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The Incredible Years Teacher Classroom Management Program: Outcomes from a

Group Randomized Trial

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Abstract

This group randomized controlled trial (RCT) evaluated the efficacy of Incredible Years Teacher Classroom Management Program (IY TCM) on student social behavioral and academic outcomes among a large diverse sample of students within an urban context. Participants included 105 teachers and 1817 students in kindergarten to third grade. Three-level hierarchical linear models (HLM) were conducted to examine the overall treatment effects student behavior and academic outcomes. In addition, multi-level moderation analyses were conducted to examine whether the treatment effects on child outcomes differed by demographic variables and pretest measures of social emotional and disruptive behavior and academics. Findings indicate that IY TCM improved student emotional regulation (d= - 0.14), prosocial behavior (d= 0.13), and social competence (d= 0.13). In addition, students initially lower on measures of social and academic competence demonstrated significant improvements in comparison to similar peers in control classrooms. Practical significance of the findings and implications for schools and policy makers are discussed.

Keywords: classroom management, teacher training, prevention, social behavior, academic competence

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Ineffective classroom behavior management practices lead to disruptive classroom behaviors that interfere with instruction, child development, and academic achievement. In poorly managed classrooms, students have little structure or support for consistent behavioral expectations and, as a result, students are off task more and engage in higher rates of disruptive behaviors (Jones & Jones, 2004). Negative teacher-student interactions are also more likely to occur in poorly managed classrooms (Conroy, Sutherland, Haydon, Stormont, & Hardon, 2009; Reinke & Herman, 2002), and these classroom environments contribute to students' risk for developing behavior problems (Webster-Stratton & Reid, 2004). Ineffective classroom management has also been linked to long-term negative academic, behavioral, and social outcomes for students (Kellam, Ling, Merisca, Brown, & Ialongo, 1998; National Research Council, 2002).

At the same time, considerable research has demonstrated that teachers can promote a positive classroom environment through the use of specific classroom management strategies (Hutchings, Martin-Forbes, Daley, & Williams, 2013; Curby, Rimm-Kaufman, & Abry, 2013; Ialongo, Poduska, Werthamer, & Kellam, 2001). Well-trained teachers can help students who are aggressive, disruptive, and uncooperative to develop the appropriate social behavior that is a prerequisite for their success in school (Walker et al., 1995). Even though research clearly supports the use of specific classroom management practices, such as praise and proactive teaching, direct observations of teachers indicate they do not regularly use these practices (e.g., Kim & Stormont, 2011; Reinke, Herman, & Stormont, 2013). Further, many teachers find managing student disruptive behavior challenging and request additional training and support in

the area of classroom management (Reinke, Stormont, Herman, Puri, & Goel, 2011). Thus, there is a need for interventions that focus on building teachers' knowledge and skills in order to promote the use of effective strategies that are developmentally-appropriate and supportive of students' emotional and behavioral growth.

The Incredible Years Teacher Classroom Management Program (IY TCM)

The Incredible Years (IY) is a suite of evidence-based programs (Webster-Stratton, 2005) for parents of children aged 0 to 12 years, therapeutic and classroom-based programs for children, and a teacher classroom management (TCM) program. The IY TCM is a universal classroom management program for teachers of students in grades kindergarten through third grade. Teachers are trained in small groups across six full days by certified IY TCM workshop facilitators. Each workshop builds off the prior workshop content. The IY TCM content includes strategies for increasing proactive teaching, praise and encouragement, incentives, problem solving, and other strategies for increasing social competence and decreasing problem behavior (Webster-Stratton, Reid, & Hammond, 2001). The intervention uses social learning theory (Bandura, 1977) via video modeling to increase teacher learning of new skills. During each workshop, teachers view video tapes of effective strategies, role play the use of strategies, and receive feedback from the IY TCM leaders and teachers in the group. IY TCM is principle driven and therefore flexible in adapting to the skill levels and specific classroom experiences of each teacher (Webster-Stratton, Reinke, Herman, & Newcomer, 2011). The IY TCM incorporates teacher experiences and the cultural contexts of the participants' classroom into the workshop content. Teachers learn key classroom management skills through discussion, observation of videotaped examples of classroom situations, role-play rehearsal, and verbal and written assignments that are reviewed and returned (Webster-Stratton & Reid, 2002).

The workshop sessions provide teachers with the important initial stages of learning new skills. In addition, the IY TCM embeds coaching within the training model. As teachers learn specific skills in the group based training, they are then followed individually by a coach who conducts observations, provides performance feedback, and assists with problem solving, goal setting, and implementation of strategies from the workshops (Reinke, Stormont, Webster-Stratton, Newcomer, & Herman, 2012).

Supporting Evidence for the IY TCM program. A number of randomized control trials (RCTs) of the IY series have included the TCM program. The first RCT was a prevention trial with 272 students from Head Start and their mothers (Webster-Stratton, Reid, & Hammond, 2001). Participants were randomly assigned to either the IY parent and teacher programs or a control condition. Results indicated that in classrooms of teachers receiving IY TCM, students were observed to have higher on-task behavior, increased pro-social behaviors, and decreased aggression. A second RCTs was conducted with 159 students diagnosed with conduct problems (Webster-Stratton, Reid, & Hammond, 2004). The study compared child and parent training with and without IY TCM, resulting in five combinations of IY programs (three with IY TCM) and a no-treatment control condition. Teachers who received IY TCM were observed post-intervention to use more praise and be more nurturing, consistent, and confident than teachers who did not receive IY TCM. Additionally, students in classrooms with teachers who received IY TCM were significantly less aggressive with peers and more cooperative with teachers. A third trial of the IY TCM conducted by Webster-Stratton, Reid, and Stoolmiller (2008) showed similar effects in preschool settings for an IY TCM intervention combined with the IY child social-emotional curriculum. Additionally, Raver and colleagues (2008) found strong effects (d = 0.52 to 0.89) for a multi-component intervention that included the IY TCM program on

classroom climate and teacher behaviors in 36 Head Start classrooms. Although these results are very promising, specific IY TCM impact could not be determined due to the nature of the multi-component interventions.

IY TCM only evaluations. A few studies have evaluated the impact of the IY TCM program as a stand-alone intervention. Hutchings and colleagues (2007) found that elementary school teachers in Wales who received the IY TCM as compared to a group who had not significantly increased their use of direct commands and praise. Further, the students in classrooms of trained teachers were significantly more compliant and had more positive classroom behaviors than students in classrooms of untrained teachers. In addition, Carlson, Tiret, Bender, and Benson (2011) examined preschool teachers' perceptions of the usefulness and frequency of use of classroom management strategies following completion of the IY-TCM training. Significant increases in teachers' perceptions of positive strategy use were found from pretest to posttest. However, both of these studies were limited by the small sample size and lack of rigorous research design (e.g., participants were not randomly assigned to condition). More recently, Hutchings, Martin-Forbes, Daley, and Williams (2013) evaluated the efficacy of the IY TCM to improve teacher behavior, student behavior classroom-wide, and with students at risk of developing conduct problems. Participants included six intervention and six control classrooms comprising 12 teachers and 107 students (aged 3 to 7 years). Results showed a significant reduction in observed classroom off-task behavior ($d = 0.53$), teacher negatives to target students ($d = 0.36$), target child negatives towards the teacher ($d = 0.42$), and target child off-task behavior ($d = 0.48$). Although the results were promising the study was limited by the small sample and the narrow age range of the child sample (three to seven years).

Generalizability of IY TCM. Most prior studies of IY TCM have included samples with limited diversity. Few studies have included a large percentage of youth from minority or low income backgrounds. The Hutchins and colleagues' studies (2007; 2013) which occurred in Wales suggest the program has promise for international applications. However, while the principles that underlie the program are intended to be universal aspects of effective classrooms, more research is needed to determine the generalizability of the program. In particular, applying IY TCM in schools with high concentrations of African American youth could help address concerns about large achievement gaps these youth experience compared to White youth in the U.S.

Rationale for the current study. The IY TCM as a stand-alone intervention has great potential to positively impact large numbers of students given that each year teachers have up to 30 students in their classrooms. The prior studies discussed have shown promising results for the IY TCM program on teacher and student behavior, although none without limitations. Further, none of the IY TCM studies have investigated the potential impact of the IY TCM program on academic outcomes. By promoting student skills and reducing disruptive behaviors, IY TCM implementation may allow for more instructional time and more student time on task which could lead to more learning and higher academic performance. Finally, most prior studies have included samples of predominately White students and teachers thus more research is needed to extend these findings to other settings and students.

The purpose of this study was to evaluate the efficacy of the IY TCM program using a large group RCT on student social emotional, disruptive behavior, and academic outcomes in schools with a high percentage of African American students living in an urban context. This is one of the first large-scale stand-alone evaluations of the IY TCM program with the full range of

teachers (kindergarten to third grade) that investigates both change in teacher behavior and student behavior, as well as academic outcomes for students. Based on previous research (e.g., Webster-Stratton et al., 2001b; Webster-Stratton et al., 2004), we hypothesized that students in the classrooms of teachers who received the IY TCM intervention would demonstrate reductions in concentration problems, disruptive behaviors, and problems with emotional regulation in comparison to students in classrooms of the control group teachers. In addition, students in classrooms of teachers who received the IY TCM intervention were expected to demonstrate increases in prosocial behavior, overall social competence, academic competence, and academic achievement in comparison to students in the classroom of the control group teachers.

Lastly, there is a growing body of research suggesting that the effects of universal prevention programs may not be consistent across the full population of students exposed to the program (Farrell et al., 2013; Schochet et al., 2014; Supplee et al., 2013); in fact, there is emerging evidence that the variation in intervention responsiveness may be predicted by baseline behavioral or social emotional risks (e.g., Bradshaw, Wassdorf, & Leaf, 2015; Kellam, Ling, Merisca, Brown, & Ialongo, 1998). Thus, while IY TCM is a universal intervention, we expected that students with more disruptive behavior or lower levels of social emotional competence and academic functioning would benefit more from the intervention than similar students in the control group (e.g., moderating effects of pre-test on outcomes).

Methods

Participants

Participants in this group RCT were 105 teachers and 1817 students in kindergarten to third grade from nine urban schools in a single school district serving primarily African American students in the Midwestern part of the United States. Schools were invited to

participate because of the diversity of the student population and the goal of the project to

examine IY TCM effects in this setting. Additionally, all the schools in the study were

implementing school-wide Positive Behavior Supports and Interventions (PBIS; Sugai & Horner,

2002) with high fidelity (scores above 90% as gathered and reported by independent state

evaluators). District-wide implementation of PBIS added strength to the design because it

provided uniformity of behavior support programs across intervention and control schools.

Nearly all schools across the country are implementing a multitude of social-emotional or

behavioral intervention programs that often operate from different perspectives and levels of

efficacy. For instance, on average, each school in a recent trial was implementing five separate

social emotional intervention programs in a given year (Bradshaw, Mitchell, & Leaf, 2012).

Therefore, having PBIS as the foundation of the school discipline approach added consistency

and reduced noise across buildings. Additionally, even in schools implementing PBIS with

fidelity in school-wide settings, much evidence indicates relatively low implementation occurs in

classrooms (Reinke, et al., 2013).

As indicated in the participant flowchart (see Figure 1), the study had high rates of

enrollment for eligible teachers (96%) and students (84%). All teacher participants and parents of

student participants provided written consent, and all students provided written assent to

participate in the study. A blocked cluster random assignment design was utilized. Teachers were

randomly assigned to receive IY TCM or to a wait-list, business as usual control group within

school, with the constraint that the number of intervention teachers be no more than one more or

less than the number of control teachers. Teacher participants were recruited and randomized

across three cohorts [year 1: 34 teachers (17 intervention), 577 students; year 2: 34 teachers (17

intervention), 571 students; year 3: 37 teachers (19 intervention), 670 students]. The majority of

teacher participants were female (97%) and white (75%; 22% African American and 3% other).

The average years of teaching experience is 11.10 with a standard deviation of 8.10. The child

sample included slightly more males (52%) and African American students (76%; 22% White,

and 2% other), 61% of the student sample qualified for free or reduced lunch, and 9% of the

sample received special education services.

Procedures

The University Institutional Review Board and the participating school district approved

the study protocol. Teachers and students were recruited at the beginning of the school year.

Data were collected at the beginning of the school year, prior to the intervention, and at the end

of the school year, post-intervention. All pre-intervention assessments occurred in early October.

Post-intervention assessments were collected in late April and May of the same academic year.

Intervention Condition. In three sequential, annual cohorts of 15-20, teachers in the IY

TCM condition attended three sets of two full-day group trainings in late October, December

and February. All trainings were co-facilitated by two doctoral level IY TCM group leaders

who were supervised by the program developer; one of these trainers also served as a coach

who supported teacher implementation following sessions.

IY TCM is a comprehensive curriculum for improving teacher classroom management

and relationship skills. IY TCM views solid relationships with all students and parents as a

necessary element of successful classroom management. Much time during all training sessions

is devoted to observing video vignettes of actual teacher interactions with students. Each

vignette provides a model for effective interaction and also evokes discussion and insight about

the teacher's beliefs, biases, and perceptions of these interactions. The trainers prompt

reflections with Socratic questioning about the videos ("How are you feeling as the teacher in

this situation?" "How is the student feeling?" "What is the student learning?" "How would you

respond in this situation?") and facilitate group discussion. These conversations spark role plays

to practice challenging interactions. In this way teachers can serve as models for others and/or

get feedback about improving their interactions. Each section of the training provides ample

time for self-reflection; teachers respond to a series of questions about their current practices

and what they can do differently.

Time is also allotted for teachers to develop plans for improving their classroom ecology

and for developing behavior support plans for responding to challenging students. These plans

always include specific prompts for how the teacher will engage youth and families (see

Author, 2014 for more details about these plans and outcomes in this sample). Specific tools

and strategies are provided in the materials that each teacher receives. A coach meets with

teachers on a regular basis after the first workshop through the end of the school year; the

amount of time and focus of these meetings is tailored to the teachers' interests and needs. For

more information about curriculum content see

(http://incredibleyears.com/programs/teacher/classroom-mgt-curriculum) .

Control Condition. Teachers assigned to the wait-list control condition continued their

business as usual teaching and professional development opportunities during the study period.

They were offered IY TCM at the end of the study after follow-up data had been collected.

Fidelity of implementation. Fidelity of implementation of the IY TCM workshops and

teacher implementation skills were monitored over the course of the year and are documented in

a separate report (see Author, 2013). In summary, teachers in the intervention were all exposed

to the training workshops; nearly all teachers attended all six workshops (attendance rate was 94-

100% for each workshop) and the few teachers who missed a workshop due to illness or other

reason met with the IY TCM coach to review missed material. Teachers rated the workshops with high satisfaction and likelihood of recommending the training to others (mean ratings of 6.44 and 6.75 on a scale from 1-7 with high scores indicating greater satisfaction). Teachers also received a strong dose of coaching. The average amount of time each teacher spent with the coach between and after workshop sessions was nearly six hours (358 minutes). A typical coaching session included the teacher and coach reviewing the teacher's goals from the previous week, reviewing anecdotal or graphical displayed performance feedback data collected by the coach during observations in the classroom. Data shared with the teacher included the frequency of general and specific praise, the ratio of praise statements to reprimands, and the frequency of the number opportunities to respond, precorrects, and harsh reprimands. The teacher would assess her performance based on the feedback provided, and create a plan to increase or refine her use of the proactive classroom management strategies, or to use new strategies to meet new goals for the coming week.

Measures

Student demographics. Free and reduced lunch status (FRL), race, sex, and special education status were obtained from the school district for all participating students. Students were coded as 1 if they received FRL and 0 if not. Student sex was coded as 1 for male and 0 for female. Student receiving special education were coded as 1 and if not 0. For the purposes of this study student race was coded as Black, White, or Other Race.

Teacher report of child social behavior and academics. The *Teacher Observation of Classroom Adaptation-Checklist* (TOCA-C; Koth, Bradshaw, & Leaf, 2009) is a 54-item measure of child behavior. It was completed by the classroom teachers for each child. The four subscales of the TOCA-C included in the present study were Disruptive Behaviors,

Concentration Problems, Emotional Dysregulation, and Prosocial Behavior. The item responses ranged from 1 (never) to 6 (almost always). Previous research of the TOCA-C has found internal consistency estimates ranging from .86 to .96. For the current study, the internal consistency (computed using Cronbach's alpha) for each subscale ranged from .77 to .96.

The *Revised Social Competence Scale-Teacher version* (T-COMP; Gifford-Smith, 2000) is a 17-item measure, which assesses the teacher's perception of a child's prosocial behavior, emotional self-regulation, and academic competence. The total across all items provide an overall social competence score. For the purposes of this study the academic competence subscale and the overall social competence scale were used. The item responses range from 0 (almost never) to 5 (almost always). The T-COMP scales have been shown to demonstrate strong internal consistency, and have a consistent factor structure over time (Corrigan, 2003; Gifford-Smith, 2000). For the current study, the internal consistency (computed using Cronbach's alpha) for the overall social competence ranged from .93 to .96 and from .92 to .93 for the academic competence subscale.

Standardized academic achievement. In addition to teacher report of child academic competence, The *Woodcock-Johnson III* Normative Update Tests of Achievement (WJ III ACH; Woodcock, McGrew, & Mather, 2007) was conducted with each child. The WJ III is an assessment of child academic achievement. The present study included two subscales, Broad Reading and Broad Math. The WJ III ACH has strong psychometric properties (Woodcock, McGrew & Mather, 2007; Bradley-Johnson, Morgan, & Nutkins, 2004). Specifically, the test-retest reliability for the subtests included in the present study range from .80 to .95 (Bradley-Johnson et al., 2004). Research has also documented support for the construct validity of the Achievement subtests used in the current study (Bradley-Johnson et al., 2004).

Analytic Approach

Missing Data

The original sample included 1817 students. Missing data occurred primarily on the outcome measures. The missing rates for the pretests of eight outcome measures range from 0.4% to 2.3% while the missing rates for the posttests of eight outcome measures range from 6.4% to 7.3% in the overall sample. The maximum differential missing rates between the treatment and control groups are 2.70% for the pretest and 0.70 for the posttest. We excluded the students whose posttests were missing from the final analytic samples. The final analytic samples included 9 schools (105 teachers and 1680 students for the analyses of social and behavioral outcomes; 105 teachers and 1685 students for the analyses of academic achievement outcomes). The maximum data missing rate in the final analytic samples was 1.8%. Multiple imputation using a Markov chain Monte Carlo (MCMC) method in SAS PROC MI was used to impute missing data on pretest and other covariates. We imputed five times.

Analysis of Main Effects

For each of the five imputed datasets, three-level hierarchical linear models (HLM), in which students (level 1) are nested within teachers (level 2) and teachers are nested within schools (level 3), were conducted using SAS PROC MIXED to examine the overall treatment effects student behavior and academic outcomes. Each student's pretest and demographic information were included at level 1, and the treatment variable was at level 2 and its coefficient was assumed constant across level 3. SAS PROC MIANALYZE was used to combine the results from the analyses of five datasets. The statistical model is below:

Level 1 (student): $Y_{ijk} = \alpha_{0jk} + \sum_{q=1}^{Q} \alpha_{qjk} X_{qijk} + e_{ijk}$, $e_{ijk} \sim N(0, \sigma^2)$

Level 2 (class):
$$\alpha_{0jk} = \beta_{00k} + \beta_{01k}(Condition)_{jk} + \mu_{jk}$$
$$\alpha_{qjk} = \beta_{q0k}, q = 1,...,Q.$$
, $u_{jk} \sim N(0, \tau_2^2)$

Level 3 (school):
$$\beta_{00k} = \gamma_{000} + \xi_k$$
$$\beta_{01k} = \gamma_{001}$$
$$\beta_{q0k} = \gamma_{q00}, q = 1,...,Q.$$
, $\xi_k \sim N(0, \tau_3^2)$

where X_{qijk} represents student-level covariates, which include pretest, age at pretest, gender,

race, FRL, special education status, grade level, and cohort year in the study. $(Condition)_{jk}$ is a

binary variable indicating treatment condition (Condition = 0 for control group and Condition =

1 for treatment group). The parameter, γ_{001}, estimates the overall treatment effect, which is

assumed constant across schools. σ^2, τ_2^2, and τ_3^2 are variance components for level 1, level 2,

and level 3 conditional on these covariates.

Moderation Analysis

Moderation analyses were conducted to examine whether the treatment effects on child

outcomes differed by demographic variables and pretest measures of social emotional and

disruptive behavior and academics. The statistical models were similar to the models main

effects but had the additional interaction term of treatment and moderator. Specifically, in the

level-2 model, we included the treatment condition to predict to the coefficient of the pretest that

was grand mean centered.

Level 2 (class):
$$\alpha_{0jk} = \beta_{00k} + \beta_{01k}(Condition)_{jk} + \mu_{jk}$$
$$\alpha_{qjk} = \beta_{q0k} + \beta_{q1k}(Condition)_{jk}, q = 1,...,Q.$$
, $u_{jk} \sim N(0, \tau_2^2)$

The parameter, β_{q1k}, estimate the moderator effects of the qth covariate and are assumed

constant across schools ($\beta_{q1k} = \gamma_{q10}$).

Results

Table 1 provides descriptive statistics for the study variables. The effect size is provided in Table 1, indicating that the baseline measures were equivalent between the two conditions. HLM results for 3-level models examining the effects of IY TCM on social behavior and academic outcomes and moderation analyses are provided below.

Main Effects on Social Behavior

Table 2 provides the main effects of the intervention on outcomes. Main effect analyses demonstrated that students in IY TCM showed significant improvement on teacher reported prosocial behavior ($b = 0.14$, $p = .03$, $d = .13$), emotional dysregulation ($b = -0.15$, $p = .00$, $d = -.14$), and overall social competence ($b = 0.14$, $p = .02$, $d = .13$) compared to students in the control condition. However, there were no significant effects of IY TCM on teacher reported disruptive or concentration problems.

Main Effects on Academic Outcomes

There were no main effects on standardized reading or math scores. However, teacher reported academic competence demonstrated a trend favoring students in the IY TCM classroom in comparison to control classrooms ($b = 0.11$, $p = .07$, $d = .08$).

Moderating Effects

Table 2 also provides the moderation effects of pretest measures on outcomes. Demographic information as moderators were not statistically significant at an alpha of 0.05. Thus, only the results for pretests as moderators were reported here. Pretests were centered at the grand mean. Two of the pretest measures had statistically significant moderation effects. Overall social competence was moderated by child pretest levels of social competence ($b = -.09$, $p = .04$), indicating that students with lower social competence at pretest who were in intervention

classrooms demonstrated greater increases in social competence over time in comparison to similar peers in control classrooms (See Figure 2). Similarly, students with lower levels of academic competence at pretest demonstrated greater increases in academic competence over time in comparison to similar peers in the control classrooms (b = -.08, p = .00; See Figure 3).

Discussion

This group RCT investigated the efficacy of the IY TCM as a stand-alone program among teachers in classrooms K to 3rd grade on child social behavior and academic outcomes. It was hypothesized that students in the classrooms of teachers who received the IY TCM would exhibit reductions in disruptive behavior, concentration problems, and emotional dysregulation. In addition, students in the IY TCM classrooms were expected to demonstrate increases in prosocial behavior, social competence, and improvements in academics.

The first hypothesis was partially supported in that students in IY TCM classrooms demonstrated a significant reduction in emotional dysregulation and improvements in prosocial behavior and social competence relative to students in business as usual classrooms. However, there were no significant findings for disruptive behavior or concentration problems. It was expected that IY TCM would demonstrate significant proximal impacts on concentration difficulties and disruptive behavior such as has been found with other universal behavior interventions (Bradshaw et. al., 2013; Kellam et al., 2008). Notably, all schools in the present study were implementing a school-wide behavior support program (PBIS) with high fidelity. Prior studies have found significant effects of these school-wide practices in reducing disruptive behaviors school-wide. So the presence of this school-wide approach may have muted IY TCMs effects on disruptive behaviors, a conclusion supported by the relatively low baseline rates of disruptive behaviors in the present study. It is also possible that IY TCM may have indirect

effects on student disruptive behaviors and concentration through more proximal changes in

teacher behaviors. These hypotheses will be examined in future papers.

The findings that IY TCM supported the development of self-regulation, prosocial

behaviors and social competence in students demonstrates that this universal classroom

management intervention not only reduces problems behaviors (e.g., difficulties with regulating

emotions) but also may foster the development of positive behaviors among students. This is

likely due to the comprehensive nature of the intervention in that IY TCM trains teachers in

effective practices to both reinforce appropriate behaviors as well as to decrease inappropriate

classroom behaviors. Further, one unique aspect of the IY TCM curriculum is that teachers are

trained to use social and emotional coaching with students. Social and emotional coaching

involves using descriptive commenting about a student's thoughts, feelings, and behaviors to

highlight specific learnings skills, such as emotional regulation and patience (Webster-Stratton,

2012). Teachers are trained to use this strategy during times when students encounter challenges

to help problem solve the process and teach social emotional behaviors to students in the

moment. The finding that intervention effects were most pronounced for youth with lower

baseline social competence is particularly encouraging. That a universal classroom management

approach can mitigate risk for these youth may help lower the number of students who will need

more intensive supports for improving their social skills.

In addition to focusing on social and emotional skills, social coaching is also used to

promote academic persistence and related learning skills which may be related to the

improvements seen in academic competence among those students who exhibited lower levels at

baseline. The lack of findings with regard to standardized academic achievement were not

entirely surprising given that performance on standardized measures of academic achievement is

a fairly distal outcome to changes in classroom behaviors. Improving academic enablers, such as coaching academic persistence during difficulty tasks, promoting effective problem solving/ social skills (Elliott, DiPerna, Mroch, & Lang, 2004), and increasing emotional regulations skills (Zimmerman, 1998), may increase student access to instruction and learning. Here we found evidence that IY TCM promoted teacher-rated academic competence for youth with lower levels of competence at the start-of-the-year. Future work will examine whether IY TCM has indirect effects on achievement performance through changes in these more proximal competency behaviors.

IY TCM had main effects on self-regulation, prosocial, and academic competence among youth—all important improvements for student success. The effect sizes were relatively modest; however, small effect sizes are common in longitudinal universal prevention studies (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2010; Flay Biglan, Boruch, et al., 2005). Small effects are expected from universal preventive interventions given that they are delivered to entire populations with varying degrees of risk (i.e., many individuals would not develop behavior or academic problems even without the intervention); yet very small effects on a population level can result in dramatic improvements in public health outcomes (NRC & IOM, 2009).

More recently, researchers suggest that empirical benchmarks to help interpret the practical effects of interventions are warranted (Bloom, Hill, Black, & Lipsey, 2008; Hill, Bloom, Black, & Lipsey, 2008; Lipsey et al., 2012). A recent study reports policy relevant demographic performance gaps, including the white-black, girls-boys, and ineligible-eligible free or reduced-price lunch achievement gaps on the measures used in this study (see Dong, Reinke, Herman, Bradshaw, & Murray (revise & resubmit). This study provides the natural estimates of

gaps between African American and White students, girls and boys, and students receiving free and reduced lunch and those who do not, which can be used to interpret the effect size of an intervention regarding the impact on reducing demographic performance gaps among subgroups. From these study findings we can interpret the findings from this study in the following ways: (a) an effect size of 0.13 on the TOCA prosocial behavior subscale is equivalent to reducing the gap between African American and White students on this behavior by 38.2%, 54.7%, for boys versus girls, and 80.70% between students receiving free or reduced lunch to student who are not eligible, (b) an effect size of -0.14 on the TOCA emotional dysregulation subscale is equivalent to reducing the white-black gap on this behavior by 56.90%, improving the gap between boys and girls by 34.20%, and reducing the gap between student receiving free or reduced lunch to student not eligible by 69.20%, and (c) an effect size of 0.13 on the T-COMP total social competence measure is equivalent to reducing the white-black gap on this behavior by 33.50%, reducing the girls-boys gap by 33.80%, and reducing the ineligible- free and reduced lunch gap by 30.60%,. In summary, IY TCM can greatly reduce the white-black, girls-boys, and ineligible-eligible free or reduced-price lunch achievement gaps on important social behavioral outcomes, making even a small overall effect size on the larger population meaningful and important.

Study Limitations

While the findings are interesting and important, this study is not without some limitations. The findings from the study are predominantly teacher report. Although we recognize that a teacher report of need is not equivalent to an assessment made by a clinician or a diagnostic assessment, teachers are the most common source of students' social behavior and special education referrals (Zima, Haltburt, Kinapp, et al., 2005), thus their assessments are important in the context of school-based interventions and have been shown to predict social

behavioral problems (Koth, et. al., 2009; Reinke, Herman, Petras, & Ialongo, 2008; Schaffer, Petras, Ialongo, & Kellam, 2003). Additionally, because they interact with large numbers of youth during their careers, teachers provide a valuable normative perspective on youth behaviors and their ratings are viewed as the gold-standard assessment for a wide range of youth prosocial and disruptive behaviors. Second, in this study we do not report the indirect impacts of teacher behavior on student outcomes. We conceptualize that the results presented in this manuscript are due to teacher use of IY TCM practices in the classroom, however, we do not report the mediating role of teacher behaviors on student outcomes here. We propose to investigate the mediating role of teacher behaviors on student outcomes in a separate study in hopes to elucidate the proximal mechanisms of change leading to student outcomes.

Implications

Despite the limitations, the findings from this study provide important implications for promoting effective environments in schools. Teachers often struggle with classroom management, with many citing behavior problems in schools as their primary stressor (Reinke et al., 2011). Ineffective classroom management can undermine child development including their academic, social, and emotional competence. IY TCM can help improve classroom environments to be more conducive to positive youth development. School psychologists, with their knowledge and training in evidence-based intervention, can work with schools to identify appropriate training and prevention interventions to support teachers in effective classroom management. Advocating for universal prevention programs that have the potential to positively impact large numbers of students such as IY TCM is an important role for school psychologists, as many schools struggle to identify evidence-based program and practices (Stormont, Reinke, & Herman, 2011).

Further, the findings in this sample of predominantly low-income African American youth in an urban context suggests IY TCM principles and practices may be generalizable to schools across the nation with higher risk populations. This is particularly encouraging given the heightened interest and attention to longstanding achievement gaps between racial and ethnic groups in the U.S. Using benchmark strategies as described in this discussion can provide educators and policy makers with critical information for making decisions about new programs and practices to reduce these gaps.

Future Directions

The present findings suggest that IY TCM holds promise as a universal prevention program for supporting teacher use of effective classroom management practices and for promoting youth social and academic competence, particularly those with lower levels of competence at the start of the year. Future research will examine the mechanisms by which IY TCM impacts youth outcomes. For instance, what teaching practices may lead to improvements for some students more than others? Additionally, given the intense and comprehensive nature of the IY TCM, researchers may want to look toward identifying the critical ingredients of the intervention by dismantling the IY TCM components. Determining whether particular components of the training (i.e., social emotional coaching) have a greater impact on particular social or academic behaviors could increase feasibility and focus for schools wanting to target areas of need within their building. Further, investigating whether some teachers benefit more from the IY TCM training than others would be of interest. Perhaps fewer workshop days are necessary for teachers who have a higher rate of proactive classroom management practices.

Conclusion

Teaching is a challenging profession and the need for qualified, effective teachers is

imperative to student success. However, many teachers are not adequately prepared to manage

behavior problems in the classroom causing an astonishing number to leave the profession early

in their careers (Smith & Ingersoll, 2004). It has been estimated that the cost of teacher turnover

in public schools is over 7 billion dollars a year (NCTAF, 2007). In light of this, improving the

classroom management skills of teachers should be a priority for policy makers. This RCT,

alongside the previous research, shows that the IY TCM is an effective way of improving

important student social and academic behaviors. School psychologist can be integral in helping

schools identify, implement, and evaluate effective universal prevention programs such as IY

TCM in efforts to improve outcomes for all students.

References

Author, (2013)

Author, (2014)

Bandura, A. (1977). *Social learning theory.* Oxford England: Prentice-Hall.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173-1182.

Bloom, H. S., Hill, C. J., Black, A. B. & Lipsey, M. W. (2008) Performance Trajectories and Performance Gaps as Achievement Effect-Size Benchmarks for Educational Interventions, *Journal of Research on Educational Effectiveness, 1*(4), 289-328, doi: 10.1080/19345740802400072

Bradshaw, C. P., Waasdorp, T., & Leaf, P. (2015). Examining the variation in the impact of School-Wide Positive Behavior Interventions and Supports: Finding from a randomized controlled effectiveness trial. *Journal of Educational Psychology, 2*, 546-557.

Bradshaw, C. P., Waasdorp, T. E., & Leaf, P. J. (2012). Effects of School-Wide Positive Behavioral Interventions and Supports on Child Behavior Problems. *Pediatrics*, *130*(5), e1136–e1145. http://doi.org/10.1542/peds.2012-0243

Carlson, J. S., Tiret, H. B., Bender, S. L., & Benson, L. (2011). The influence of group training in the Incredible Years Teacher Classroom Management program on preschool teachers' classroom management strategies. *Journal of Applied School Psychology, 27*, 134–154. http://dx.doi.org/10.1080/15377903.2011.565277.

Conroy, M., Sutherland, R., Haydon, Stormont, M., & Hardon (2009). Preventing and

ameliorating young children's chronic problem behaviors: An ecological classroom-based

approach. *Psychology in the Schools, 46*, 3-17.

Curby, T. W., Rimm-Kaufman, S. E., & Abry, T. (2013). Do emotional support and classroom

organization earlier in the year set the stage for higher quality instruction? *Journal of

School Psychology, 51*, 557-569.

Dong, N., Reinke, W. M., Herman, K. C., Bradshaw, C. P., & Murray, D. W. (revise &

resubmit). Meaningful effect sizes, intra-class correlations, and proportions of variance

explained by covariates for panning 3 level cluster randomized trials of social and

behavioral outcomes. *Evaluation Review*.

Durlak, J., Weissberg, R., Dymnicki, A., Taylor, R., & Schellinger, K. (2011). The impact of

enhancing students' social and emotional learning: a meta-analysis of school-based

universal interventions. *Child Development, 82*, 405–432.

Elliott, S. N., DiPerna, J. C., Mroch, A. A., & Lang, S. C. (2004). Prevalence and patterns of

academic enabling behaviors: An analysis of teachers' and students' ratings for a national

sample of learners. *School Psychology Review, 33*, 297-304.

Farrell, A. D., Henry, D. B., & Bettencourt, A. (2013). Methodological challenges examining

subgroup differences: Examples from universal school-based youth violence prevention

trials. *Prevention Science, 14*, 121–133. doi:10.1007/s11121-011-0200-2

Flay B., Biglan A, Boruch R., et al. (2005). Standards of evidence: criteria for efficacy,

effectiveness and dissemination. *Prevention Science, 6*, 151–175.

Gifford-Smith, M. (2000). *Teacher Social Competence Scale, Fast Track Project Technical

Report.* Durham, NC: Duke University.

Hill, C. J., Bloom, H. S., Black, A. R., & Lipsey, M. W. (2008). Empirical Benchmarks for Interpreting Effect Sizes in Research. *Child Development Perspectives, 2* (3), 172–177.

Hutchings, J., Daley, D., Jones, K., Martin, P., Bywater, T., and Gwyn, R. (2007). Early results from developing and researching the Webster-Stratton Incredible Years Teacher Classroom Management Training Programme in North West Wales. *School of Psychology*, University of Wales, 1 -29.

Hutchings, J., Martin-Forbes, P., Daley, D., & Williams, M. E. (2013). A randomized controlled trial of the impact of a teacher classroom management program on the classroom behavior of children with and without behavior problems. *Journal of School Psychology, 51*, 571-585.

Ialongo, N., Poduska, J., Werthamer, & Kellam (2001). The distal impact of two first-grade preventive interventions on conduct problems and disorder in early adolescence. *Journal of Emotional and Behavioral Disorders, 9*, 146-160.

Jones, V.F. & Jones, L.S. (2004). *Comprehensive classroom management, creating communities of support and solving problems* (7th edition). Boston: Allyn & Bacon.

Kellam, S. G., Brown, C. H., Poduska, J., Ialongo, N., Wang, W., Toyinbo, P., … Wilcox, H. C. (2008). Effects of a Universal Classroom Behavior Management Program in First and Second Grades on Young Adult Behavioral, Psychiatric, and Social Outcomes. *Drug and Alcohol Dependence*, *95*(Suppl 1), S5–S28. http://doi.org/10.1016/j.drugalcdep.2008.01.004

Kenny, D. A., Kashy, D. A., & Bolger, N. (1998). Data analysis in social psychology. In D. Gilbert, S. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (Vol. 1, 4th ed., pp. 233-265). Boston, MA: McGraw-Hill.

Koth, C. W., Bradshaw, C. P., & Leaf, P. J. (2009). Teacher Observation of Classroom

Adaptation-Checklist: Development and factor structure. *Measurement and Evaluation in

Counseling and Development, 42*, 15-30.

Krull, J. L. & MacKinnon, D. P. (1999). Multilevel mediation modeling in group-based

intervention studies. *Evaluation Review, 23*, 418-444.

Krull, J. L., & MacKinnon, D. P. (2001). Multilevel modeling of individual and group level

mediated effects. Multivariate Behavioral Research, 36, 249–277.

Lipsey, M.W., Puzio, K., Yun, C., Hebert, M.A., Steinka-Fry, K., Cole, M.W., Roberts, M.,

Anthony, K.S., Busick, M.D. (2012). *Translating the Statistical Representation of the Effects

of Education Interventions into More Readily Interpretable Forms.* (NCSER 2013-3000).

National Research Council (2002). *Minority students in special and gifted education. Committee

on Minority Representation in Special Education*. Washington DC: National Academy Press.

National Research Council and Institute of Medicine (2009). *Preventing mental, emotional, and

behavioral disorders among young people: Progress and possibilities.* Washington, DC:

National Academies Press.

NCTAF (2007). *Policy brief: The high cost of teacher turnover.*

http://www.nctaf.org/resources/research_and_reports/nctaf_research_reports/documents/NC

TAFCostofTeacherTurnover.pdf

Reinke, W.M. & Herman, K. C. (2002). Creating school environments that deter antisocial

behaviors in youth. *Psychology in the Schools, 39*, 549-559.

Reinke, W.M., Herman, K.C., Petras, H., & Ialongo, N. (2008). Empirically-derived subtypes of

child academic and behavior problems: Co-Occurrence and distal outcomes. *Journal of

Abnormal Child Psychology, 36*, 759-777.

Reinke, W. M., Stormont, M., Herman, K.C., Puri, R., Goel, N. (2011). Supporting children's

mental health in schools: Teacher perceptions of needs, roles, and barriers. *School

Psychology Quarterly*, *26*, 1-13.

Reinke, W.M., Stormont, M., Webster-Stratton, C., Newcomer, L., & Herman, K.C. (2012). The

Incredible Years Teacher Training: Using coaching to support generalization to real

world classroom settings. *Psychology in the Schools, 49*, 416-428.

Reinke, W.M., Herman, K.C., & Stormont, M. (2013). Classroom Level Positive Behavior

Supports in Schools Implementing SW-PBIS: Identifying Areas for Enhancement.

Journal of Positive Behavior Interventions, 15, 39-50.

Raver, C. C., Jones S., Li-Grining, C. P., Metzger M., Champione,K. M., & Sardin., L. (2008).

Improving preschool classroom processes: Preliminary findings from a randomized trial

implemented in Head Start settings. *Early Childhood Research Quarterly, 23*, 10–26.

Schaeffer, C.M, Petras, H., Ialongo, N., Poduska, J., & Kellam, S. (2003). Modeling growth in

boys' aggressive behavior across elementary school: links to later criminal involvement,

conduct disorder, and antisocial personality disorder. *Developmental Psychology, 39*,

1020–1035. pmid:14584982

Schochet, P. Z., Puma, M., & Deke, J. (2014). *Understanding variation in treatment effects in

education impact evaluations: An overview of quantitative methods* (NCEE Report 2014–

4017). Washington, DC: U.S. Department of Education, Institute of Education Sciences.

Smith T., Ingersoll R. (2004). What are the effects of induction and mentoring on beginning

teacher turnover? *American Educational Research Journal, 41*, 681–714.

Snyder, J., Low, S., Schultz, T., Barner, S., Moreno, D., Garst, M., & ... Schrepferman, L.

(2011). The impact of brief teacher training on classroom management and child

behavior in at-risk preschool settings: Mediators and treatment utility. *Journal of Applied Developmental Psychology, 32,* 336-345. doi:10.1016/j.appdev.2011.06.001

Stormont, M., Reinke, W.M., & Herman, K.C. (2011). Teachers' characteristics and ratings for evidence-based behavioral interventions. *Behavioral Disorders, 37*, 19-29.

Supplee, L. H., Kelly, B. C., MacKinnon, D. M., & Barofsky, M. Y. (2013). Introduction to the special issue: Subgroup analysis in prevention and intervention research. *Prevention Science, 14*, 107–110. doi:10.1007/s11121-012-0335-9

Walter, H. J., Gouze, K., & Lim, K. G. (2006). Teachers' beliefs about mental health needs of inner city elementary schools. *Journal of the American Academy of Child & Adolescent Psychiatry, 45*, 61–68. doi: 10.1097/01.chi.0000187243.17824.6c

Webster-Stratton, C., Reid, M., & Hammond, M. (2001). Preventing conduct problems, promoting social competence: A parent and teacher training partnership in Head Start. *Journal of Clinical Child Psychology,30,* 283-302. doi:10.1207/S15374424JCCP3003_2

Webster-Stratton, C., Reid, M., & Hammond, M. (2004). Treating children with early-onset conduct problems: Intervention outcomes for parent, child, and teacher training. *Journal of Clinical Child and Adolescent Psychology, 33,* 105-124. doi:10.1207/S15374424JCCP3301_11

Webster-Stratton, C. (2005). The Incredible Years: A training series for the prevention and treatment of conduct problems in young children. In E. D. Hibbs, & P. S. Jensen (Eds.), *Psychosocial treatments for child and adolescent disorders: Empirically based strategies for clinical practice* (pp. 507–555) (2nd ed.). Washington, DC: American Psychological Association.

Webster-Stratton, C., Reinke, W.M., Herman, K.C., & Newcomer, L. (2011). The Incredible

    Years Teacher Classroom Management Training: The methods and principles that

    support fidelity of training delivery. *School Psychology Review*, *40*, 509-529.

Webster-Stratton, C. (2012). *How to promote children's social and emotional competence.*

    Seattle, WA: Incredible Years Ltd.

Woodcock, R. W., McGrew, K. S., & Mather, N. (2007). *Woodcock-Johnson III Tests of*

    Achievement. Rolling Meadows, IL: Riverside Publishing.

Zima B.T., Hurlburt, M.S., Knapp, P., et al, (2005). Quality of publicly-funded outpatient

    specialty mental health care for common childhood psychiatric disorders in California.

    Journal of American Academy of Child Adolescent Psychiatry, 44, 130–144.

    pmid:15689726

Zimmerman, B. J. (1998). Academic studying and the development of personal skill: A

    selfregulatory perspective. *Educational Psychologist, 33*, 73-86.

Table 1. *Descriptive Statistics for Study Variables across Groups at Baseline*

Baseline Variables	Control		Treatment	
	Mean	SD	Mean	SD
TOCA - concentration problems	3.17	1.28	3.12	1.32
TOCA - disruptive behavior	1.78	0.74	1.76	0.78
TOCA - prosocial behavior	4.45	0.97	4.52	0.97
TOCA - emotion regulation	2.29	0.94	2.28	1.01
T-COMP – social competence	3.20	0.95	3.23	0.99
T-COMP - academic competence	3.22	1.24	3.22	1.28
WJ-III Reading	98.29	13.06	96.46	13.20
WJ-III Math	95.14	14.92	94.01	14.78
Age	7.06	1.09	7.15	1.22
% Female	50		48	
% Free or Reduced Lunch	61		60	
% Special Education	10		8	
% Black	74		76	
% White	23		22	
% Other Race	3		2	
% Grade K	27		28	
% Grade 1	28		27	
% Grade 2	30		19	

% Grade 3	15	26

Table 2. *HLM Results for 3-Level Model Examining the Effects of IY TCM on Social Emotional and Disruptive Behaviors*

Variable	Concentration Problems			Disruptive Behavior			Prosocial Behavior			Emotional Dysregulation			Social Competence		
	b	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*
Intercept	2.89*	0.47	0.00	1.81*	0.25	0.00	4.63*	0.28	0.00	2.39*	0.38	0.00	3.51*	0.23	0.00
Age	-0.05	0.09	0.54	0.01	0.04	0.85	-0.01	0.05	0.90	-0.02	0.07	0.75	-0.02	0.04	0.62
Sex	-0.52*	0.12	0.00	-0.11*	0.02	0.00	0.12*	0.04	0.00	-0.20*	0.03	0.00	0.17*	0.03	0.00
Lunch Status	0.22*	0.10	0.02	0.02	0.02	0.49	-0.05	0.05	0.24	0.07	0.04	0.11	-0.07*	0.03	0.03
Special Education	0.40*	0.11	0.00	-0.03	0.05	0.56	-0.07	0.06	0.23	0.11	0.07	0.158	-0.06	0.06	0.32
African American	0.40*	0.10	0.00	0.12*	0.03	0.00	-0.16*	0.03	0.00	0.19*	0.05	0.00	-0.18*	0.04	0.00
Other Race	0.15	0.12	0.20	0.03	0.07	0.64	0.04	0.05	0.36	-0.17	0.10	0.10	0.11*	0.05	0.02
Year 2	-0.31	0.32	0.33	0.04	0.05	0.42	0.52*	0.07	0.00	-0.07	0.06	0.27	0.30*	0.09	0.00
Year 3	0.24	0.13	0.07	0.08*	0.03	0.03	-0.04	0.07	0.56	0.15*	0.08	0.07	-0.08	0.06	0.18
Grade 1	-0.09	0.16	0.60	-0.04	0.06	0.47	0.09	0.11	0.42	-0.10	0.08	0.19	0.08	0.08	0.35
Grade 2	-0.17	0.16	0.26	-0.07	0.10	0.46	0.18	0.15	0.21	-0.12	0.14	0.39	0.20	0.12	0.09
Grade 3	0.00	0.22	0.99	-0.08	0.12	0.50	-0.01	0.18	0.95	0.00	0.20	0.99	0.01	0.12	0.93
Pretest	0.37	0.21	0.08	0.81*	0.04	0.00	0.82*	0.04	0.00	0.80*	0.03	0.00	0.89*	0.04	0.00

Intervention														
-0.07	0.08	0.38	-0.04	0.05	0.43	0.14*	0.07	0.04	-0.15*	0.04	0.00	0.14*	0.06	0.03

Step 2: Moderation Analysis

Pretest x Intervention														
0.03	0.05	0.59	-0.08	0.06	0.21	-0.04	0.04	0.38	-0.08	0.05	0.09	-0.09*	0.04	0.04

Note: * $p < .05$ or less

Table 3. *HLM Results for 3-Level Model Examining the Effects of IY TCM on Academic Outcomes*

Variable	Academic Competence			Reading			Math		
	b	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*
Intercept	3.72*	0.25	0.00	119.15*	4.06	0.00	118.03	2.64*	0.00
Age	-0.01	0.04	0.76	-2.42*	0.68	0.00	-3.58	0.29*	0.00
Sex	0.16*	0.03	0.00	0.57	0.33	0.09	-0.31	0.55	0.58
Lunch Status	-0.05	0.04	0.27	-0.66	0.35	0.06	-0.60	0.41	0.15
Special Education	-0.14*	0.06	0.02	-2.65*	0.59	0.00	-3.96	1.27*	0.00
African American	-0.25*	0.03	0.00	-1.74*	0.28	0.00	-2.18	0.43*	0.00
Other Race	-0.03	0.10	0.75	-0.80	0.52	0.13	1.42	1.48	0.34
Year 2	-0.12	0.06	0.07	-0.10	0.65	0.88	3.01	1.50*	0.04
Year 3	-0.04	0.04	0.24	-0.64	0.57	0.26	0.29	1.72	0.87
Grade 1	-0.02	0.10	0.87	0.50	1.37	0.72	5.38	1.30*	0.00
Grade 2	0.12	0.13	0.36	-0.59	1.46	0.69	7.63	1.19*	0.00
Grade 3	-0.09	0.12	0.47	1.19	2.02	0.56	12.38	0.84*	0.00
Pretest	0.83*	0.02	0.00	0.79*	0.03	0.00	0.75	0.02*	0.00

Intervention								
0.11	0.06	0.08	-0.15	0.23	0.53	-0.03	0.39	0.94

Step 2: Moderation Analysis

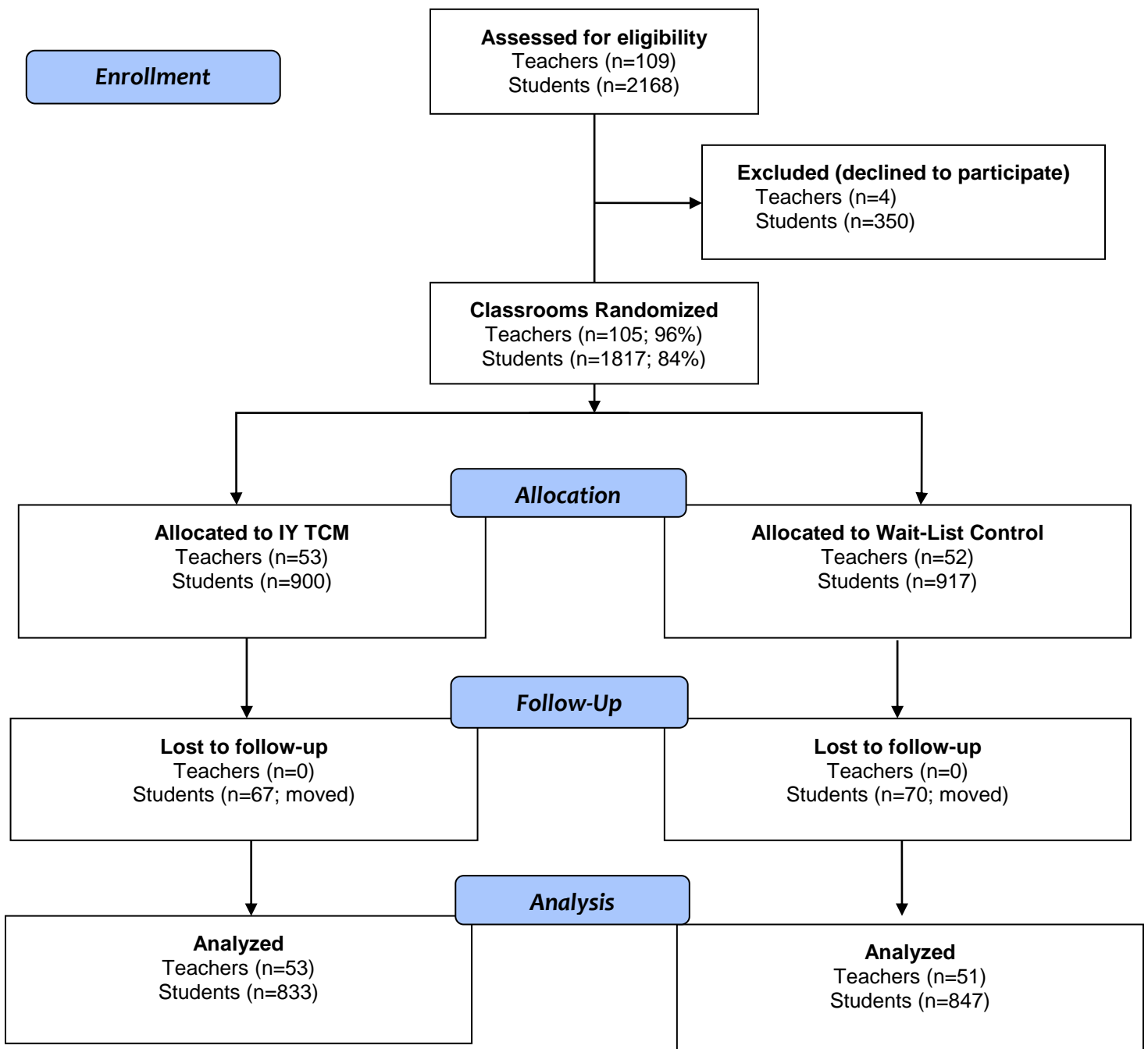| Pretest x Intervention								
-0.08*	0.02	0.00	-0.04	0.03	0.14	0.01	0.04	0.72

Note: * $p < .05$ or less

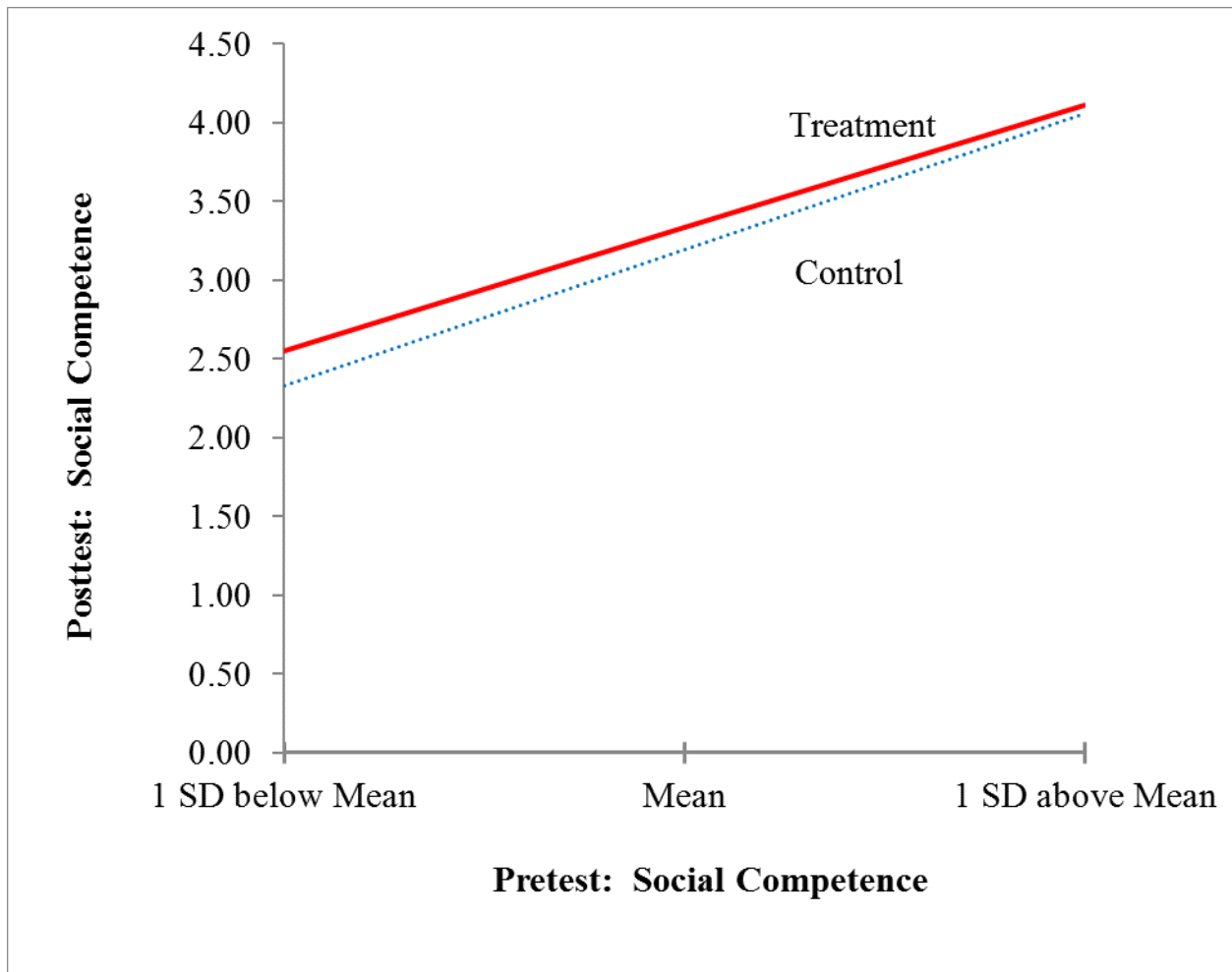*Figure 1.* IY TCM Randomization Participant Flowchart

Figure 2. Interaction between Social Competence Pretest and Intervention on Social
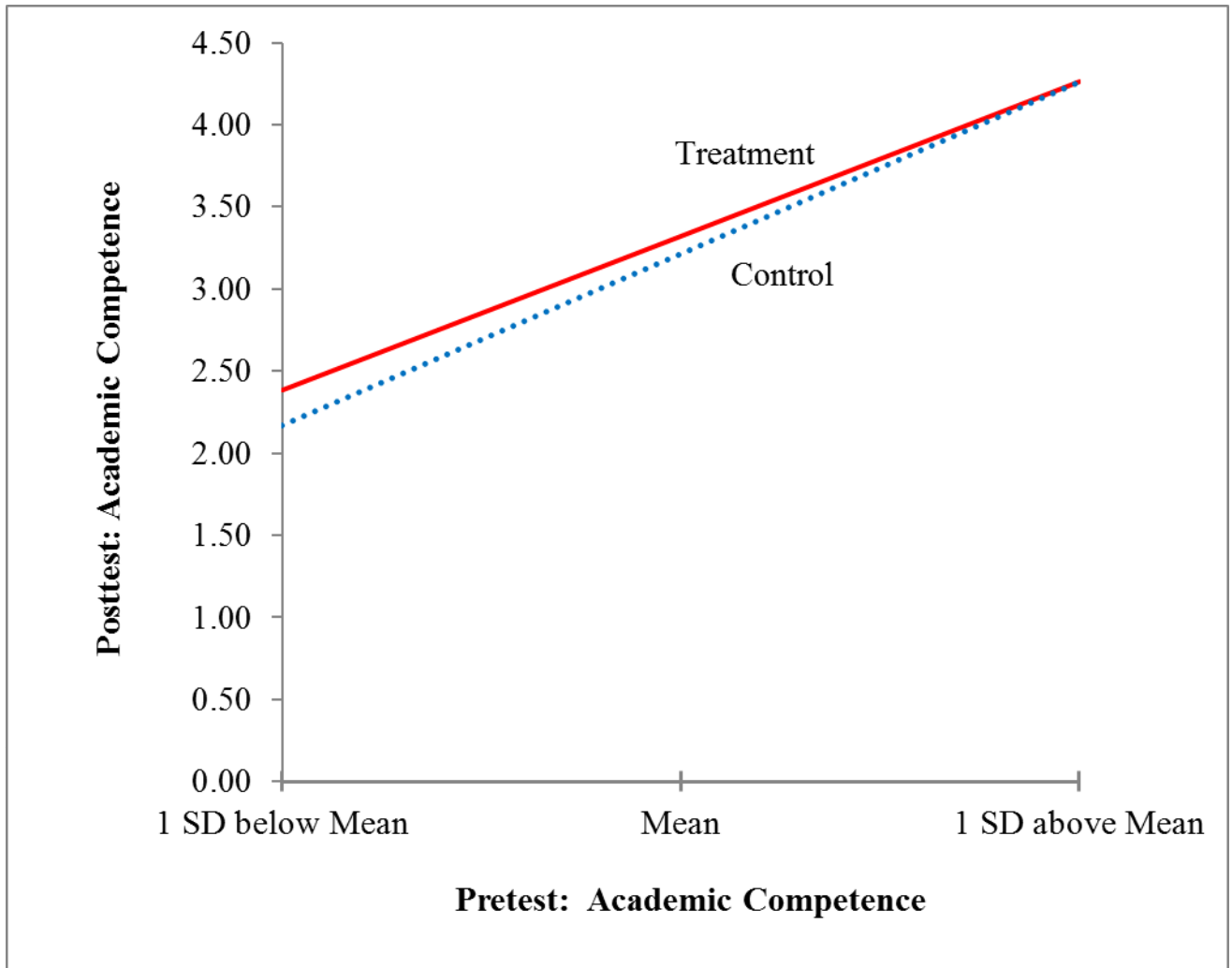
Competence at Posttest.

Figure 2. Interaction between Academic Competence Pretest and Intervention on Academic

Competence at Posttest.