The PAX Good Behavior Game

Implementation in Yamhill County

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A long-term randomized controlled trial assessed the impact of the Good Behavior Game (GBG) on students in Baltimore elementary schools. It found that, when implemented in first and second grades, GBG produced multiple benefits that were detectable even into young adulthood. In the first month of its implementation, it allowed more time for teaching and learning and reduced stress for staff and students. In the first year of implementation, students in classrooms playing the GBG had better attendance, fewer referrals, fewer service needs, less illness, happier families, less vandalism, and better academic outcomes. By the time the students were in middle school, those who played the GBG in first and second grade were less likely to be smoking, less likely to use alcohol and less likely to be arrested.² By young adulthood, students who had played the GBG in first and second grade were more likely to graduate from high school, more likely to attend college, less likely to engage in violent crime, and less likely to become suicidal.³

Subsequent to the study in Baltimore, the PAXIS Institute of Tucson Arizona developed a system for helping teachers implement the good behavior game. In addition to the game itself, the PAX GBG includes a series of ten simple behavior influence techniques, which they call kernels. Research on this version of the game indicates that it is producing similar results to the version tested in the Baltimore study. When implemented in eight school districts, the kernels reduced disruptive behavior in classrooms by about 50% and the subsequent implementation of the Game itself reduced disruptive behavior 50% more.

The Good Behavior Game

is one of the most well validated, schoolbased preventive interventions for improving classroom behavior and performance. Its core involves small teams of students working together. When teams work cooperatively with a minimum of disruptive behavior, they earn simple rewards, such as extra time for recess. Beginning in the 1960s, researchers found that the game reduces disruptive behavior and increases students' instructional engaged time.

¹ Kellam SG et al. 2014. The impact of the Good Behavior Game, a universal classroom-based preventive intervention in first and second grades, on high-risk sexual behaviors and drug abuse and dependence disorders into young adulthood. *Prev Sci*, 15:6-18.

Kellam et al. 2014

³ Kellam SG et al. 2011. The good behavior game and the future of prevention and treatment. Addict Sci & Clinic Prac, 6:73.

Embry DD, Biglan A. 2008. Evidence-based kernels: Fundamental units of behavioral influence. Clinical Child and Family Psychol Rev, 11:75-113.

A randomized trial of the impact of PAX GBG in Manitoba, Canada, found that students in classrooms that implemented PAX GBG were significantly more likely to have lower levels of problem behavior than students whose classrooms did not have PAX GBG.¹ This outcome is particularly relevant to reducing healthcare costs, since the behavior problems that were prevented include high rates and defiant behaviors that lead to diagnoses of ADHD and Oppositional Defiant Disorder in the short run, and myriad unhealthful behavior as children mature, many of which are health compromising.² The game influences the subset of students who exhibit some disruptive behaviors and who may respond to a classroom intervention instead of a medical one.

A study of the impact of PAX GBG in Ohio showed that students in PAX classrooms scored significantly higher than students in non-PAX classrooms on measures of reading and math skill.³

Recent pilot tests of PAX GBG in Ireland and Stockholm Sweden have produced similarly promising results.⁴

Based on this evidence, the Yamhill Community Care Organization decided to offer Yamhill County schools funding to implement the PAX program in three elementary schools and to evaluate whether those schools could achieve similar outcomes. Recognizing that it is a mistake to implement any preventive intervention without monitoring its impact, YCCO asked us, Oregon Research Institute, to devise a plan to assess whether the implementation of PAX GBG was effective in Yamhill County.

Design of the Report

Participating Schools

Three elementary schools in three different districts chose to have some of their teachers trained in implementing PAX GBG. *Table 1* indicates the number of teachers trained in each school and their grades. Initially, School 2 elected to have four teachers trained. However, they invited all of their teachers to attend the training. After the initial training, 10 additional teachers elected to implement the program in their classrooms.

Table 1						
Willamina E.S.	Two 3rd-grade teachers and one teacher of 3rd/4th-grade combined					
Faulconer Chapman	Three 2nd-grade teachers and one 4th-grade teacher					
Yamhill Carlton	Eleven teachers in grades 1 through 4					

Jiang D et al. 2016. Latent Transition Analysis for program evaluation with multivariate longitudinal outcomes. In Quantitative Psychol Res (377-388). New York: Springer.

Biglan A et al. 2004. Helping adolescents at risk. New York: Guilford.

Weis R et al. 2016. Accommodation decision making for postsecondary students with learning disabilities. J Learn Disabilities, 49:484-98.

Johansson, personal comm, May 2017; O'Donnell M et al. 2016. Supporting the development of pupils' self-regulation skills: Evaluation of the PAX GBG Programme in Ireland. *Irish Teachers' J, 4*: 9-29.

Assessments

To assess the impact of PAX GBG, we conducted three types of assessment.

Implementation survey. We surveyed teachers about their implementation of PAX kernels and the PAX Good Behavior Game. One survey took place in February to obtain estimates of teacher implementation to guide us in our booster training, which we held on February 14 and 15. However, survey completion was limited, due to a mistake about the version sent to teachers. For that reason, we do not present data from it here. We used an extensively revised survey with teachers in May 2017. In it, we asked teachers to rate the extent of their use of each aspect of the kernels and the Game, including their evaluation of the usefulness. We have placed a copy of that survey in the Appendix.

Observations of disruptive behavior (Spleems). We conducted observations in classrooms to assess the rates of disruptive behavior. In the PAX system, we refer to disruptive behavior as "Spleems." Such a unique name reduces the negative emotional reactions to such behavior, because such reactions often complicate efforts to reduce that behavior. Observations were in the fall of 2016, February 2017, and May 2017. We attempted to get three 15-minute periods of observation in each participating classroom on these three dates. The inter-rater reliability (also called Intraclass Correlation Coefficient) for the Spleem data is .74, which indicates that 74% of the variance in the average Spleem ratings reflects actual differences in behavior rather than differences due to observer error. All observers received training in scanning for and identifying Spleems; none of them was involved with or employed by the school.

Strengths and Difficulties Questionnaire (SDQ). We asked teachers to provide ratings of students on the SDQ in fall 2016 and in May 2017. The SDQ is a well-validated measure of children's behavioral and social skills. Elevated levels of problems on the SDQ predict development of clinically significant problems two years later. The SDQ has five subscales:

- 1) Emotional symptoms (e.g., "Often unhappy, depressed, tearful")
- 2) Conduct problems (e.g., "Often fights with other children or bullies them")
- 3) Hyperactivity (e.g., "Easily distracted, concentration wanders")
- 4) Peer relationship problems (e.g., "Gets along better with adults than with other children")
- 5) Prosocial behavior (e.g., "Kind to younger children")

It also has a total-problems scale, which consists of the first four subscales, all of which involve problem behaviors. A copy of the SDQ is in the *Appendix*.

Stone LL. 2010. Psychometric properties of the parent and teacher versions of the strengths and difficulties questionnaire for 4-to 12-year-olds. Clin Child & Fam Psychol Rev, 13, 254-74.

² Croft et al. 2015. Validity of the strengths and difficulties questionnaire in preschool-aged children. *Pediatrics*, 135, e1210-

Results

Implementation of PAX GBG

Figure 1 presents data on teachers' extent of implementation of each kernel and of the Game. A score of three on the scale indicates daily implementation; a score of four indicates multiple implementations each day. As shown, on average, all teachers implemented five of the kernels on a daily basis. These were PAX Vision, PAX Leader, PAX Quiet, Granny's Wacky Prizes, and PAX Stix. All teachers implemented each kernel at least once a week. With respect to the Game, all but two teachers reported daily implementation, and seven teachers rated all of the items involved in Game implementation at four (multiple times each day).

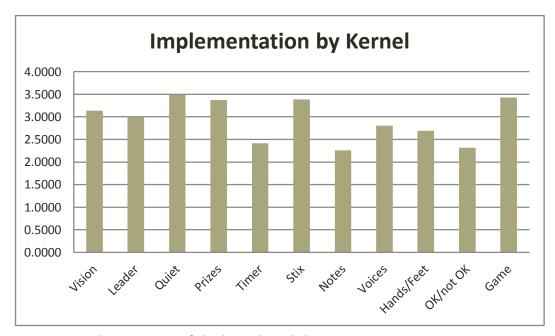


Figure 1. Implementation of the kernels and the game

Observations of Disruptive Behavior

Table 2 shows the results of the analysis of disruptive behavior at the three times we observed classrooms (fall, winter, and spring). The upper part of the table shows the mean rates of disruptive behavior at each time point. The lower portion of the table shows the statistical analysis of the changes from Time 1 to Times 2 and 3 and from Time 2 to Time 3. As shown, Spleem rates were significantly lower in the winter and spring than they were in the initial fall assessment. However, the rates at Time 3 were not significantly lower than at Time 2. The table also shows effect sizes for each of the differences. The effect size reflects the size of the change in Spleem rates. Effect sizes of .90 and .75 are very large.

Table 2							
	Time 1	Time 2	Time 3				
Spleems per	20.99	13.57	12.22				
child per hour*	(7.43)	(8.00)	(7.52)				
				t	df	р	Effect size, η ²
Times 1 to 2				10.48	12	.001	.90
Times 2 to 3				1.44	16	.339	-
Times 1 to 3				6.248	13	.001	.75

^{*} The means for each time are for all classrooms that produced data. However, because data were missing at some points, the Ns and means available for the comparisons between times differ from those presented here.

Strengths and Difficulties Questionnaire

Table 3 presents the changes in SDQ scores from the fall of 2016 to the spring of 2017. As the table shows, the children made significant improvements on emotional symptoms and hyperactivity.

		Table 3			
Subscale	Observation 1	Observation 2	t	df	р
Emotional symptoms	2.05	1.85	1.986	386	.048
Conduct problems	1.42	1.48	832	384	.406
Hyperactivity	3.68	3.21	4.272	386	.000
Peer problems	1.62	1.53	1.115	386	.265
Prosocial behavior	7.52	7.52	024	386	.981
Total problems	8.77	8.07	2.64	384	.009

Teacher Comments

The implementation survey also asked teachers to comment about their experience (good or bad) with the PAX system and about the training they received. *Appendix B* presents all of their comments.

Comments were generally quite positive. Several teachers commented that they liked the training and a number mentioned that they had seen definite improvements in children's behavior. For example, one teacher commented, "I have a student who was too shy to speak aloud, and/or answer questions at the beginning of the year. At the end of the year, she is raising her hand to answer questions. The PAX game has given her confidence."

Another said, "I have always had strong classroom management. This required a lot of work on my part. It has now shifted to the student and removed strong emotion on my part with impatience or frustration. I LOVE seeing the kids guide one another." Several teachers commented that they did not need kernels in their classroom and at least two teachers said they would have liked to start the program at the very beginning of the year.

We also asked teachers about ways that the system could improve. Suggestions included follow-up training, being more realistic about how much time is available for discussion before and after the game, a monthly newsletter of suggestions, greater follow-up with teachers to support implementation, and more ideas for Granny's wacky prizes.

Focus Group of Participating Teachers

To get additional input from teachers about their experience of PAX GBG, Samantha Kinney organized an event that combined focus groups with a celebratory dinner. The event became reality, in part, thanks to the work of three student interns from Linfield College who planned, organized, and conducted the event under Ms. Kinney's mentorship.

Teachers and administrative staff received invitations to the event. Ten of the 26 involved in PAX attended. Again, the input from teachers was uniformly positive. Teachers gave specific examples of how PAX had improved behavior, helped both students and staff to have a common framework for how they wanted the classroom to be, and increased students' self-regulatory skills (which are foundational for developing most other behaviors).

Teachers said that it made teaching easier and increased time for teaching. They commented that implementing PAX in the beginning slowed down instruction, but once they had established routines, it more than made up for the initial slow pace. Numerous teachers said that other school staff was interested in implementing PAX. Teachers also commented that PAX affected their eagerness to teach and their confidence as a teacher.

The Value of PAX GBG for Yamhill Schools

The results of this evaluation are encouraging. Teachers implemented many of the kernels frequently, rates of disruptive behaviors diminished quite substantially, and significant improvements in student behavior occurred. Between the fall of 2016 and the spring of 2017, teachers were significantly less likely to rate their students as hyperactive or as having emotional symptoms; the rate of total difficulties dropped significantly from the fall of 2016 to the spring of 2017. Teachers were generally quite positive about PAX and about the provided training.

One limitation of this evaluation is that it was not a randomized controlled trial. Had it been such a trial, by random assignment, some teachers would have implemented PAX GBG in their classrooms while other teachers would have served as controls, that is, those who simply provided data on their classrooms. In that case, we could observe if the controls did not improve, and could have been more confident that the results we saw were due to PAX.

The changes we found, however, agree with improvements noted in the randomized trial in Manitoba and in the implementations in Sweden, Estonia, Ireland, Ohio, and New Mexico. Based on the earlier research, these improvements may have long-term benefits in preventing problems as diverse as cigarette smoking, depression, dropping out of school, antisocial behavior, and drug abuse.

The Implications of these Results for Coordinated Care Organizations

The size of this sample precludes assessing the impact of one year of the PAX program on health and healthcare utilization. However, existing evidence from the body of research conducted with PAX GBG suggests that, if a larger sample of schools implements the program, effects of health and healthcare utilization would emerge.

One reason for believing this is that all of the problems that GBG has been shown to prevent result in ill health. The health behaviors that contribute the most to premature death include tobacco use, physical inactivity, unhealthful eating, depression, risky behavior, substance abuse, alcohol use, and antisocial behavior. Social environments influence all of these behaviors. Stressful social conditions in childhood, such as classrooms that are high in disruptive behavior, lead not only to the development of unhealthful behaviors, but also

¹ Ialongo NS et al. 1999. Proximal impact of two first-grade preventive interventions on the early risk behaviors for later substance abuse, depression, and antisocial behavior. *Amer J Comm Psychol* 27:599-641.

² Johnson NB et al. 2014. CDC National Health Report: leading causes of morbidity and mortality and associated behavioral risk and protective factors—United States, 2005–2013.

³ Stagman S et al. 2011. Adolescent substance use in the US: facts for policymakers. Fact Sheet. *Nat. Ctr for Children in Poverty*.

⁴ Stahré M, et al. 2014. Contribution of excessive alcohol consumption to deaths and years of potential life lost in the US. *Prev Chronic Dis*, 11:E109.

Jokela M, et al. 2009. Childhood problem behaviors and death by midlife: the British National Child Development Study. J Amer Acad Child Adol Psychiat, 48:19.

⁶ Biglan et al. 2004

directly to the development of inflammatory processes that contribute to metabolic syndrome, obesity, and cardiovascular disease in adulthood. Thus, widespread implementation of programs like the PAX Good Behavior Game, which prevent problem development and promote prosocial behavior, have the potential to improve public health significantly.

Further Implementation of the PAX GBG

Based on their experience with PAX GBG, the three participating school districts have opted to train more teachers to implement PAX GBG. One school district has utilized existing grant funding to support training for the school administrative staff. Forty-one teachers signed up for training in August 2017, and the majority of classrooms in each of the pilot elementary schools will implement the program in the 2017-18 school year. The program has thus far complemented other interventions like Growing Early Mindsets (in kindergarten classrooms) and PBIS.

Plan for Continuing Evaluation

To maintain the quality of a program like the PAX Good Behavior Game, it is essential to continue monitoring its implementation and impact. We therefore recommend that in the coming year, we conduct (a) observations in every classroom, fall, winter, and spring; (b) assess teacher implementation in winter and spring terms; and (c) obtain teacher ratings of the *Strengths and Difficulties Questionnaire* in the fall and spring.

Limitations of this Report

The key limitation of this evaluation is that it was not a randomized controlled trial. We also point out that Dr. Biglan, who directed this evaluation, provided the training and ongoing consultation for teachers and is a close associate of Dr. Embry, who developed the program. However, Dr. Biglan has received no payment from Dr. Embry for his work on this project.

¹ Miller GE et al. 2011. Psychological stress in childhood and susceptibility to the chronic diseases of aging. *Psychological Bulletin*, 137:959.

Appendix A

Strengths and Difficulties Questionnaire

19th August 2014

Scoring the Strengths & Difficulties Questionnaire for age 4-17

The 25 items in the SDQ comprise 5 scales of 5 items each. It is usually easiest to score all 5 scales first before working out the total difficulties score. 'Somewhat True' is always scored as scales first before working out the total difficulties score, 'Somewhat True' is always scored as scales first before working out the total difficulties score, 'Somewhat True' is always scored as shown below scale, but the scoring of 'Not True' and 'Certainly True' varies with the item, as shown below scale, but the scoring of 'Not True' and 'Certainly True' varies with the item, as shown below scale, but the scoring of 'Not True' and 'Certainly True' varies with the item, as shown below scale to scale. For each of the 5 scales the score can range from 0 to 10 if all items were completed. e.g. a score of 4 these scores can be scaled up pro-rata if at least 3 items were completed. e.g. a score of 4 these scores can be scaled up pro-rata if at least 3 items were completed. by scale. For each of the 5 scales the score can range from 0 to 10 it all items were completed. These scores can be scaled up pro-rata if at least 3 items were completed, e.g. a score of 4 based on 3 completed items can be scaled up to a score of 7 (6.67 rounded up) for 5 items.

hese scores can be scaled up pro- hese scores can be scaled up to a score or 7 con- ased on 3 completed items can be scaled up to a score or 7 con- ased on 3 completed items can be scaled up to a score or 7 con- ased on 3 completed items can be scaled up to a score or 7 con- ased on 3 completed items can be scaled up to a score or 7 con- ased on 3 completed items can be scaled up to a score or 7 con- ased on 3 completed items can be scaled up to a score or 7 con- ased on 3 completed items can be scaled up to a score or 7 con- ased on 3 completed items can be scaled up to a score or 7 con- ased on 3 completed items can be scaled up to a score or 7 con- ased on 3 completed items can be scaled up to a score or 7 con- ased on 3 completed items can be scaled up to a score or 7 con- ased on 3 completed items can be scaled up to a score or 7 con- ased on 3 completed items can be scaled up to a score or 7 con- ased on 3 completed items can be scaled up to a score or 7 con- ased on 3 completed items can be scaled up to a score or 7 con- ased on 3 con- ased on 3 con- ased on 3 con- ased on 3 con- ased on 4 co	Not True	Somewhat True	Certainly True
Table 1: Scoring symp		4	2
	0	1	2
otional problems scale fiten complains of headaches (I get a lot of headaches) fiten complains of headaches (I worry a lot) (I am often unhappy)	0	1	2
otional problems scale (I get a lot of headaches)	0	7	2
ften complains of headaches	0	1	2
Iten complains of iteaching the complaints of iterations and worries (I worry a lot) lany worries (I worry a lot) lany worries)	0	1	· ·
ften complains of headad head to the complains of headad head to the complains of headad head to the complains the complaint of the complaint			
often unhappy, our in new situations () air rises) Itervous or clingy in new situations () air rises) Many fears, easily scared (I have many fears)			2
lervous or easily scared (I have many	0	1	0
Many lears, see (andry)	2		2
onduct problems Scale onduct problems Scale temper tantrums or hot tempers (I get very angry)	0	1	2
often has lettied a stally do as I am	0	1	2
Often has temperated in the control of the control	1 0	1	-
often fights with other children	1 0		
offer lies or cheats (I am offer aboutere (I take things that a	1		2 2 2
Generally obedient (I usually (I fight a lot) Often fights with other children (I fight a lot) Often fights with other children accused of lying or cheating) Often lies or cheats (I am often accused of lying or cheating) Steals from home, school or elsewhere (I take things that are not mine)	1 0	1	2
Steals Holl	0	1	2
estivity scale	0		0
Postless, overactive () all ming (I am constantly higher acted)			0
	2	,	1
Restless, overactive (I am restless) Restless, overactive (I am restless) Restless, overactive (I am restless) Constantly fidgeting or squirming (I am constantly fidgeting) Easily distracted, concentration wanders (I am easily distracted) Easily distracted, concentration wanders (I am easily distracted) Thinks things out before acting (I think before I do things) Sees tasks through to the end (I finish the work I am doing)	1 .		
Easily distributes out before acting the work I am downs	1		2
Thinks through to the end	1	0	1 0
Sees (asks)	1	2	1 0
		2 2	7
Pether solitary, tends to play of have one goof friend of menerally like if	(e)	0	1 2
Has at least one good friend (Other people my age gick on me)		0	1
Peer problems scale Rather solitary, tends to play alone (1 am used) Rather solitary, tends to play alone (1 am used) Has at least one good friend (1 have one goof friend or more) Has at least one good friend (Other people my age generally like m Generally liked by other children (Other people my age pick on me) Picked on or bullied (Other children or young people pick on me) Gets on better with adults than with other children (1 get on better tenn with people my age)	with \	U	
Generally and or bullied (Other children (1 ger on with other children (1 ger on other childr	1		
Picked of or with adults than with	1		. 2
Gets Uli botto	. 1	0	1 2
adults trial that neople)	0	1 2
scale to facilities (I try to be fine others)	1	0	1 2
Prosocial scale Considerate of other people's feelings (I try to be nice to other people Considerate of other people's feelings (I try to be nice to other people Shares readily with other children (I usually share with others) Shares readily with other children. (I am helpful is someone is hurt) Helpful if someone is hurt (I am helpful is someone is hurt) To the pounder children (I am kind to younger children) To the pounder children (I am kind to younger children)		0	1 2 1 2 1 2
Consider with other children helpful is someone is harry		0	1
Shares readily with outer or the state of the source of the source of the share of the source of the			
Helpful if someone is to help others (I am kind to younger state to help others) Kind to younger children (I am kind to younger state to help others) (I often volunteer to help others (I often volunteer to help others)			are except th

<u>Total difficulties score</u>: This is generated by summing scores from all the scales except the prosocial scale. The resultant score ranges from 0 to 40, and is counted as missing of one of the 4 component score is missing. Often volunteers to help others... (I often volunteer to help others

<u>'Externalising' and 'internalising' scores</u>: The externalising score ranges from 0 to 20 and is the sum of the conduct and hyperactivity scales. The internalising score ranges from 0 to 20 and is the sum of the emotional and peer problems scales. Using these two amalgamated scales is the sum of the emotional and peer problems. the 4 component scores is missing.

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may be preferable to using the four separate scales in community samples, whereas using the 2 four separate scales may add more value in high-risk samples (see Goodman & Goodman. 2009 Strengths and difficulties questionnaire as a dimensional measure of child mental health. J Am Acad Child Adolesc Psychiatry 48(4), 400-403).

Generating impact scores

When using a version of the SDQ that includes an 'impact supplement', the items on overall distress and impairment can be summed to generate an impact score that ranges from 0 to 10

Table 2: Scoring the SDQ impact supplement

Parent report:	Not at all	Only a little	A medium	A grea
Difficulties upset or distress child Interfere with HOME LIFE Interfere with FRIENDSHIPS Interfere with CLASSROOM LEARNING Interfere with LEISURE ACTIVITIES Teacher report:	0 0 0 0	0 0 0 0	amount 1 1 1 1 1 1	2 2 2 2 2 2
Interfere with PEER RELATIONS Interfere with CLASSROOM LEARNING Self-report report: Difficulties upsets a real part of the control of the co	0 0 0	0 0 0	1 1 1	2 2 2 2
Interfere with HOME LIFE Interfere with FRIENDSHIPS Interfere with CLASSROOM LEARNING Interfere with LEISURE ACTIVITIES Sponses to the questions on chronicity	0 0 0 0	0 0 0 0	1 1 1	2 2 2 2 2

Responses to the questions on chronicity and burden to others are not included in the impact score. When respondents have answered 'no' to the first question on the impact supplement (i.e. when they do not perceive themselves as having any emotional or behavioural difficulties), they are not asked to complete the questions on resultant distress or impairment; the impact

Cut-points for SDQ scores: original three-band solution and newer four-band solution

Although SDQ scores can be used as continuous variables, it is sometimes convenient to Although SDQ scores can be used as continuous variables, it is sometimes convenient to categorise scores. The initial bandings presented for the SDQ scores were 'normal', 'borderline' and 'abnormal'. These bandings were defined based on a population-based UK survey, and 'abnormal'. These bandings were defined based on a population-based UK survey. and apnormal. These pandings were defined based on a population-based UK survey, attempting to choose cutpoints such that 80% of children scored 'normal', 10% 'borderline' and

More recently a four-fold classification has been created based on an even larger UK whore recently a rour-rold classification has been created based on an even larger of community sample. This four-fold classification differs from the original in that it (1) divided the ten larger of the larger of the control of t 10% 'abnormal'. community sample. This four-fold classification differs from the original in that it (1) divided the top 'abnormal' category into two groups, each containing around 5% of the population, (2) top 'abnormal' category into two groups, each containing around 5% of the population, (2) top 'abnormal' category into two groups, each containing around 5% 'high' and 5% 'close to average', 10% 'slightly raised, 5% 'high' states around the cut-points for some scales. The second states are the cut-points for some scales are the cut-points for some scales. The second states are the cut-points for some scales are the cut-points for some scales. very night for all scales except prosocial, which is 50% close to average, 10% slightly lowered, 5% 'low and 5% 'very low'), and (3) changed the cut-points for some scales, to better reflect the proportion of children in each category in the larger dataset. reflect the proportion of children in each category in the larger dataset.

lowered', 5% low and	children in	each care	,			· ricat	rion
lowered', 5% low and reflect the proportion of		4 47 1/08	r olds	Ne	wer four-band	categorisa	
Table 3: Categorising SI	Origi	nal three-b tegorisatio Borderline	and	Close to average	Slightly	High (/Low)	(very low)
Parent completed SDQ Total difficulties score Emotional problems score Conduct problems score Hyperactivity score Peer problems score	0-13 0-3 0-2 0-5 0-2 6-10	14-16 4 3 6 3 5	17-40 5-10 4-10 7-10 4-10 0-4 2-10	0-13 0-3 0-2 0-5 0-2 8-10	14-16 4 3 6-7 3	17-19 5-6 4-5 8 4 6	20-40 7-10 6-10 9-10 5-10 0-5 3-10
Prosocial Score Impact score Teacher completed SDQ Total difficulties score Emotional problems score Conduct problems score Hyperactivity score Hyperactivity score	0 0-11 0-4	1 12-15 5 3 6 4 5	16-40 6-10 4-10 7-10 5-10	0- 0- 0- 6-	3 4	16-18 5 4 8 5 4	19-40 6-10 5-10 9-10 6-10 0-3 3-10
Prosocial score Impact score Self-completed SDQ Total difficulties score Emotional problems score Conduct problems score Hyperactivity score Per problems score	0-1/ 0-5 0-6 0-6 0-7	5 16- 5 6 3 6	19 20- 5 7- 4 5- 6 7- 6-5 6-	40 10 10 10 10	1-14 15-17 0-4 5 0-3 4 0-5 6 0-2 3 7-10 1	5 7 4 5	6-10 8-10 5-10 0-4 3-10
Prosocial score Impact score		only	provide a ro	ugh-and-	ready way of ores from mu	screening Itiple inform	for disorders; nants is better,

Note that both these systems only provide a rough-and-ready way of screening for disorders; vote that both these systems only provide a rough-and-ready way or screening for disorders; combining information from SDQ symptom and impact scores from multiple informants is better, but still for from particular. but still far from perfect.

Appendix B

Teacher's Comments

Please give us any additional comments - good, bad, or indifferent - about PAX GBG, our trainings...

Some of the kernels are not needed in my classroom, or they take too long. It's not worth our time in my 3rd grade classroom to go over PAX hands and PAX voices before EACH activity.

I have seen a difference in the majority of my students' behaviors making our class a better place. I honestly believe that with the implementation of this at the beginning of the year I will have a better response from students as well as the students coming into 4th grade will have already been using the program from their previous year. I am looking forward to next year and continuing the program with students that already understand it.

Our school has never received the poster for PAX feet. I know in the surveys we have filled out it talks about it, we don't have it. My marks are different than expected because I had a very well behaved class from the beginning so I didn't need to do all the components of PAX all the time.

On the evaluation, it might be beneficial to add a "monthly" option between never and weekly. Some of the items I don't do weekly but I do them occasionally.

The program works well with a lot of what I already do so there were part that I kept my own and didn't use the same terminology. I'm looking forward to using this program at the beginning of the year next year so I can start fresh with a new group. I was late to start this program so never fully implemented it.

It was a challenge to start the program after the beginning of the school year. It felt like starting September over again, so I am looking forward to starting on day 1 next year.

The training I received was fantastic. It included a complete kit, making it possible to implement immediately. / The students are very responsive to the GBG. They love the Granny's Wacky Prizes the most, but I think they like all aspects of the GBG. / On this survey, some of the questions did not fit the answer choices. For example, my school had a different system in place for PAX voices so I don't have the poster displayed in class. I selected "never" but I do have other posters about voice level on display.

Enjoyed the additional training this year. this has worked really well except with two extreme cases. One boy was in my class already and knew Pax and was willing to do it, the other came in after a few weeks in, and simply destroyed the classes. He got the class all upset about PAX and simply ruined it for everyone. When he left the class a couple months later, we were able to get back to it, but it was very rough, and didn't work like it was supposed to. / / So I say this is a GREAT program for almost all children, except the far extreme behavior kids.

Trying to keep the wacky prizes engaging has been a bit difficult. After the initial introduction of PAX, kids were on track and engaged. A few months into it, they became a bit complacent to the PAX signal (ex. harmonica) and even the enthusiasm for the game. Overall, it has been a good experience. Filling out this survey reminded me that I had been leaving out "Beat the Timer."

Please give us any additional comments - good, bad, or indifferent - about PAX GBG, our trainings...

We received great training. The follow up in the spring at our school was very helpful.

I have a student who was too shy to speak aloud, and/or answer questions at the beginning of the year. At the end of the year she is raising her hand to answer questions. The PAX game has given her confidence.

This is my 31st year of teaching and I am so thankful that I got to experience its effectiveness in my classroom. I have always had strong classroom management. This required a lot of work on my part. It has now shifted to the student and removed strong emotion on my part with impatience or frustration. I LOVE seeing the kids guide one another. I spoke about this program in an all-district celebration to end the year! Thank you for being part of a wonderful year!

What is the most important thing we could do to improve the system?

Be more realistic about how much time we really have for 'discussion' before and after games.

I am not sure.

I absolutely loved it when Dennis Embry came to speak with our staff! He really needs to make some videos or other as he is the behavior king! He had great answers to all of our questions.

A follow up training would be beneficial. Since I was trained before I started any part of the program, I would probably incorporate more of the program into my classroom if I had practical examples of how to use other components.

Program is great. I think our building is going to use it K-2 or more next year.

I appreciate all of the support we've had this year with implementation and monitoring. I don't think anything needs improved.

Maybe send out a monthly email highlighting some helpful tools and hints to try with the behavior game that we have overlooked or forgotten, such as with me "Beat the Timer."

Follow ups at school to answer questions that come up.

As a 4th grade teacher I would like more age appropriate Granny's Wacky Prizes...Gum chewing ...

I truly just needed more Granny Wacky prize ideas. They did not like repeating any of the games- so that got tricky at the end.