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The Incredible Years Teacher Classroom Management Program: Effects for Students Receiving Special Education Services

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Abstract

Many children with disabilities receive the majority of their instruction in the general education classroom where many universal programs are implemented. It is therefore important to examine the impact of evidence-based universal interventions on children with disabilities. The purpose of this study was to determine whether the Incredible Years Teacher Classroom Management (IY TCM) program has benefits for children in grades Kindergarten to third grade receiving special education services. Using data from a large randomized controlled trial conducted across 105 Kindergarten to third-grade classrooms and 1,817 children, we investigated the impact of IY TCM on children receiving special education services. Findings indicated that children who receive special education supports, who were in classrooms of general education teachers trained in the IY TCM intervention, had significant improvement in concentration problems, disruptive behavior, and social competence in comparison with children receiving special education in control classrooms.

Keywords

universal prevention, classroom management, special education

Increasingly, schools are adopting evidence-based universal interventions to support social–emotional skills and academic achievement. The use of effective universal classroom management programs to support children in developing and using appropriate social behavior is foundational toward ensuring all children have access to consistent support for social–emotional behavior (Greenberg & Abenavoli, 2017; Stormont et al., 2012). While it is assumed that effective universal classroom management programs are beneficial for children with disabilities, this has rarely been empirically examined. Given 13% of the student population includes children with disabilities (National Center for Education Statistics, 2018), and the vast majority of these children spend a significant amount of their time in general education classrooms (Lane et al., 2014), it is important to understand the impact of universal programming on children in these classrooms who are receiving special education services.

While social and emotional adjustment varies for children with disabilities, some disabilities, particularly emotional disturbances, attention deficit disorder, and autism, are more likely to have social and emotional difficulties (Sumi et al., 2005). The social–emotional characteristics of children with disabilities are heterogeneous (Gage et al., 2012). For instance, a common disability, especially for young children, is speech and language impairment. While many children with speech and language impairments function socially like their peers (Sumi et al., 2005), some may benefit from universal social–emotional interventions. The comorbidity among children with language impairments and other disabilities has been established, particularly for students with emotional disturbance (Benner et al., 2002) and learning disabilities (McArthur et al., 2000). Furthermore, Levickis and colleagues (2018) conducted a longitudinal study of a community sample of children, 4 to 7 years of age, to investigate the association between language development and social, emotional, and behavioral development. Findings indicated that children with persistent language disorders were more likely to have co-occurring social–emotional and behavioral challenges than peers

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without language disorders. Given some children with disabilities experience difficulties related to social behavior, universal interventions that support social–emotional development could be beneficial (Chen et al., 2011). These children may benefit from teachers' increased use of positive management strategies for supporting appropriate social behavior, including teaching effective communication skills, problem solving, and coaching students in persisting during difficult tasks and resolving challenging emotions (Chen et al., 2011). Positive classroom adjustment has been associated with lower negative outcomes, including juvenile delinquency and adult arrest for students with learning disabilities and emotional disturbance (Chen et al., 2011), highlighting the protective role of malleable classroom factors such as the use of effective universal classroom management strategies.

Accordingly, the purpose of this study was to investigate the efficacy of a universal teacher classroom management program, the Incredible Years Teacher Classroom Management (IY TCM; Webster-Stratton, 1994) program, among children with disabilities. We hypothesized that children receiving special education services at the time of the intervention would experience positive outcomes in comparison with those students receiving special education services in control classrooms. Data for this study come from a larger randomized controlled trial (RCT) funded by the Institute of Education Sciences that evaluated the impact of the intervention on all elementary children in grades Kindergarten through third grade in classrooms of teachers trained in IY TCM in comparison with control classrooms (see Reinke et al., 2018). The sample was from a school district with a large percentage of children receiving free or reduced lunch (FRL), who are predominantly Black, and for which a reasonably large percentage were receiving special education services. This study presents the first evaluation of whether students in special education who receive instruction in general education classrooms benefited from IY TCM.

IY TCM Program

The IY TCM is a universal social–emotional approach that may be particularly beneficial for students with disabilities. IY TCM is part of the Incredible Years (IY) Series that also includes parent and child programs. The IY parent and child programs were initially developed to support children with early conduct problems. However, the IY TCM program was designed to promote teachers' knowledge and use of universal classroom management practices with all students. These skills include the use of effective praise, proactive teaching strategies (e.g., clear expectations, precorrections, teaching routines, and schedules), compliance training, giving effective commands, consistent consequences, ignoring, and use of time-out procedures (Webster-Stratton et al., 2004). IY TCM is a 46-hr program delivered in groups of teachers in six sessions during the school year. Skills are introduced and practiced via a video-based modeling format in which brief vignettes of actual teacher–student interactions are viewed and discussed. Teachers are then given opportunities to role-play similar scenarios and to give and receive feedback about effective classroom practices. IY TCM workshop training sessions are spread across the school year, with teachers attending 2 days of training in the fall, winter, and spring. Each training session builds upon the other, and an IY TCM coach meets with each teacher following the training sessions to help support the transfer of new skills to actual classroom practice.

Several studies have investigated the impact of IY TCM alongside other IY programs. For instance, IY TCM was evaluated in an RCT with 159 children diagnosed with conduct problems (Webster-Stratton et al., 2004). The study compared IY child and parent training with and without IY TCM. Teachers who received the IY TCM were observed to use more proactive classroom management strategies, and students in these classrooms had fewer behavior problems. Similarly, an RCT with 272 children from Head Start found that teachers who received IY TCM used more positive and less harsh strategies, and children had lower teacher reports of hyperactivity, antisocial behavior, and more social competence (Webster-Stratton et al., 2001).

More recently, several studies have evaluated the independent effects of the IY TCM program. Hutchings and colleagues (2013) randomly assigned 12 classrooms (107 children, aged 3–7) to receive IY TCM or to a wait-list condition and found improvements in student on-task behaviors and student–teacher interactions. Another study randomized teachers from rural settings to receive IY TCM or brief classroom consultation ($n = 91$ teachers and 1,192 children) and found that elementary teachers receiving the intervention demonstrated improvements in classroom climate in comparison with the control teachers (Murray et al., 2018). Finally, an RCT of IY TCM was conducted within elementary schools in an urban context (Reinke et al., 2018). These data are used in the current study to evaluate the moderating effects of special education status on intervention effects. In this trial, 105 Kindergarten to third-grade teachers with 1,817 children were randomly assigned to IY TCM or to control, business-as-usual condition. Findings indicated that teachers who received the intervention demonstrated significant increases in their use of effective classroom management practices. Specifically, teachers in the intervention classrooms demonstrated a significant increase in their use of proactive classroom management strategies (e.g., use of behavior-specific praise, precorrections) in comparison with teachers in the control condition.

Furthermore, children in classrooms of teachers receiving the intervention in this study demonstrated improvements in emotional regulation, prosocial behavior, and

social competence. Also, children who initially scored lower on measures of social and academic competence had significant improvements in comparison with similar peers in control classrooms (Reinke et al., 2018). Thus, the IY TCM, although a universal classroom management intervention, was also effective for children who were demonstrating some level of academic and social risk. These findings are consistent with a growing area of research suggesting that the effects of universal prevention programs may not be the same across the full population of children exposed to the program (Farrell et al., 2013; Schochet et al., 2014). There is emerging evidence that baseline behavioral or social–emotional risk may be predictive of the variation in intervention responsiveness with those demonstrating higher risk benefiting more than their peers (e.g., Bradshaw et al., 2015; Kellam et al., 1998). For instance, the Good Behavior Game, another universal prevention intervention targeting teacher use of effective classroom management practices, has demonstrated the most benefit for children displaying higher levels of problem behavior at baseline (Kellam et al., 1998; van Lier et al., 2005). To extend this area of research, the current study investigated whether the IY TCM was associated with improved outcomes for children with disabilities more broadly. In other words, the focus of this study is to determine whether children in Kindergarten to third-grade classrooms who were currently receiving special education services benefited as a result of this universal classroom management intervention.

We hypothesized that special education status would significantly moderate the effects of IY TCM on student outcomes because children receiving special education services can present with social, emotional, and behavioral challenges. That is, we expected that children who received special education supports in IY TCM classrooms would have better social–behavioral outcomes than children who received special education supports in control classrooms. This study uses data from Reinke and colleagues' (2018) RCT to explore the impact of the intervention on children receiving special education services.

Method

Participants

Participants in this study were part of a large group RCT to evaluate the efficacy of the IY TCM funded by the Institute of Education Sciences. Participants included 105 general education teachers and 1,817 children in Kindergarten to third grade from nine urban schools in a single school district in the Midwestern part of the United States. The study had high rates of participation, with 96% of teachers and 84% of children who were eligible enrolling. 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. The study was implemented across three cohorts over 3 years. The majority of teacher participants were female (97%) and White (75%; 22% Black and 3% Other). The average years of teaching experience were 11 years with a standard deviation of 8.10. The student sample included slightly more males (52%) and Black children (76%; 22% White and 2% Other); 61% of the student sample qualified for FRL. Nine percent of the sample were receiving special education services (n = 163). Children were receiving services for speech impairment (43.6%), language impairment (12.9%), specific learning disabilities (12.9%), other health impairments (10.8%), autism (6.9%), developmental delays (6.9%), intellectual disability (4%), and emotional disturbance (2%). The majority of these children were in general education classrooms for 80% of the day or more (82%), 12% were in the classroom between 40% and 79% of the day, and a small number (6%) were in the classroom less than 40% of the day. Table 1 provides descriptive statistics for the students receiving special education and those who were not receiving special education services by condition. Both conditions were similar with regard to representations of demographic characteristics and prescores.

Procedures

The University Institutional Review Board and the participating school district approved the study protocol. Teachers and children were recruited at the beginning of the school year. All teacher participants and parents of student participants provided written consent, and all children provided written assent to participate in the study. Data were collected at the beginning of the school year, before the intervention, and at the end of the school year, postintervention. All preintervention assessments occurred in early October. Postintervention assessments were collected in late April of the same academic year.

Intervention condition. Teachers in the IY TCM condition attended three sets of two full-day group trainings in late October, December, and February. All trainings were cofacilitated by two doctoral-level IY TCM group leaders who were supervised by the program developer. One of the group leaders also served as a coach who supported teacher implementation following sessions. The coach met with IY TCM teachers following each training to set goals, to observe their use of new practices, to provide performance feedback, and to support action planning toward improving skills learned from the group trainings.

Fidelity of implementation of IY TCM. Fidelity of implementation of the IY TCM workshops and teacher implementation skills were monitored (see Reinke et al., 2013, for a full review of fidelity data). In summary, following each

Table 1. Descriptive Statistics by Condition for Students Receiving Special Education Services Versus Those Not Receiving Special Education Services.

	Control group				Treatment group			
	Non-special education		Special education		Non-special education		Special education	
Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Outcomes								
Concentration problems	2.59	1.20	3.36	1.30	2.57	1.24	3.02	1.24
Disruptive behavior	1.90	0.79	2.09	0.79	1.86	0.82	1.83	0.87
Prosocial behavior	4.70	1.04	4.39	1.11	4.87	1.02	4.43	1.10
Emotion dysregulation	2.25	1.05	2.74	1.19	2.13	1.07	2.41	1.17
Social competence	3.46	1.03	2.89	1.12	3.58	1.03	3.18	1.08
Pretest and other covariates								
Concentration problems	3.14	1.29	3.42	1.17	3.08	1.33	3.54	1.10
Disruptive behavior	1.77	0.73	1.93	0.74	1.75	0.78	1.84	0.79
Prosocial behavior	4.48	0.95	4.17	1.12	4.56	0.96	4.09	0.99
Emotion dysregulation	2.26	0.93	2.61	1.03	2.26	1.00	2.60	1.06
Social competence	3.24	0.94	2.79	1.01	3.28	0.98	2.73	0.91
Age at T1 assessment	7.04	1.09	7.23	1.08	7.11	1.20	7.60	1.30
Female	52%		30%		50%		27%	
Free or reduced lunch	60%		68%		59%		71%	
Black	75%		65%		77%		74%	
Other race	3%		1%		2%		1%	
Year 2	3%		43%		30%		34%	
Year 3	4%		34%		37%		33%	
Grade 1	3%		30%		28%		23%	
Grade 2	30%		33%		19%		17%	
Grade 3	15%		13%		24%		40%	
n	765		82		763		70	

workshop session, IY TCM trainers completed the *Teacher Group Leader Rating Scale*, which assessed trainers' use of processes and procedures for leading discussions on content, for showing vignettes, and for practice activities. The adherence ratings ranged from 3.6 to 4.1 across the six workshop sessions. A general rating of 3 or higher was considered adhering to processes and procedures for the IY TCM workshop sessions. Furthermore, teachers' attendance was very high, with teachers attending rates at 94% to 100% for each workshop. Teachers who missed a workshop met with the IY TCM coach to review missed material following each session. Workshop training sessions were rated with a high level of satisfaction and likelihood of recommending the training to others (mean ratings of 6.44 and 6.75 on a scale from 1 to 7, with high scores indicating greater satisfaction) by teachers. 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 6 hr (358 min).

Furthermore, as reported in Reinke et al. (2018), teacher fidelity to use of effective proactive classroom management practices was monitored through direct observations using the *Brief Classroom Interaction Observation* (Reinke et al., 2015), a 20-min assessment that monitors teacher use of praise, reprimands, and precorrections, which are strategies taught through IY TCM. These observations occurred in both IY TCM and control classrooms across four time points (October, December, February, and April) for each cohort. A repeated-measures analysis of variance (ANOVA) revealed a statistically significant difference between IY TCM and control teachers, indicating that IY TCM teachers used more proactive strategies over time and maintained these practices over time in comparison with control teachers.

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.

Measures

Student demographics. Special education status, as well as FRL status, race, and sex were obtained from the school district for all participating children. Children receiving special education were coded as 1 and if not 0. Children

were coded as 1 if they received FRL and 0 if not. Child sex was coded as 1 for male and 0 for female. Child race was coded as Black, White, or Other Race. The age of each student and grade level at baseline were also documented.

Teacher report on student social behavior. The *Teacher Observation of Classroom Adaptation–Checklist* (TOCA-C; Koth et al., 2009) is a 54-item measure of child behavior. The classroom teachers completed it for each child. Teachers were asked to rate each child on the items referencing the past 3 weeks. 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*). Prior studies support the factor structure of the TOCA-C (Koth et al., 2009) as well as strong evidence of subscale predictive validity. Prosocial behaviors, concentration problems, and disruptive behaviors all significantly predict office discipline referrals (Pas et al., 2011). 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 that assesses the teacher's perception of a child's prosocial behavior, emotional self-regulation, and academic competence. Teachers were asked to rate each child in comparison with other children at their grade level. The total across all items provides an overall social competence score. We use the total social competence score in this study. The item responses range from 0 (*almost never*) to 5 (*almost always*). The T-COMP scales have been shown to demonstrate strong internal consistency, have a consistent factor structure over time, and distinguish between high risk and normative samples (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.

Missing Data

The original sample included 1,817 children. 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. The low overall and differential attrition rates in this study are at the acceptable level according to the What Works Clearinghouse Procedures and Standards Handbook (What Works Clearinghouse [WWC], 2020). We excluded the children whose posttests were missing from the final analytic samples. The final analytic sample included nine schools (105 teachers and 1,680 children for the analyses of social and behavioral 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.

Moderation analysis. Moderation analyses were conducted to examine whether the treatment effects on student outcomes differed by special education status. For each of the five imputed datasets, three-level hierarchical linear models (HLMs), in which children (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 moderation effects on child social–behavioral 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. We included the treatment condition to predict to the coefficient of the moderator variable (special education status). SAS PROC MIANALYZE was used to combine the results from the analyses of five datasets. The statistical model is shown below:

Level 1 (student)

$$Y_{ijk} = \alpha_{0jk} + \alpha_{1jk}\left(\text{Special Ed}\right)_{ijk} + \sum_{q=2}^{Q}\alpha_{qjk}X_{qijk} + e_{ijk},$$

$$e_{ijk} \sim N\left(0, \sigma^2\right).$$

Level 2 (teacher)

$$\alpha_{0jk} = \beta_{00k} + \beta_{01k}\left(\text{Condition}\right)_{jk} + u_{jk}, \quad u_{jk} \sim N\left(0, \tau_2^2\right),$$

$$\alpha_{1jk} = \beta_{10k} + \beta_{11k}\left(Condition\right)_{jk},$$

$$\alpha_{qjk} = \beta_{q0k}, \quad q = 2,\ldots,Q.$$

Level 3 (school)

$$\beta_{00k} = \gamma_{000} + \xi_k, \xi_k \sim N\left(0, \tau_3^2\right),$$

$$\beta_{01k} = \gamma_{010},$$

$$\beta_{10k} = \gamma_{100},$$

$$\beta_{11k} = \gamma_{110},$$

$$\beta_{q0k} = \gamma_{q00}, \quad q = 2,\ldots,Q.$$

Y_{ijk} represents the outcome measure for student i in teacher/classroom j in school k. $(\text{Special Ed})_{ijk}$ represents the student's special education status (Special Ed = 1 for being in special education, and 0 otherwise). X_{qijk} represents the other student-level covariates, which include pretest, age at pretest, gender, race, FRL, grade level, and study cohort for all analyses. $(\text{Condition})_{jk}$ is a binary variable indicating treatment condition (Condition = 0 for control group and Condition = 1 for treatment group). The parameter, γ_{110}, estimates the moderator effects of the special education status and is assumed constant across schools. Consistent with the main effect analyses described in Reinke et al. (2018), we controlled for student age, gender, race, grade, FRL status, and baseline scores as well as study cohort for all analyses.

Results

Table 1 provides descriptive statistics for the intervention and control groups for children receiving special education and those not receiving special education. Table 2 provides the moderation effects for children receiving special education services prior to applying the Benjamini–Hochberg procedure for multiple comparison (Benjamini & Hochberg, 1995). Children receiving special education services in the treatment group were found to demonstrate significant improvements on teacher-reported concentration problems ($b = –0.50$, $p = .016$), disruptive behavior ($b = –0.16$, $p = .024$), emotion dysregulation ($b = –0.27$, $p = .041$), and overall social competence ($b = 0.34$, $p = .002$). After applying the Benjamini–Hochberg procedure for correcting multiple comparison (Benjamini & Hochberg, 1995), all significant outcomes but emotion dysregulation remained significant at an alpha of .05, meaning that special education status moderated intervention effects on these outcomes. There were also no moderation findings for prosocial behavior. We further calculated the treatment effect size differences by dividing the coefficients of the moderation terms by the pooled standard deviations of the outcomes in the unconditional model. Figures 1 to 3 present the differential effect sizes and their 95% confidence intervals between children with disabilities or not for concentration problems, disruptive behavior, and social competence.

Discussion

There is a need to employ rigorous research designs to determine the effectiveness of universal interventions for children receiving special education services. The Institute of Education Sciences has provided substantial funding to test the efficacy of different interventions with rigorous designs, such as RCTs, to evaluate interventions in authentic school settings. These trials often yield data on thousands of children that could be utilized to determine the impact of tested interventions on subsamples of children, such as children with disabilities. Children with disabilities, including specific learning disabilities, speech/language impairments, mild intellectual disabilities, and emotional and behavioral disorders, often receive the majority of their instruction in the general education classroom. Furthermore, while a large portion of children in this sample were identified as having speech/language impairments, the comorbidity among children with language impairments and other disabilities has been established, particularly for students with emotional disturbance (Benner et al., 2002) and learning disabilities (McArthur et al., 2000). Thus, it is important to examine the impact of evidence-based universal social–behavioral interventions on children receiving special education services.

The purpose of this study was to extend prior research, which investigated the impact of IY TCM on all children in the sample, to examine the impact of the IY TCM, a universal prevention classroom management intervention for teachers on children with disabilities. It was hypothesized that children receiving special education supports who were placed in classrooms of teachers receiving the IY TCM intervention would demonstrate improvements in social behaviors in comparison with their peers receiving special education supports in control classrooms. The findings supported this hypothesis. Special education status significantly moderated intervention effects on most child outcomes. This is interesting given that Reinke et al. (2018) investigated the moderating effects of race, gender, grade level, and year in the study, but found no statistically significant results. Thus, children receiving special education services are uniquely benefiting from IY TCM regardless of demographic characteristics. In particular, children with disabilities in IY TCM classrooms demonstrated improvements in concentration problems, disruptive behavior, and overall social competence relative to similar children in control classrooms. These findings add to the previously reported IY TCM main effects study (Reinke et al., 2018), which found no effects for the full sample on concentration problems or disruptive behavior. The present findings indicate that while the IY TCM did not improve the concentration skills or disruptive behavior for the overall sample, it did have specific benefits for children with disabilities on these critical outcomes. This finding is consistent with prior research, which found children with higher baseline risk reaped the greatest benefit from being in classrooms implementing a universal prevention intervention (Kellam et al., 1998; van Lier et al., 2005).

Table 2. Moderation Findings for Students Receiving Special Education Services on Social–Behavioral Outcomes.

	Concentration problems			Disruptive behavior			Prosocial behavior			Emotion dysregulation			Social competence		
Variable	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*	*b*	*SE*	*p*
Intercept	2.88**	0.47	<.001	1.82**	0.27	<.001	4.61**	0.28	<.001	2.38**	0.39	<.001	3.49**	0.23	<.001
Age	−0.05	0.09	.538	0.00	0.05	.846	0.00	0.05	.960	−0.02	0.07	.741	−0.01	0.04	.733
Female	−0.52**	0.12	<.001	−0.11**	0.02	<.001	0.12**	0.04	<.003	−0.20**	0.03	<.001	0.17**	0.03	<.001
Lunch	0.22*	0.10	.021	0.01	0.02	.569	−0.05	0.05	.251	0.07	0.04	.126	−0.07*	0.03	.032
Special education	0.63**	0.14	<.001	0.05	0.05	.312	−0.11	0.10	.299	0.23**	0.09	<.001	−0.22**	0.08	<.007
Black	0.41**	0.10	<.001	0.12**	0.03	<.001	−0.16**	0.03	<.001	0.19**	0.05	<.001	−0.18**	0.04	<.001
Other race	0.17	0.12	.171	0.04	0.07	.601	0.04	0.05	.369	−0.16	0.11	.151	0.10*	0.05	.035
Year 2	−0.32	0.32	.320	0.04	0.05	.494	0.53**	0.07	<.001	−0.08	0.06	.207	0.31**	0.10	<.015
Year 3	0.24	0.14	.085	0.07*	0.04	.037	−0.03	0.06	.601	0.15	0.08	.080	−0.08	0.07	.250
Grade 1	−0.09	0.17	.601	−0.04	0.06	.524	0.08	0.10	.436	−0.10	0.08	.234	0.06	0.08	.445
Grade 2	−0.18	0.16	.279	−0.07	0.10	.529	0.17	0.15	.229	−0.11	0.14	.460	0.17	0.12	.151
Grade 3	0.02	0.23	.931	−0.07	0.13	.577	−0.02	0.18	.911	0.02	0.21	.935	−0.01	0.13	.935
Pretest	0.38	0.20	.055	0.77**	0.04	<.001	0.80**	0.03	<.001	0.76	0.03	<.001	0.85**	0.03	<.001
int	−0.03	0.09	.76	−0.02	0.04	.608	0.13*	0.06	.033	−0.13**	0.04	<.001	0.11	0.06	.063
int × Special Ed	−0.50*	0.21	.016	−0.16*	0.07	.024	0.08	0.13	.523	−0.27*	0.13	.041	0.34**	0.11	<.002

Note. int = intervention condition.
*$p < .05$. **$p < .01$ or less.

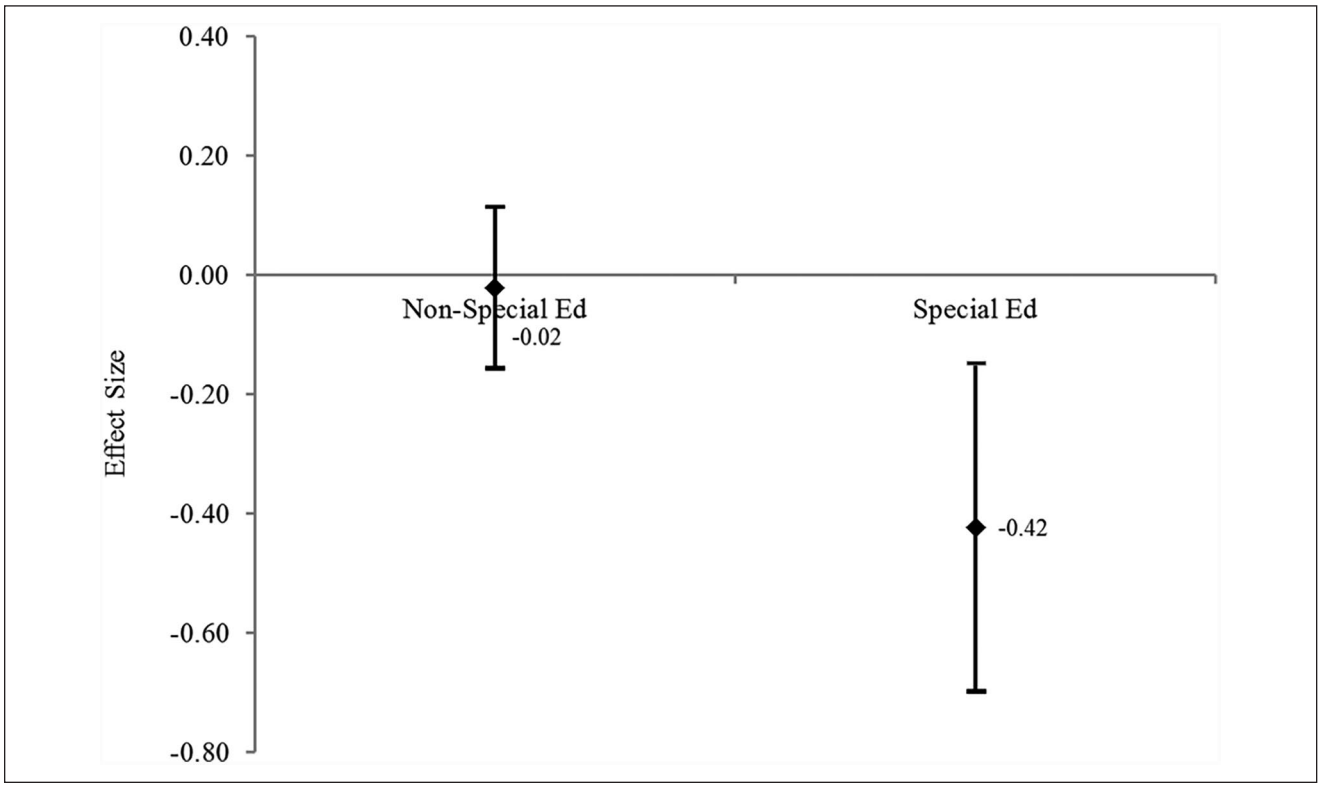

Figure 1. Differential effect sizes and 95% confidence intervals on concentration problems varying by student special education status.

Children receiving special education services in elementary school can experience significantly more concentration problems and disruptive behaviors than children not receiving special education services. For instance, in the current sample, children receiving special education had slightly higher baseline levels of concentration problems ($x = 3.49$ vs. $x = 3.12$) and disruptive behaviors ($x = 1.88$ vs. $x = 1.77$). Thus, the IY TCM intervention, which focuses on providing a positive, structured environment that reinforces on-task behavior while teaching prosocial skills for

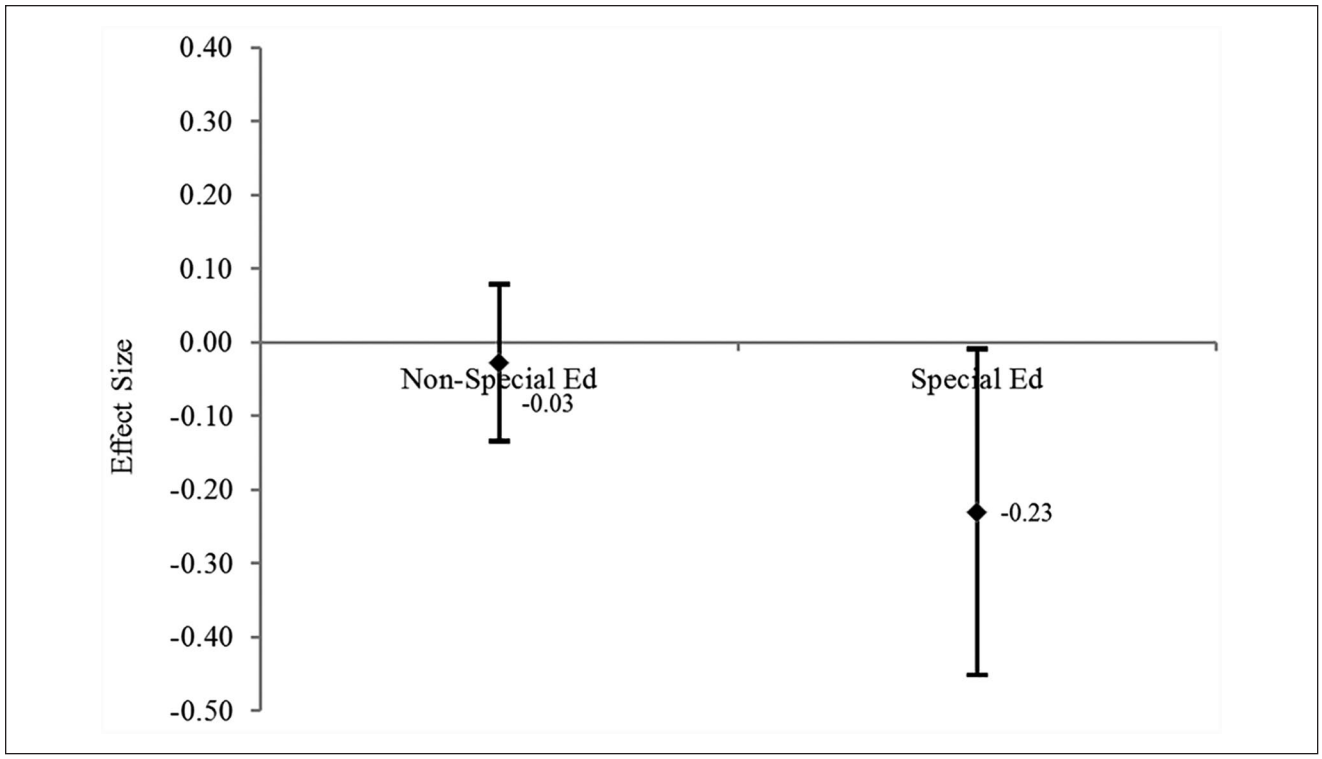

Figure 2. Differential effect sizes and 95% confidence intervals on disruptive behavior problems varying by student special education status.

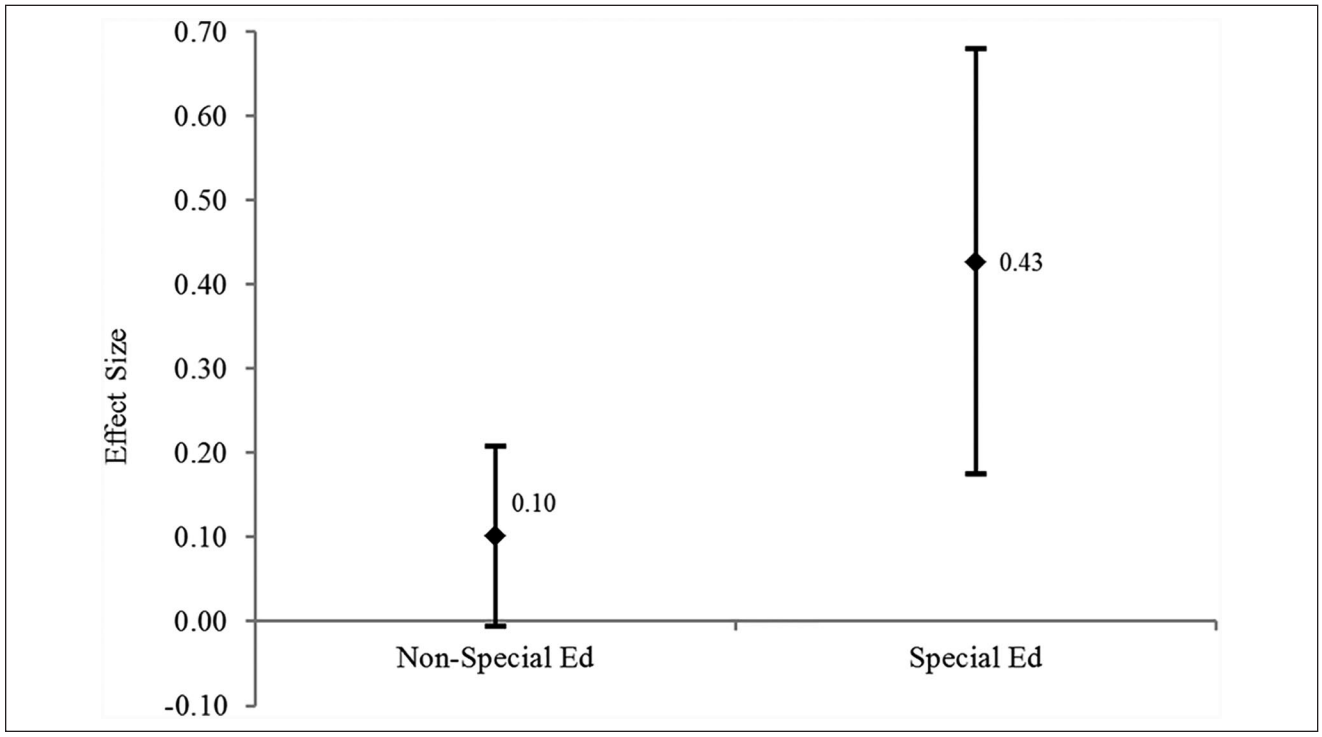

Figure 3. Differential effect sizes and 95% confidence intervals on social competence varying by student special education status.

all children, provides a classroom context in which children with disabilities can begin to engage in more on-task and less disruptive behaviors. In turn, using IY TCM as a universal intervention may provide a platform to integrate more selective and indicated interventions (Reinke et al., 2014). For instance, children with disabilities in general education classrooms are likely to benefit from additional targeted interventions. Having a setting with clear expectations and consistent reinforcement of these expectations may increase the effectiveness of selective or indicated interventions. Future research should investigate whether selective and indicated interventions that occur in conjunction with universal interventions produce greater benefits to those children receiving these supports.

Special education status did not moderate outcomes on prosocial behaviors or emotion dysregulation. Prior outcome analyses indicated that IY TCM had main effects on prosocial behaviors and emotion dysregulation (Reinke et al., 2018), demonstrating that IY TCM has universal benefits on prosocial and emotion regulation skill development for all children. One of the unique features of IY TCM, relative to other classroom management interventions, is the particular focus on developmentally appropriate instructional strategies for social problem solving. The training provides teachers with the skills to coach children in using social communication and self-management skills and solving problems in real situations that arise in the classroom. These experiences likely benefit all children at this stage of development (early elementary school) both because of the strategic approach of IY TCM and because all children at this age are learning to navigate complex social fields. These experiences are beneficial for children in the typical developing range as well as children with disabilities.

Study Limitations and Future Directions

Although this was a rigorous RCT and causal inferences are warranted, the study is not without limitations. The study focused on primary outcomes as rated by teachers. Teacher ratings of the constructs examined here, including concentration problems, emotion dysregulation, and disruptive behaviors, are well-validated measures of these constructs, yet provide only one perspective on student behavior. Additional research on student performance outcomes and observed behaviors would add to the present findings. Furthermore, teachers were also the recipients of the intervention, leading to the potential that teachers who received the training may have rated their students as improved due to being exposed to the intervention. Also, the study was conducted in one school district with a high percentage of Black children and children who qualify for FRL. Thus, it is not known how well the findings will generalize to other settings. However, it is also a strength of the study that this understudied population was the target of this investigation. Thus, it is now known that IY TCM may have particular benefit for elementary age children with disabilities attending schools in districts with student bodies composed of high percentages of Black youth and those from low-income backgrounds. Also, research in other settings, including rural settings, is warranted. In addition, investigating the impact of middle school or high school universal interventions on children with or at-risk for disabilities would be useful.

Due to the small sample size, we were unable to conduct separate analyses by disability category. Future work should investigate different types of disabilities as well as the restrictiveness of placement to determine whether intervention effects vary according to these variables. Different disabilities and the time students are in general and special education settings may differentially affect the intervention effects. For example, students who spend more time in resource room classes may not benefit from a general education classroom universal intervention as much as students who spend the majority of their time in the general education classroom. One way to ensure more continuity for students who receive instruction in different settings is to have more communication and collaboration between general and special educators, so key universal principles are fluid between settings. Future research could include special education teachers as recipients of the IY TCM intervention. Furthermore, it is likely that some children with disability categories known to have more social and behavioral difficulties (i.e., emotional disturbance, other health impairment related to attention deficit disorders; Sumi et al., 2005) may benefit from the intervention more than other disability categories. As indicated above, the findings from this study inform the field in this area and document that children with disabilities benefit from universal approaches, and therefore, special educators might benefit from also being trained on teams who implement universal interventions.

Implications

These findings support the use of universal prevention interventions to improve outcomes for all children. Children with disabilities are routinely receiving the majority of their education in general education classrooms. Schools can adopt evidence-based universal interventions, like IY TCM, to provide a solid foundation for all children to be successful. Through these practices, children in need of additional supports will be more readily identified, and this may increase the likelihood of success of these interventions (see Stormont et al., 2012). For instance, schools implementing universal prevention interventions may see a reduction in students (both those receiving special education services and those who are not) referred to problem-solving teams for additional supports. By having effective universal practices in place, those students truly in need of selective and indicated supports would rise to the attention and be referred earlier. When classrooms use effective

universal classroom management practices, the resulting structure and consistency can result in children with disabilities demonstrating improvements in social behavior, increasing the likelihood of academic and behavioral success. Children with diverse learning needs are often behind academically and socially and require that teachers utilize more effective and efficient universal evidence-based practices (Lembke & Stormont, 2005).

Conclusion

Improving outcomes for children with disabilities is an important priority for our education system. Although much research focuses on individualized interventions for these children, exploring the broader education context for these children holds promise for maximizing their educational outcomes. Children with disabilities typically spend much of their school day in general education settings; thus, providing productive environments in general education may be especially important for these children. Here, we found that IY TCM had specific benefits on concentration and disruptive behaviors for children with disabilities. Future studies are needed to explore whether these benefits of universal interventions for children with disabilities have a synergistic effect when combined with more selective and indicated interventions. In other words, a comprehensive approach, with high-quality universal supports, may provide the optimal platform by which evidence-based intensive supports benefit children with disabilities even more.

Authors' Note

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