

Abstract Title Page

Title: Preliminary Effects of the Incredible Years Teacher Training Program on Classroom Management Skills

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Abstract Body

Background / Context:

Teachers' classroom management skills have been shown to predict student engagement and social competence as well as reduce disruptive behaviors (Creemers, 1994; Pianta, LaParo, Payne, Cox, & Bradley, 2002; Stringfield, 1994). Well-managed classrooms are distinguished by teachers' ability to monitor student attention and performance, establish behavioral expectations, and consistently implement rules and procedures that prevent problems from occurring. Research has demonstrated that children in well-managed classrooms spend more time engaged in academic tasks, progress at a more rapid pace, and demonstrate higher levels of academic achievement (Brophy, 1983; Cameron, Connor, & Morrison, 2005), although causal data linking teacher management to achievement are lacking. Unfortunately, elementary teachers appear to rely more on unsystematic management strategies based on their own experiences rather than evidence-based techniques (Brophy & McCaslin, 1992).

Students in typical K-3 classrooms exhibit low levels of engagement in academic activities, with considerable time spent listening and watching and managing materials, and minimal time spent in individualized instructional interactions (Pianta et al., 2002). Moreover, teachers are two to five times more likely to attend to misbehavior than to appropriate behavior, particularly for children with difficulties. Teachers provide specific praise, which is very effective in changing student behavior, only 5% of the time (Evertson & Weinstein, 2006). Thus, teacher training interventions for classroom management have the potential to improve the academic and behavioral performance of large numbers of students over time and decrease the need for more costly individualized interventions for high risk students. However, traditional brief, didactic in-service workshops rarely translate into changes in classroom management skills (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005), prompting a call for "high quality professional development" that is "intensive, sustained, and classroom focused" in the No Child Left Behind legislation (NCLB, 2001).

One program consistent with a more active and supportive learning model that has evidence for improving classroom management strategies in preschool and early elementary school is the Incredible Years Teacher program (IYT) developed by Webster-Stratton (1999). In previous research IYT has been shown to reduce teachers' harsh and critical techniques and increase the use of positive techniques such as praise based upon blind observer ratings. Trained teachers are also rated as more consistent with challenging students and more focused on social-emotional learning (Webster-Stratton, Reid, and Hammond, 2001; 2004; Webster-Stratton, Reid, & Stoolmiller, 2007). The limitations of these controlled efficacy data are that the numbers of elementary teachers included in these studies are relatively low (e.g., less than 50) and that IYT was administered with additional Incredible Years interventions with parents and teachers. Thus, further research on the benefits for elementary teachers as well as students is needed, particularly with implementation as a single intervention which would be more consistent with how the program might be offered by schools. Moreover, IYT's effects on standardized classroom climate measures such as the CLASS warrant evaluation.

Of note, parent and child components of Incredible Years are well-established for the prevention and treatment of emotional and behavioral difficulties in young children, but were not included

in the present study as the primary aim was to assess the independent benefits of the teacher program alone.

Purpose / Objective / Research Question / Focus of Study:

The overall purpose of this IES-funded Goal 3 study, now entering its third year, is to evaluate the efficacy of IYT for improving K-2 students' academic achievement, attention, and social-emotional competence. We will also examine the extent to which classroom behavior mediates the relationship between teacher management skills and students' academic performance in the classroom.

The current poster, based upon teacher data from our first two cohorts, will present preliminary data on whether participation in IYT is associated with change over time in the classroom environment and quality of teacher interactions with students for trained teachers as compared to wait-list control teachers. Data include the CLASS (Pianta & Hamre, 2005) and the Teacher coder Impressions Inventory (TCI; Webster-Stratton, Reid, & Hammond, 2001), which are based on blind observer ratings. The CLASS is a multi-dimensional standardized instrument that has been widely used in early education classrooms and has been associated with gains in students' achievement and social adjustment. The TCI was developed to align more closely with the intervention and has been used primarily in research on the efficacy of IYT.

Setting:

Current teacher data were obtained from 6 public elementary schools in 2 rural school districts in North Carolina located within 1 hour of Duke University in North Carolina. Rural schools were selected due to their lower average level of school resources and difficulties recruiting and retaining highly qualified teachers, factors placing students at greater risk of educational failure (Bacolod, 2007).

Population / Participants / Subjects:

Participants were 44 K-2 teachers, 23 (52.3%) who participated in IYT and 21 (47.7%) assigned to the wait-list control group. Forty-one teachers (93.2%) were female, and two were male (4.5%). Teachers were mostly white (73%) with a large range in years of teaching experience ($M = 10.22$, $SD = 9.31$). Eight (18.2%) teachers held a Master's degree. Class sizes ranged from 16 to 24 students ($M = 19$, $SD = 1.87$). No significant differences were found between participants in the intervention and control groups (see Table 1). Of these 44 teachers, data were collected at two time points from 38.

Approximately half of the students receive free or reduced lunch and there is considerable racial and ethnic diversity across schools, predominately African-American and Hispanic. Almost 10% receive ESL services by parent report. Of our current sample, 12.6% have parent-reported mental health or behavioral difficulties such as a learning disability or ADHD and 8.4% are receiving special education services.

Intervention / Program / Practice:

IYT was developed as part of a comprehensive treatment package including parent, child, and teacher training components. The Incredible Years package is a preventative intervention for young children at high risk for aggressive behavior and conduct problems (Webster-Stratton,

1999), and is included in the National Registry of Evidence-Based Programs and Practices (2007). IYT is an active learning approach that is cost-efficient and has the potential for dissemination across schools and districts. Several characteristics of IYT are consistent with what has been identified as effective training methods, including video-modeling, behavioral rehearsal of key skills through numerous role plays, classroom practice assignments, teacher goal setting and self-monitoring, individual behavior planning meetings between the trainer and teacher, and collaboration with parents. IYT's collaborative training style and group support structure also facilitate empowerment, problem-solving, and peer support (Webster-Stratton, Reid, & Hammond, 2001).

IYT requires approximately 35 hours of training, provided in 5 full day workshops separated by 3-4 weeks allowing time for strategy implementation in the classroom. Each group includes approximately 12-15 teachers taught by two co-leaders. The five core programs are composed of over 250 brief vignettes showing teachers and children in preschool and early elementary classes who are of different genders, cultures, socioeconomic backgrounds, and developmental abilities. These videos are used as catalysts for group discussion and problem-solving. Trainers then model the strategy and ask teachers to break into small groups to do role plays throughout the training day. Teachers also develop written plans to apply the strategies discussed to a particular child experiencing difficulties in their classroom. In addition to the workshops, teachers are given assignments to try the new strategies in their classrooms. Individual behavior planning meetings will also be held between trainers and teachers to assist them in applying strategies taught to students in their class. Consultation within IYT also reinforces strategies learned in the workshops.

Research Design:

This randomized, controlled efficacy study is designed evaluate IYT for K-2 teachers and students in a 4-level (students, teachers, grade levels, schools) randomized block design with treatment at level 2 (teachers). Randomization to IYT or wait-list control occurs with blocking within schools such that at least one participating grade level is assigned to the intervention condition. Randomization within school was selected to reduce school variability and because concerns of diffusion across grade level within schools were low.

Overall study outcomes include proximal (teacher management strategies), mediating (social competence, attention, and academic engagement), and distal (academic functioning) measures provided by students, teachers and observers blind to teacher randomization status. Data are collected at baseline (to be used as covariates) and end of treatment with follow up into the next school year for teacher management strategies only. The present poster will present preliminary data for teacher outcomes based upon data collected in September and April of the 2009-2010 and 2010-2011 school years, immediately before and after the intervention was implemented.

Data Collection and Analysis:

Following teacher consent and randomization, trained research assistants blind to randomization status observed each teacher's classroom for approximately 2 hours of instructional time, during which they rated four consecutive 30-minute cycles of classroom activities and summarized the overall classroom environment on a 7-point Likert scale using the CLASS (overall kappa reliability=.87). They then rated the frequency of teacher competent and harsh management

strategies on the TCI (overall kappa reliability =.90). These observations were repeated in the spring following the intervention, with raters remaining blind to teacher randomization status.

Initially, relationships between teaching experience, class size, and grade level and baseline measures were examined so that any significant variables could be included as covariates in analysis of intervention effects. Repeated measure GLM (SPSS version 19) was utilized to evaluate difference between randomized groups over time on the outcome measures of interest.

Findings / Results:

Change in teachers' Emotional Support and Instructional Support as measured on the CLASS was related to years of teaching experience, with more experienced teachers evidencing less change ($r = -.34, p=.036$ and $r = -.46, p=.008$, respectively). There was also a trend for teachers in higher grade levels to improve more in Emotional Support over time ($r = .29, p=.07$). No other significant relations were found between teaching experience and change scores on the CLASS or TCI. There were no significant differences between groups on any of the outcome measures at baseline.

Using teaching experience, school, and grade level as covariates, a significant intervention effect (group x time interactions) was found for Positive Climate on the CLASS [$F(1,32)=8.88, p=.005$]. Mean change was also consistent with prediction for Negative Climate on the CLASS and Competent and Harsh subscales of the TCI (see Figures 1-3), although statistical significance was not approached. A significant time effect was also found for Quality of Feedback and Language Modeling, such that all teachers were rated as showing lower levels over time [$F(1,34)=14.74, p=.009$ and $F(1,34) = 6.87, p=.013$], respectively]. This is consistent with previous data showing some negative changes in classroom environments as observed in the spring and the fall. Means and standard deviations for each group at baseline and post-treatment are presented in Table 2.

Conclusions:

These findings must be considered preliminary given that the present sample represents only 1/3rd of the final targeted sample and power is extremely low (<.2). Given this, we did not control for multiple comparisons, which increases the risk that findings may be related to chance. Nonetheless, data provide evidence that Incredible Years may have some benefits for K-2 teachers in public elementary schools as a stand-alone intervention, particularly with regard to student-teacher relationships (Positive Climate) and possibly with competent and harsh behavior management practices. As demonstrated in previous research, there is a tendency for early education classrooms to become less positive and supportive over the course of the school year; IYT may reduce or reverse this effect.

The significant intervention effect found on the CLASS is particularly notable given that this is a standardized observational measure that has been shown to predict academic achievement and social adjustment for students. We anticipate that increased power with additional teachers recruited over the next two years of our study will allow us to detect reliable changes consistent with more robust intervention effects.

Appendices

Appendix A. References

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Appendix B. Tables and Figures

Not included in page count.

Table 1

Teacher Characteristics

Characteristic	Group							
	Intervention (<i>n</i> = 23)				Control (<i>n</i> = 21)			
	<i>N</i>	%	<i>M</i>	<i>SD</i>	<i>N</i>	%	<i>M</i>	<i>SD</i>
Gender								
Male	1	4%			1	5%		
Female	21	92%			20	95%		
Ethnicity								
White	17	74%			15	72%		
African-American	5	22%			6	29%		
Highest Degree Earned								
Bachelor's Degree	17	73.9%			17	81%		
Master's Degree	4	17.4%			4	19%		
Years of Teaching			9.38	9.22			11.07	9.55
Class Size			19.0	1.90			19.0	1.89

Table 2*Pre-Post Teacher Management Scores by Group (Means and Standard Deviations)*

Measure/Subscale	Group			
	Intervention (<i>n</i> = 18)		Control (<i>n</i> = 20)	
	Pre	Post	Pre	Post
CLASS				
Positive Climate*	5.39 (.97)	5.82 (.96)	5.67 (.63)	5.41 (.94)
Negative Climate	1.40 (.59)	1.18 (.44)	1.33 (.34)	1.39 (.59)
Teacher Sensitivity	5.00 (.83)	4.81 (1.07)	4.70 (.97)	4.59 (.99)
Regard for Student Perspectives	4.46 (1.05)	4.35 (.94)	4.42 (1.11)	4.37 (.94)
Behavior Management	5.44 (1.03)	5.40 (.95)	5.54 (.87)	5.40 (.99)
Productivity	5.14 (.99)	4.86 (1.14)	5.22 (.96)	4.88 (.99)
Instructional Learning Support	4.39 (1.02)	4.24 (1.03)	4.47 (.98)	4.30 (1.02)
Concept Development	2.68 (.71)	2.61 (1.17)	2.63 (.88)	2.45 (.96)
Quality of Feedback	2.63 (.75)	2.19 (1.12)	2.43 (.78)	2.45 (.96)
Language Modeling	2.19 (.63)	1.90 (1.03)	1.99 (.64)	1.72 (.81)
TCI				
Competent	44.83 (8.07)	49.67 (7.78)	46.0 (7.03)	47.89 (7.35)
Harsh	4.44 (6.45)	3.44 (6.59)	5.36 (6.80)	6.11 (8.09)

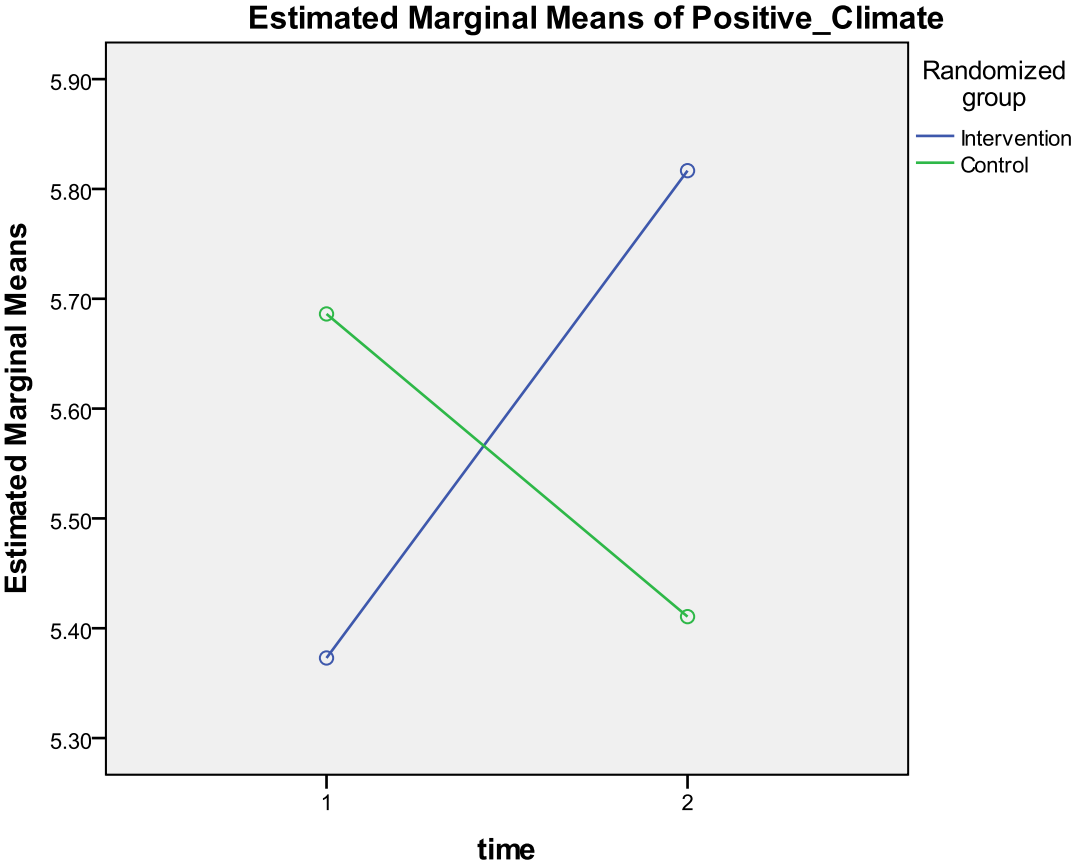
**p* < .05

CLASS item average scores rated 1-7 with higher being better

TCI Competent scores range from 27 to 55, with higher being better

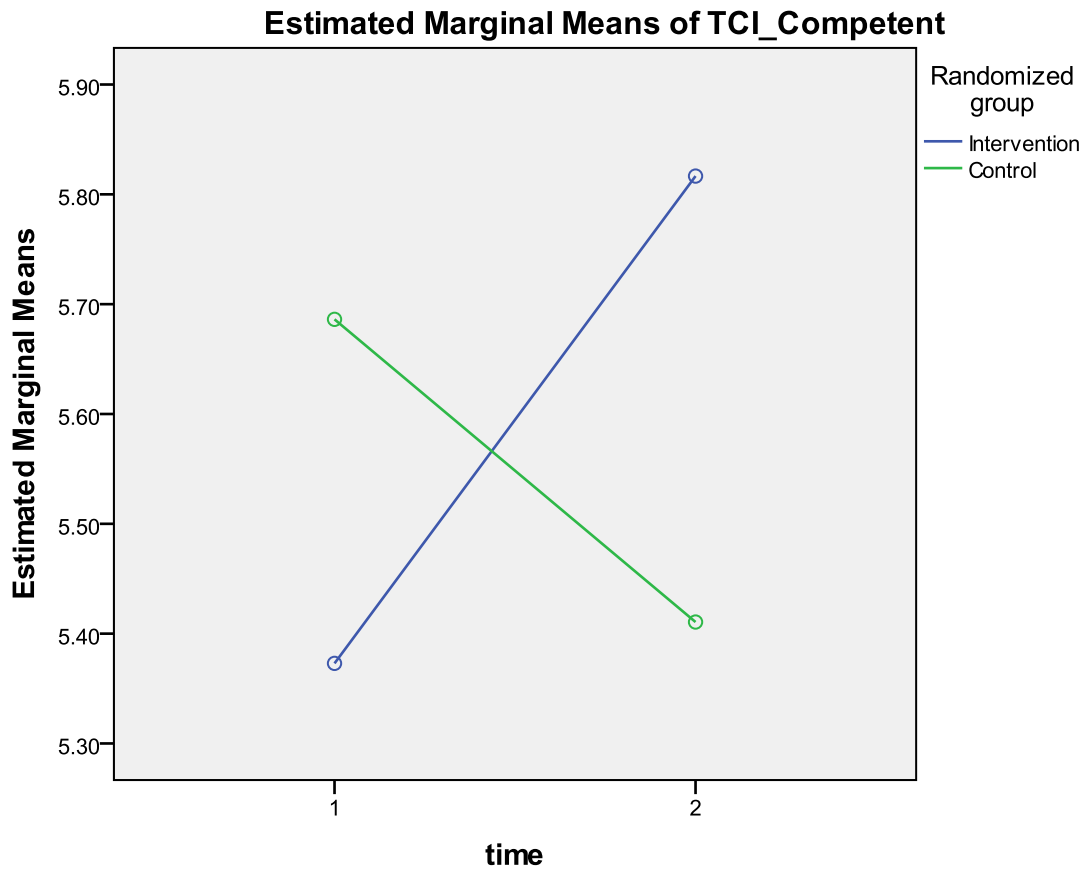
TCI Harsh scores range from 0 to 27 with higher being worse

Figure 1. Change over time between groups on the CLASS Positive Climate



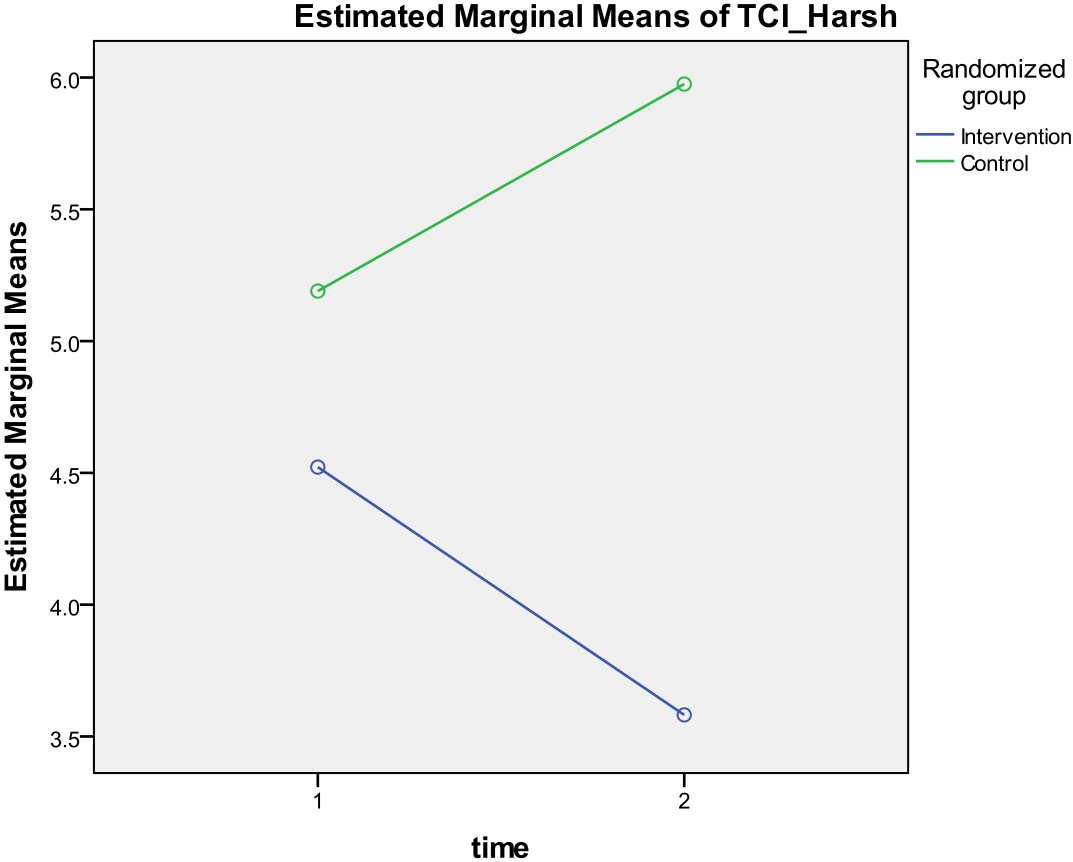
Covariates appearing in the model are evaluated at the following values: Years of teaching experience = 10.986

Figure 2. Change over time between groups on TCI Competent



Covariates appearing in the model are evaluated at the following values: Years of teaching experience = 10.986

Figure 3. Change over time between groups on TCI Harsh



Covariates appearing in the model are evaluated at the following values: Years of teaching experience = 10.986