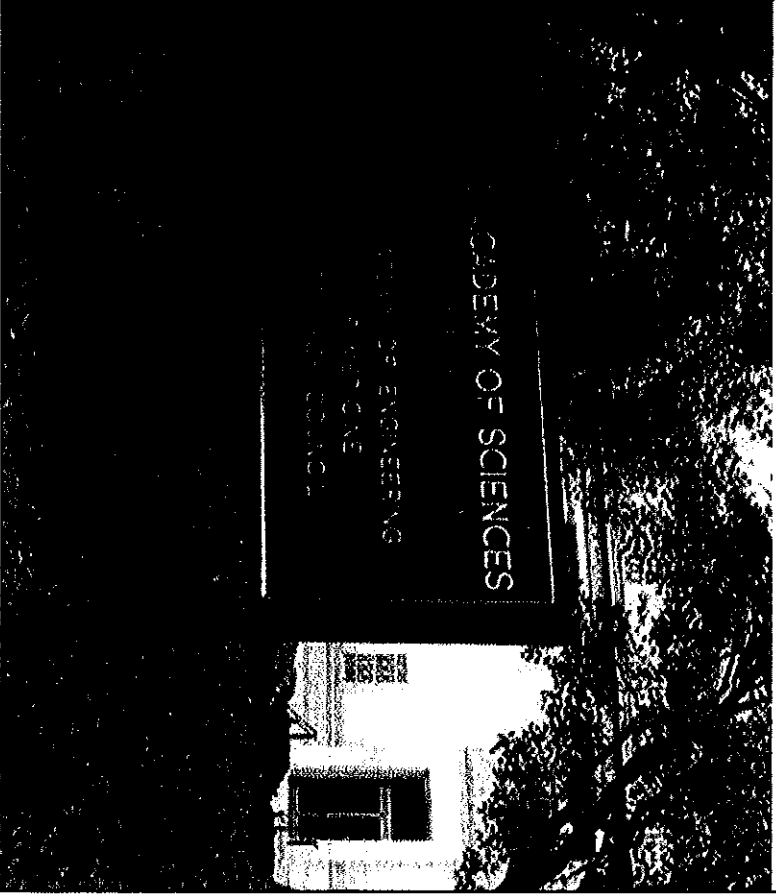
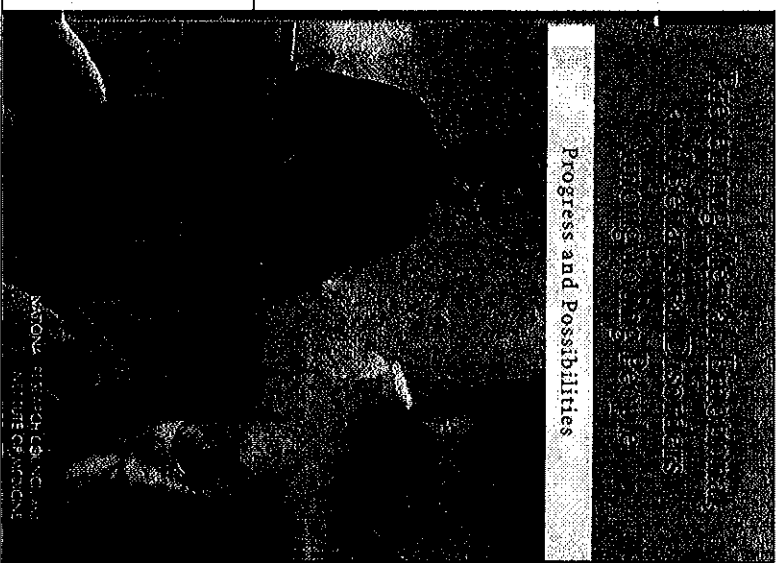
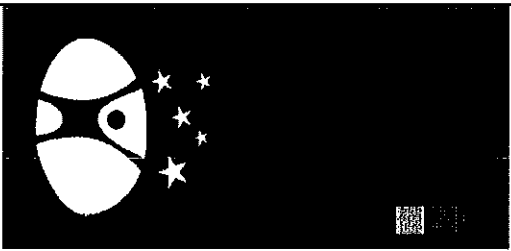
- @ By Individuals
- @ By organizations
- @ By governments



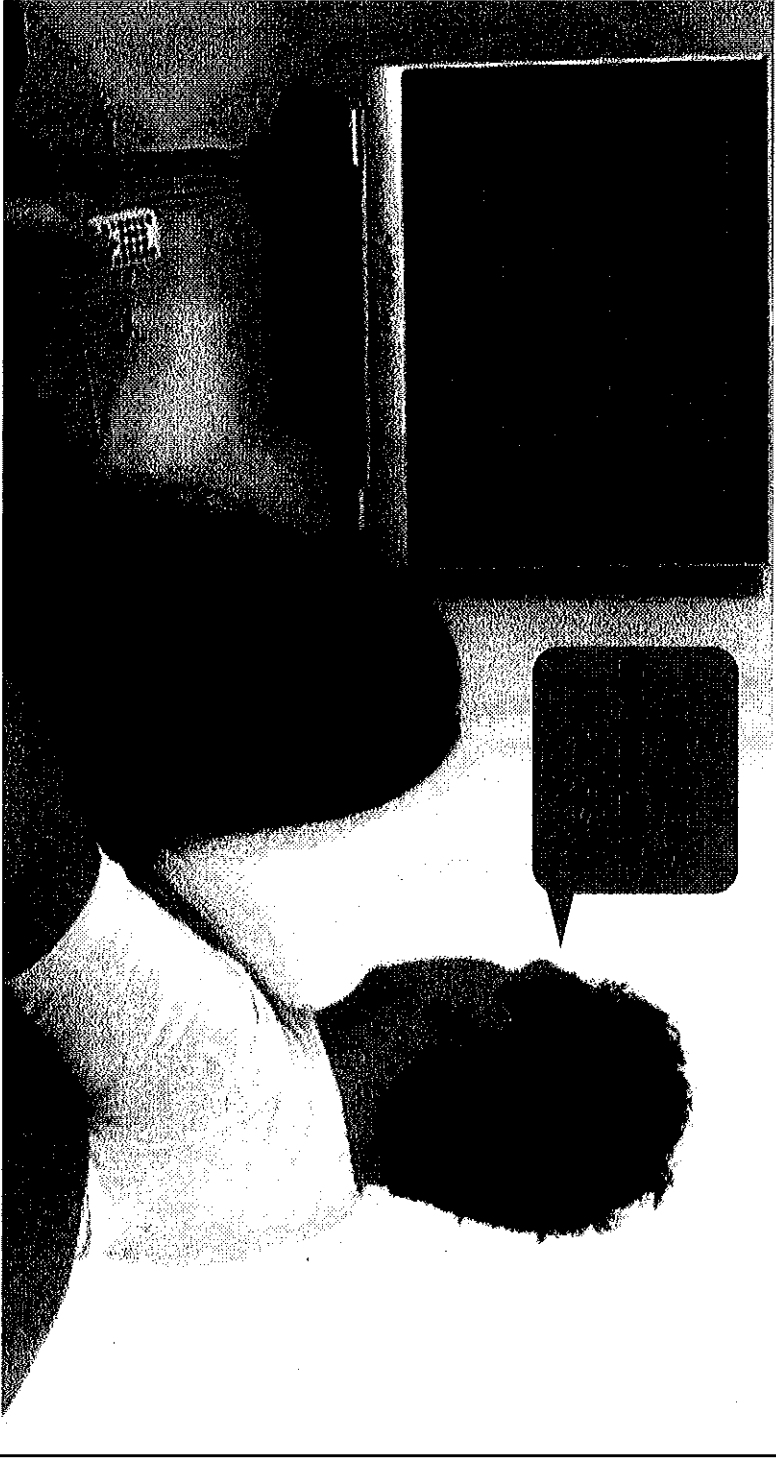
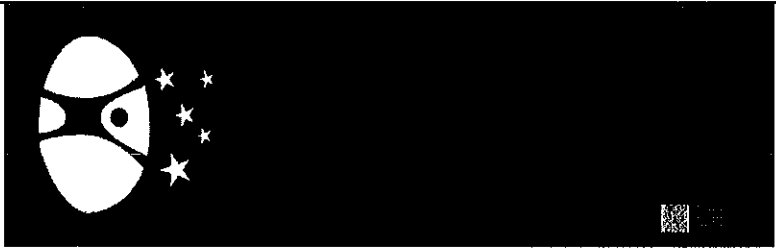
personal, family, group, or public health/safety

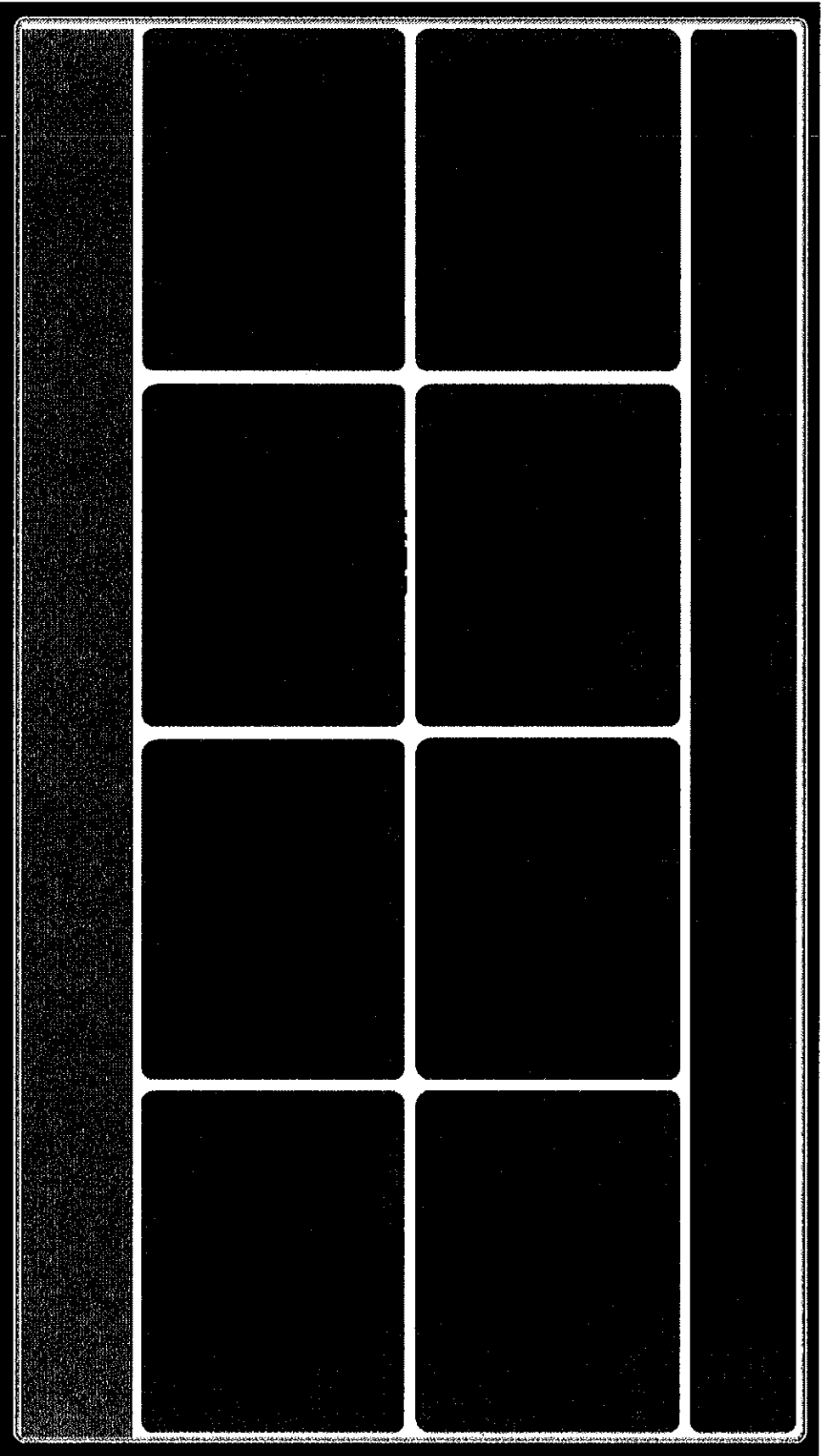


	<p>Prevention in Mental Health: Lifespan Perspective</p> <p>PSYCHOPHARMACOLOGY</p> 
<p><b>Behavioral Vaccines and Evidence-Based Kernels: Nonpharmaceutical Approaches for the Prevention of Mental, Emotional, and Behavioral Disorders</b></p> <p>Dennis D. Embry, PhD</p> 	<p>Available at: <a href="http://www.slideshare.net/drdenniseembry">www.slideshare.net/drdenniseembry</a></p>

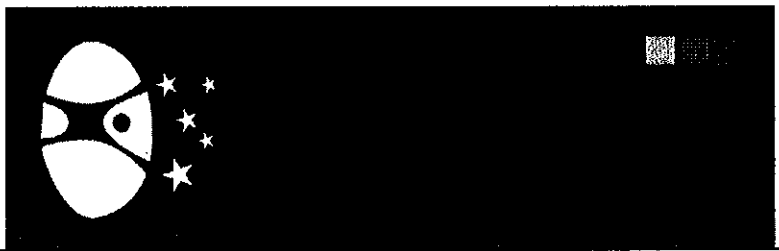
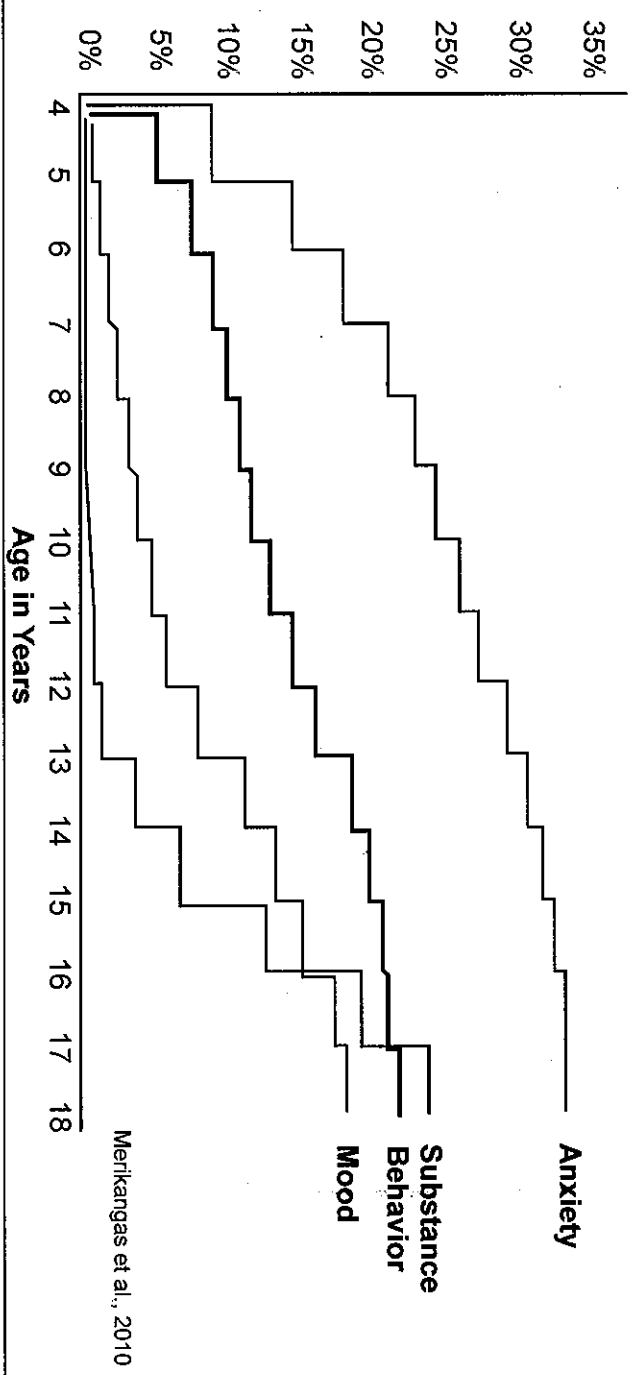


**Mental, Emotional and Behavioral Disorders = MEBS**

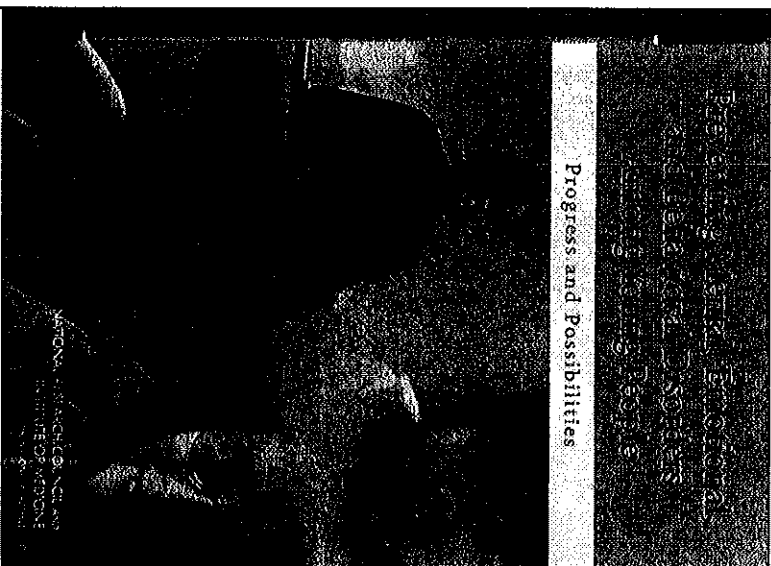




# Lifetime Prevalence of Disorders in US Adolescents (N=10,123)







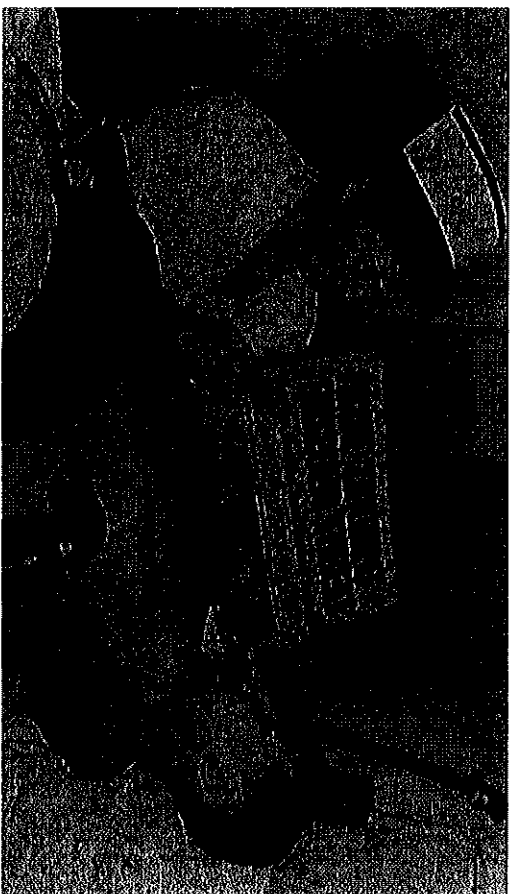
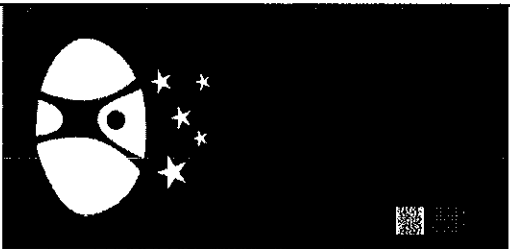
## A key difference exists in the report from past practices...

We must stop "rationing" prevention based on risk and protective factor analyses and logic models.

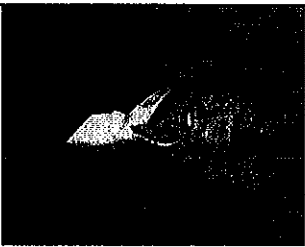
*Why?*

This risk is nearly universal, and it is more efficient and cost effective to use a true public-health universal protection strategy—just like we did for the polio epidemic in North America in the 1950s.





We possess behavioral vaccines that can avert the epidemic of mental, emotional, behavioral, and related physical illnesses—like we stopped the Polio Epidemic...

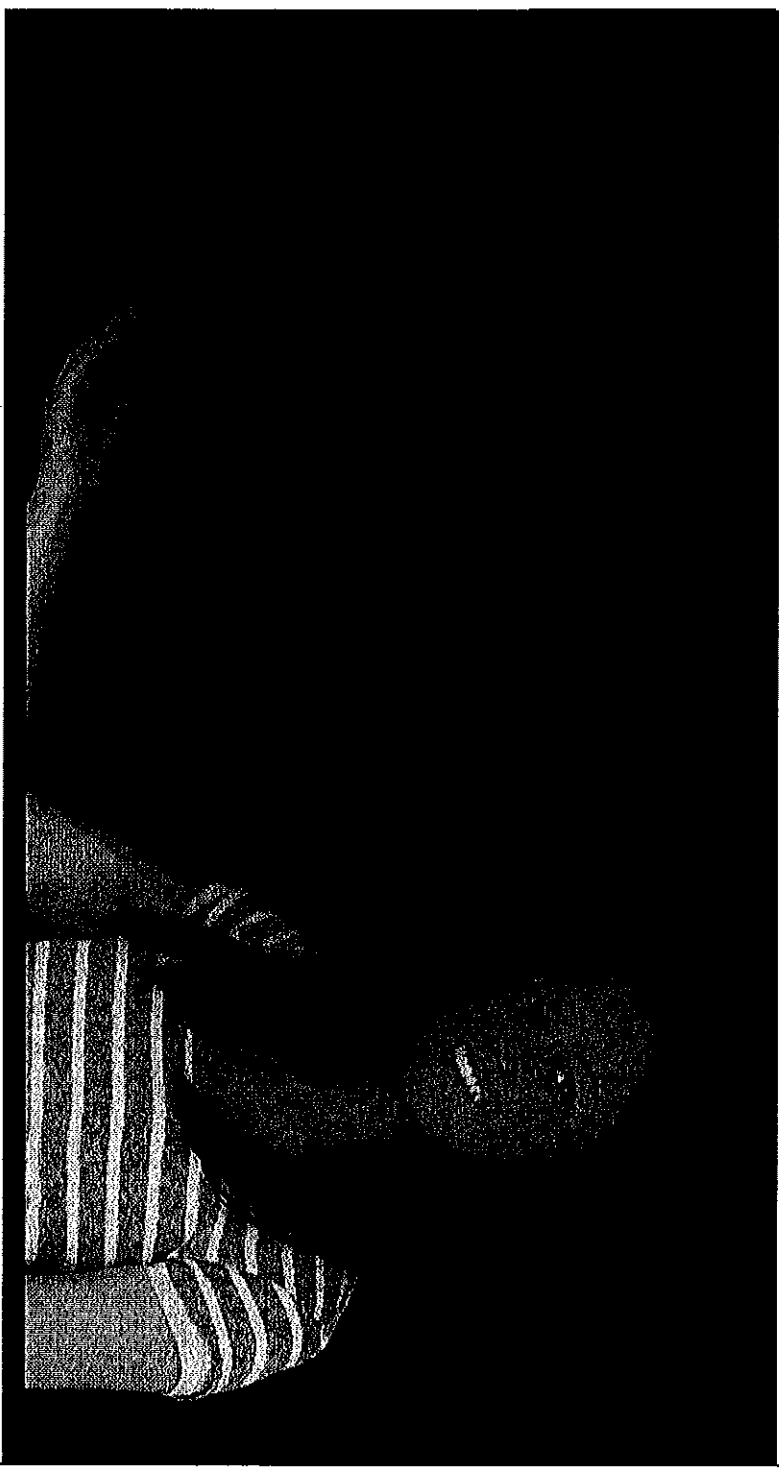


Muriel Saunders



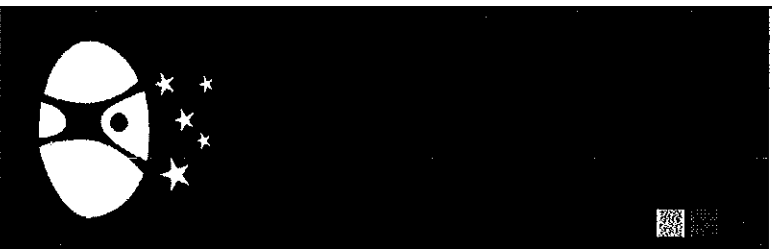
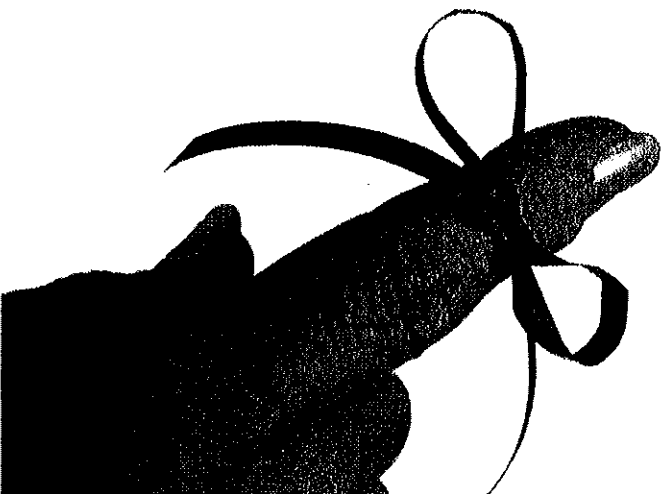
## PAX GBG: An Example Behavioral Vaccine

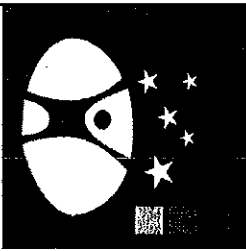
Read about multiple scientific studies on the "Good Behavior Game" at [www.pubmed.gov](http://www.pubmed.gov)



## Something to remember about PAX...

- @ It is used during **NORMAL** instruction, for any subject.
- @ It is **NOT** a prevention curriculum.
- @ It is **NOT** a “classroom management” program per se, but it provides better classroom management than virtually any “classroom management program.”
- @ PAX gets rid of hundreds of daily, weekly and monthly stressors for teachers and students.
- @ PAX is one of the single most proven strategies a teacher can use to promote the highest aspirations that most teachers hold as their deepest values for being a teacher—securing a positive future for their students’ lifetimes.

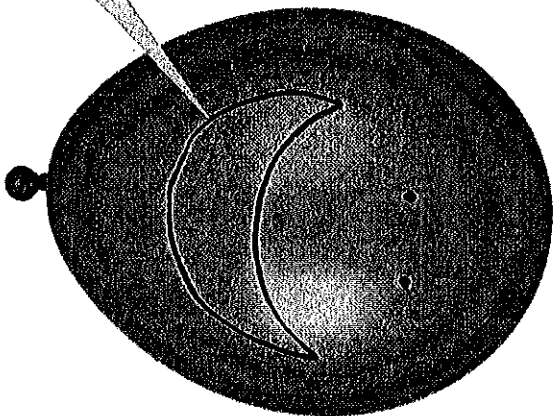




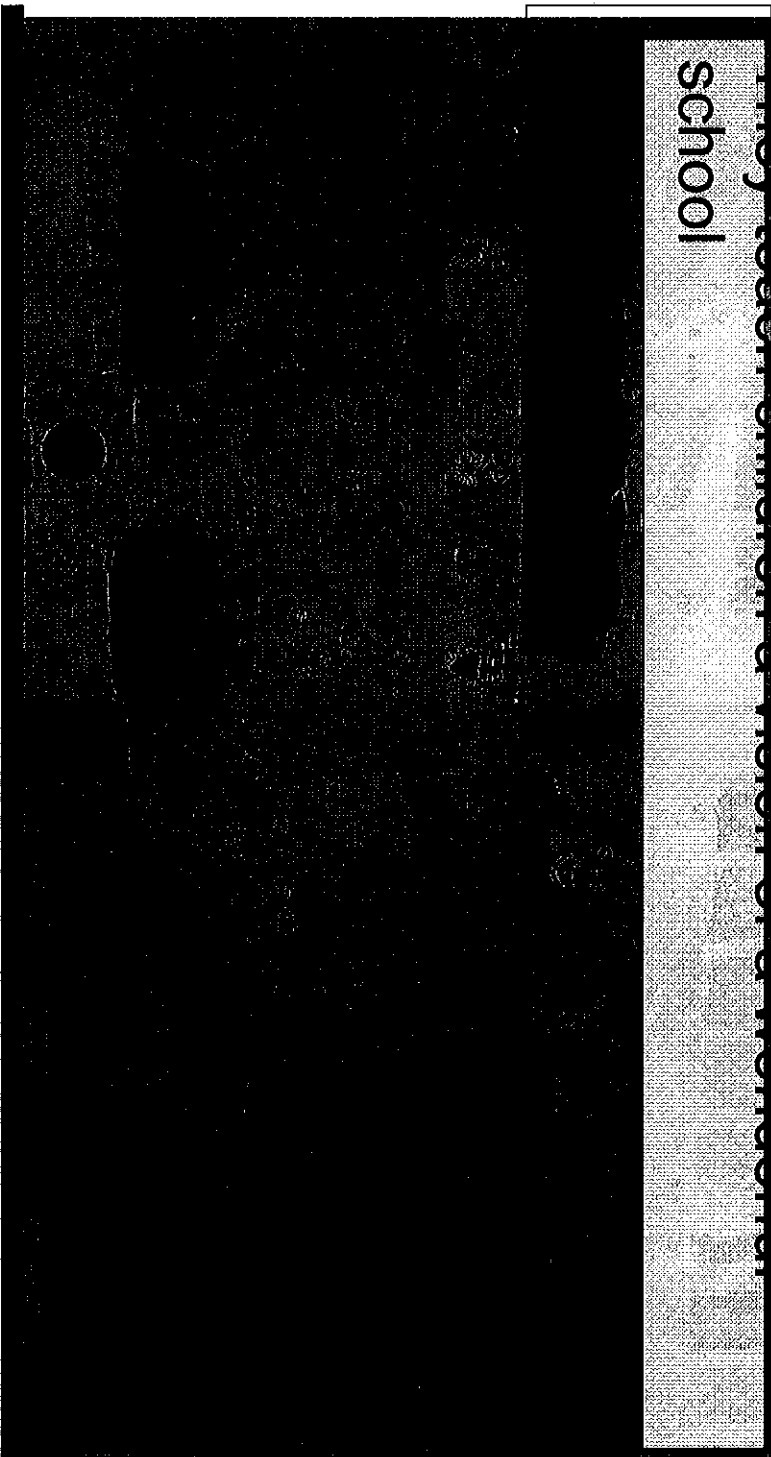
# PAX "Dose" during normal, everyday instruction

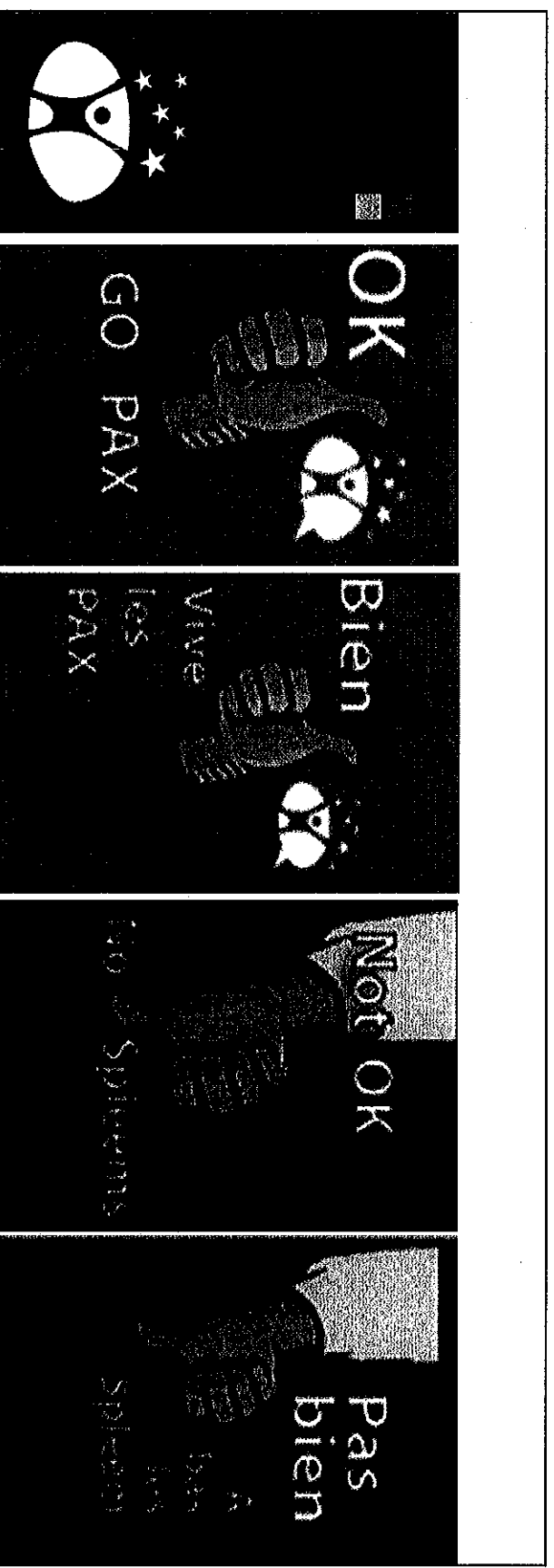
- Three announced games a day keep Spleems away
- One "secret" game a day makes PAX grow
- PAX Cues everyday keep Spleems at bay
- Oodles of tootles all day make Spleems zero

**Got PAX?**



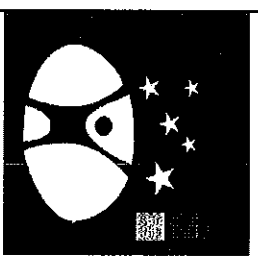
*They teach children a vision of a wonderful  
school*



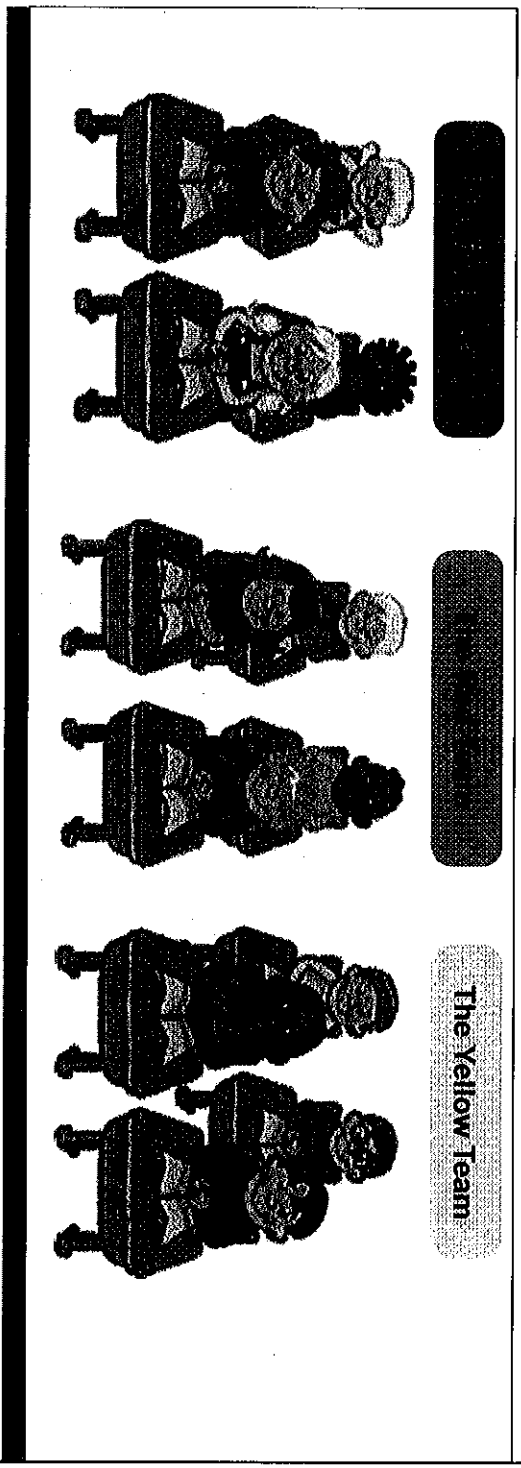


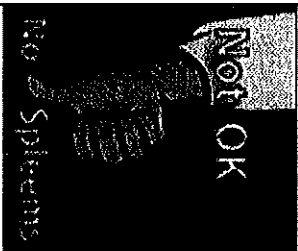
To create more good, By sweeping away the  
called "PAX" "bad", called "Spleems"





Playing the PAX Game by Teams:  
During any regular teaching & learning activity





Their Team Aim:  
**PAX**

**SPLREEMs**  
 Sweep Away

to Win

**pax** | Good  
 Behavior  
 Counts  
**Scoreboard**

Teacher/Class Ms. Diaz Week of Jan 23

Team	Sp1	Sp2	Sp3	Sp4	Sp5	Sp6	Sp7	Sp8	Sp9	Sp10
Team 1	II	III								
Team 2	III	II								
Yellow	III	II								
Length of Game	20	20								
Number of Spleems	40	60								

- ② Spleems are counted and marked with neutral tone for the team, not the individual child.
- ② Teams who have 3 or fewer Spleems win.
- ③ Winning teams earn a "Granny's Wacky Prize".
- ② Team having 4 or more Spleems lose that game.
- ② PAX Minutes = winning teams x minutes played.

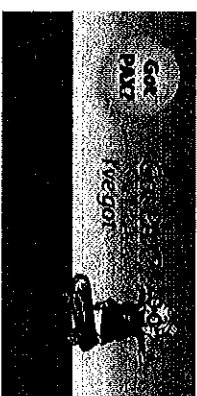
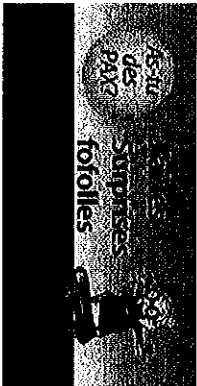
LATTS: Please use one and-a-half point equipment for you. Start and stop the game with PAZ Cue.

<p><b>Wacky Fun Giggle Fest</b></p> <p>Students receive wacky giggles and laughter as they are made to be aware of the game of PAZ and help for giggles.</p> <p><i>Suggested Time: 10-15 minutes</i></p>	<p><b>Wacky Fun Giving Cuts in Line</b></p> <p>Students receive and give you a reward for one set from an equipment by the teacher.</p> <p><i>Suggested Time: One hour or less only.</i></p>
<p><b>Wacky Mumble, Grumble &amp; Growl</b></p> <p>Students receive get to mumble, grumble and growl as much as possible during the set time.</p> <p><i>Suggested Time: 10-15 minutes</i></p>	<p><b>Wacky Fun Play Hangman</b></p> <p>Students receive are allowed to play a game of hangman for a time set by the teacher.</p> <p><i>Suggested Time: 1-2 students, more at day's end</i></p>
<p><b>Wacky Fun Jokerster</b></p> <p>Students receive get to each writing team. Teacher stop and dance on some equipment and read the poem. Teacher reads to have several (your books ready.)</p> <p><i>Suggested Time: 1-2 students, depending on your book</i></p>	<p><b>Wacky Fun Making Faces</b></p> <p>Students receive may make faces at each other or the teacher.</p> <p><i>Suggested Time: 10-15 minutes</i></p>
<p><b>Wacky Fun Nerf Toss or Nerf Basket</b></p> <p>Students receive get to have special time and have a fun, fun or some (whatever) thing.</p> <p><i>Suggested Time: About 1-2 weeks, based on any/each</i></p>	<p><b>Wacky Fun Paper Airplane Toss</b></p> <p>Students receive get to make airplanes and then have fly high them. Other at the end of the day (just).</p> <p><i>Suggested Time: A few minutes to make; then toss</i></p>
<p><b>Wacky Fun Pencil Tapping</b></p> <p>Students receive tap pencils wacky.</p> <p><i>Suggested Time: 10 minutes or less.</i></p>	<p><b>Wacky Fun Penny or Poker Chip Flipping</b></p> <p>Students receive get to flip pennies or poker chips and see who wins "heads" or tails.</p> <p><i>Suggested Time: A minute or so.</i></p>



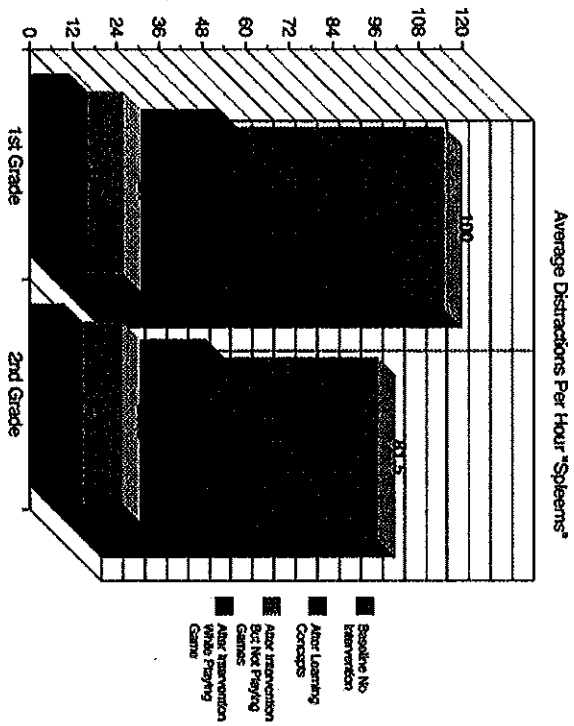
# Winning teams get "Granny's Wacky Prizes"

- ② Brief (30 seconds or so) activity rewards for winning game
- ② Start and stop with non-verbal cue
- ② Based on mystery motivator and Premack Principle
- ② Function as "intrinsic motivators"



# PAX creates immediate measurable effects

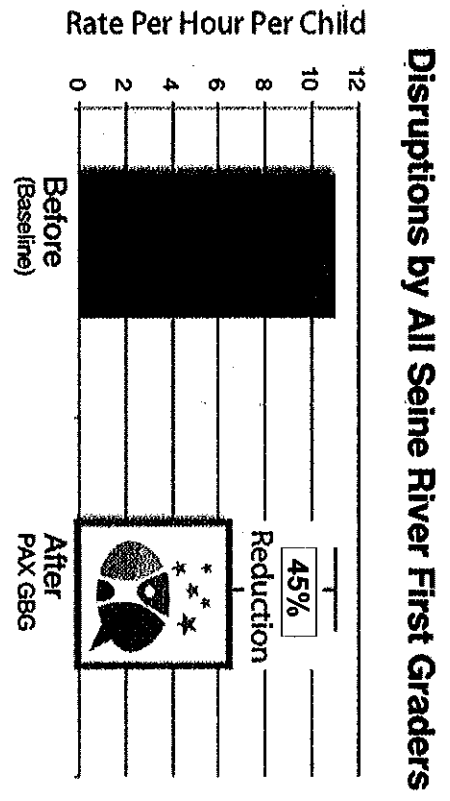
Example data from  
one of 18  
Substance Abuse  
and Mental Health  
Services  
Administration  
(SAMHSA) PAX  
GBG grantees

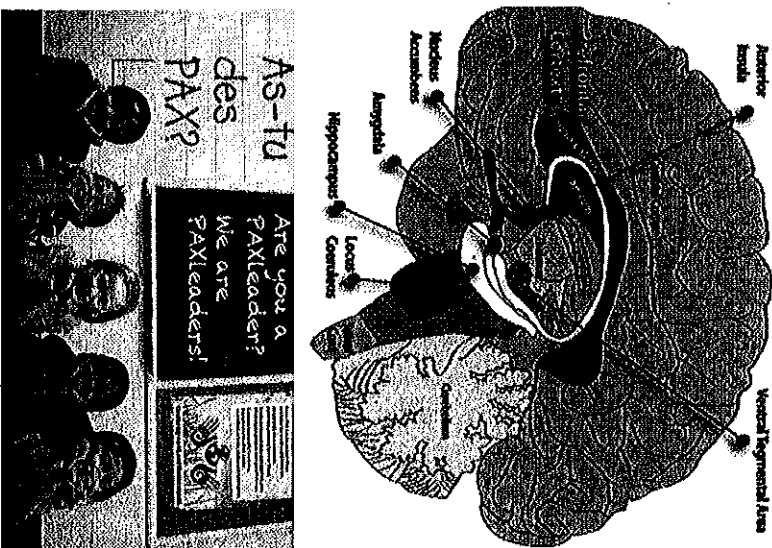




# Seine River Manitoba Pilot Demonstration

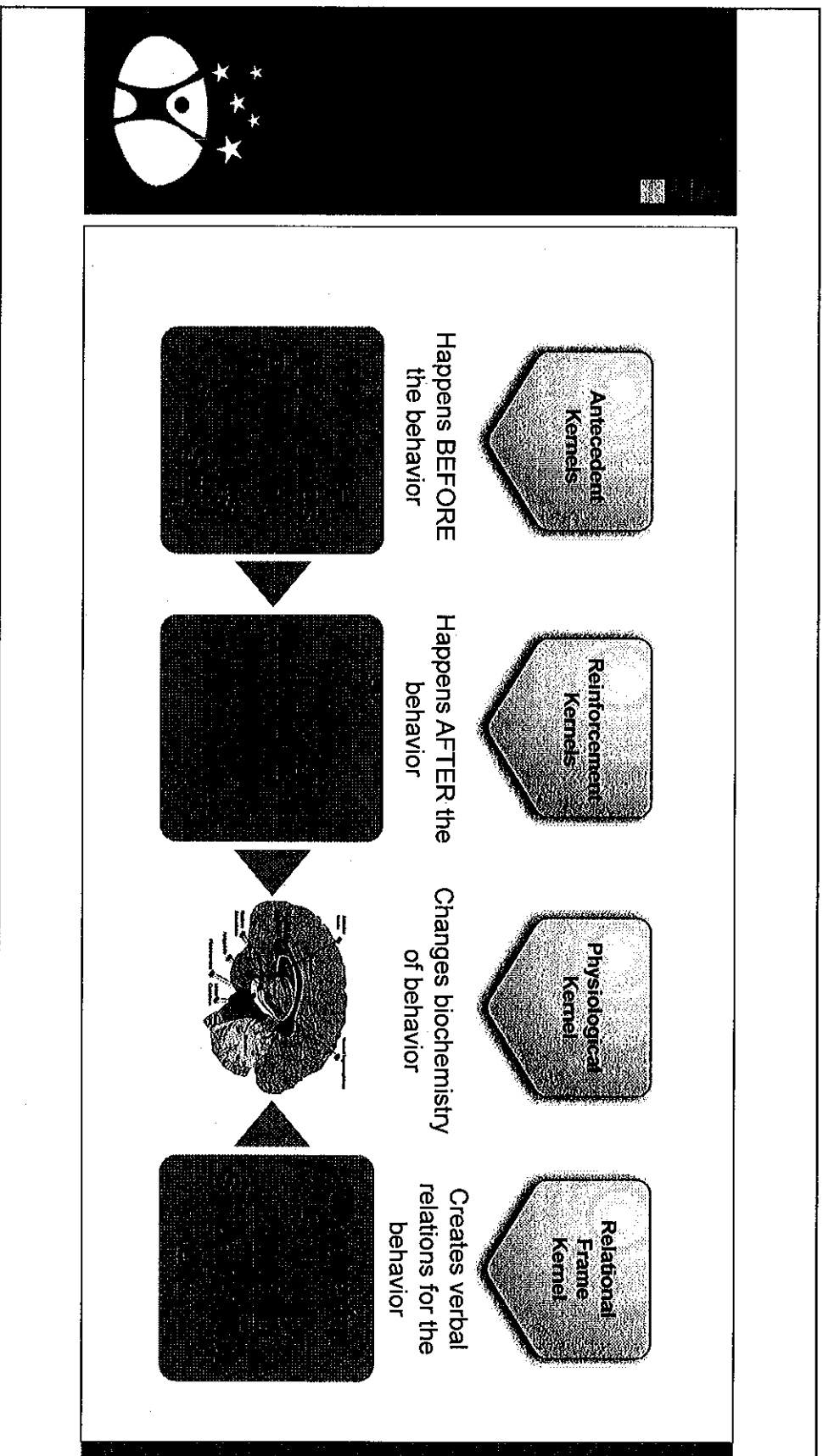
- April, 2011 – Principals and key staff trained for two days for all 12 schools.
- April, 2011 – First grade classrooms then trained that week
- April through May – Each successive month other grades trained, including 8th grade classes.





## The PAX Game teaches

- ③ Individual and group goal orientation/dependency
- ③ Voluntary control over attention
- ③ Self-regulation, self-calming under excitement
- ③ Self-regulation during failure or disappointment
- ③ Delay of gratification
- ③ Cooperation to achieve a bigger goal
- ③ How to ignore accidental attention to negative behavior from peers
- ③ Mild sanctions for anti-social acts by others



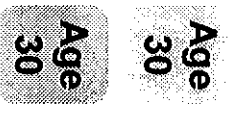
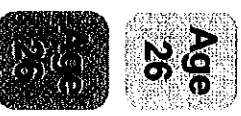
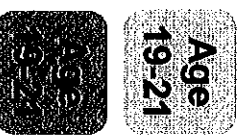
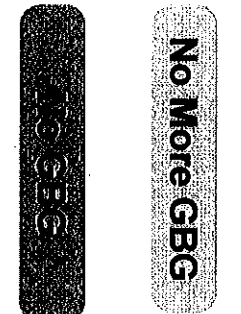
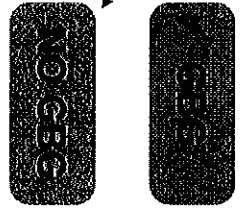
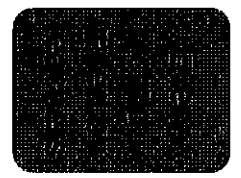
# Longitudinal Johns Hopkins Studies of GBG

Kindergarten

First Grade

Grades 2 thru 12  
Follow Up

Young Adulthood  
Follow Up

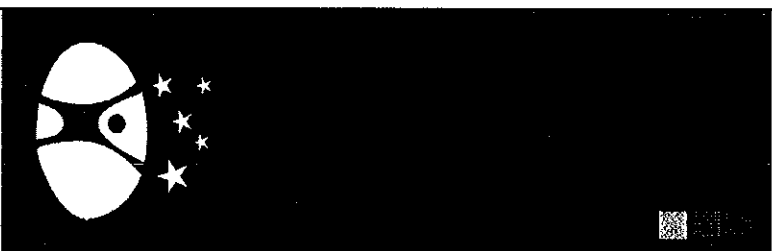


Tested in 41 first- and second-grade classrooms within 19 elementary schools with two consecutive groups of first graders.

Purpose: To find out if GBG affected their adolescent lives.

Purpose: To find out if GBG affected their adult lives.

*Note: Some kids got GBG in 1st Grade only, and some in both 1st & 2nd grade.*





# Timeline of Benefits...

First Month

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First Year

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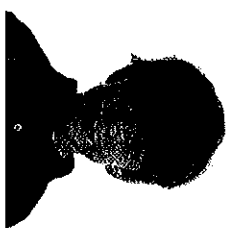
2nd & 3rd Years

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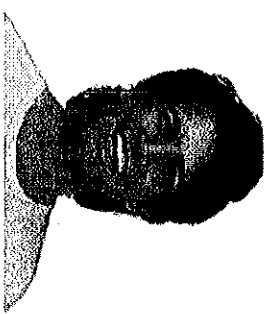
5-15 Years

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**First graders exposed to GBG for one year had these benefits at age 21.**



OUTCOMES	STUDENT GROUPS	GBG CLASSROOM	STANDARD CLASSROOM
Drug abuse and dependence disorders	All males	1	28 percent
	Highly aggressive males	2	83 percent
Regular smoking	All males	1	19 percent
	Highly aggressive males	2	40 percent
Alcohol abuse and dependence disorders	All males and females	1	20 percent
	Highly aggressive males	2	100 percent
Antisocial personality disorder (ASPD)	Highly aggressive males	1	50 percent
Violent and criminal behavior (and ASPD)	All males	1	42 percent
Service use for problems with behavior, emotions, drugs, or alcohol	All males	2	19 percent
Suicidal thoughts	All males	2	24 percent

SOURCE: Kellam, S. G., Mackenzie, A. C., Brown, C. H., Poduska, J. M., Wang, W., Petras, H., & Wilcox, H. C. (2011). The good behavior game and the future of prevention and treatment. *Addict Sci Clin Pract*, 6(1), 73-84.

Read this and other studies about the Good Behavior Game at [www.pubmed.gov](http://www.pubmed.gov)



## How much might PAX GBG save for America's future?

To do PAX GBG will cost about \$150 to protect our children for life from mental illnesses, behavioral problems, drug addictions, becoming a criminal, trying suicide, dying from tobacco or alcohol related illnesses. And, it increases their academic success—including university entry.

PAX GBG pays back \$4637 to individuals, taxpayers, and others per student exposed in First Grade over 15 years.

Assuming 4,000,000 First Graders each year in the US, that saves **\$18 billion** every First Grade cohort by age 21, after an investment of \$600 million (less after first five years)

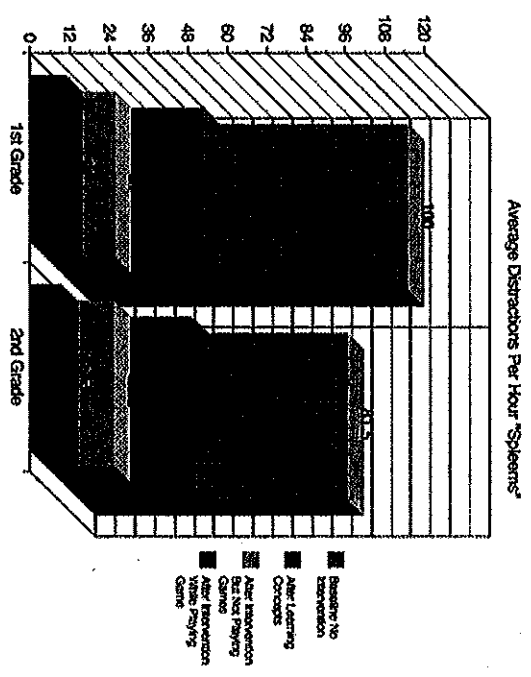


Source: Aos, S., Lee, S., Drake, E., Pennucci, A., Kima, T., Miller, M., et al. (2011). Return on Investment: Evidence-Based Options to Improve Statewide Outcomes. (July), 8. Retrieved from <http://www.wa.gov/pr/files/11-07-120118>



# Action steps to bring PAX to your jurisdictions

- Create a rapid pilot in your area with willing and able school partners like the Seine River Rapid Pilot in Manitoba.
- Use independent "Before" and "After" observations of impact like 18 SAMHSA sites in America.
- Capture video testimonials from participating teachers, students, parents, and administrators.
- Take civic leaders and stakeholders on "tour" to see PAX in action.
- Give leaders & stakeholder research summaries, including cost savings for each first-grade cohort by age 21.







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1-8777-GO-PAXIS  
Copies papers & presentations  
available.

Thank You

