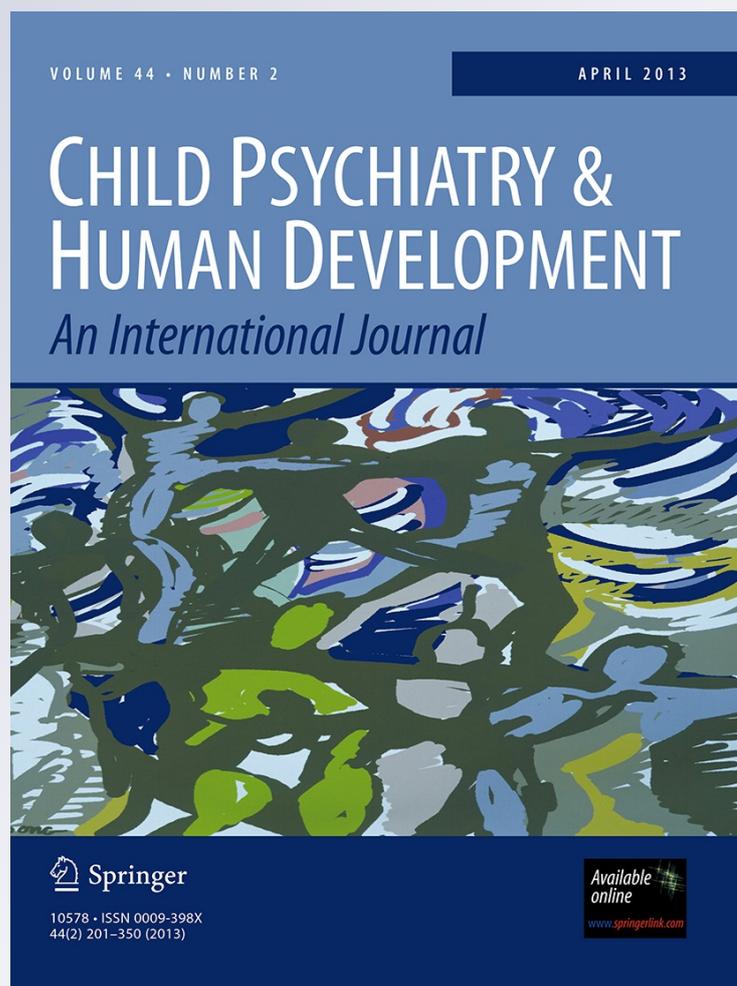# *"Tuning into Kids"*: *Reducing Young Children's Behavior Problems Using an Emotion Coaching Parenting Program*

Sophie S. Havighurst, Katherine R. Wilson, Ann E. Harley, Christiane Kehoe, Daryl Efron & Margot R. Prior

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ORIGINAL ARTICLE

"Tuning into Kids": Reducing Young Children's Behavior Problems Using an Emotion Coaching Parenting Program

**Sophie S. Havighurst · Katherine R. Wilson · Ann E. Harley ·
Christiane Kehoe · Daryl Efron · Margot R. Prior**

Abstract This study evaluated a 6-session group parenting program, *Tuning into Kids* (TIK), as treatment for young children (aged 4.0–5.11 years) with behavior problems. TIK targets parent emotion socialization (parent emotion awareness, regulation and emotion coaching skills). Fifty-four parents, recruited via a child behavior clinic, were randomized into intervention (TIK) or waitlist (clinical treatment as usual). Parents reported emotion awareness/regulation, emotion coaching, empathy and child behavior (pre-intervention, post-intervention, 6-month follow-up); teachers reported child behavior and observers rated parent–child emotion coaching and child emotion knowledge (pre-intervention, follow-up). Data were analyzed using growth curve modeling and ANCOVA. Parents in both conditions reported less emotional dismissiveness and reduced child behavior problems; in the intervention group, parents also reported greater empathy and had improved observed emotion coaching skills; their children had greater emotion knowledge and reduced teacher-reported behavior problems. TIK appears to be a promising addition to treatment for child behavior problems.

Keywords Emotion socialization · Emotion coaching · Emotional competence ·
Child behavior problems · Parent training

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Introduction

Behavior problems in young children are associated longitudinally with an increased risk for a range of problems in adolescence and adult life, including substance abuse, poor peer relations, delinquency and violence [1–5]. Disruptive behavior often begins in early and middle childhood and is characterized by negative emotionality, aggression, non-compliance, oppositional defiance and hyperactivity [6]. The emergence of behavior problems has been linked to poor emotional competence in children, specifically problems in understanding and regulating emotions (e.g., [7–9]). Although temperament is a significant contributor to children's emotionality and self regulation [10], the way that parents respond to children's emotions and how they model emotion regulation plays an important role in the socialization of children's emotion skills [11–15], suggesting this may be an important target for early intervention efforts. A program targeting parent emotion socialization, called *Tuning into Kids,* has previously been found effective in improving children's emotional competence and behavior in a community sample [16]. The present study investigated that program's efficacy with a sample of young children referred to a pediatric clinic for treatment of behavior problems.

Theoretical Background

Emotional competence includes skills in emotional expressivity, emotion regulation, and emotional knowledge, which help a child to behave prosocially, develop friendships, respond appropriately to conflict, focus attention and achieve other important developmental goals [17]. *Emotional expressivity* is the child's experience of feelings and how they express emotions; *emotion regulation* is the ability to control and modulate the expression of emotions in a culturally and situationally appropriate manner; and *emotion knowledge* involves an understanding of one's own and others' emotions, along with the ability to communicate about affect. Emotional competence is closely linked to social competence, academic achievement, language and cognition, physiological development, and physical health as well as to behavioral adjustment [17–26].

Children with behavior problems have consistently been found to display more negative emotions [27], to have poorer capacity to regulate these emotions [28] and to have limited emotion understanding (see [9] for a review). They are more likely to react rapidly, with greater intensity and duration of emotional response, and to take longer to emotionally "cool down" [29]. If children experience heightened levels of emotional intensity, poor regulation contributes to both a greater probability of rejection and to increased aggression [13]. Children with behavior problems often have difficulty taking another's emotional perspective [30] and are more likely to interpret others' emotions as angry and hostile [31, 32]. Deficits in emotional competence may differentiate young children with behavior problems who will continue to have these difficulties in adolescence and adulthood [33, 34] from those who will not.

Parental modeling of emotional expression and regulation, the way parents react to their children's emotions, their emotional discourse and the way they coach and teach children about emotions are central aspects of the emotion socialization process [12, 22, 35]. Children of mothers who discuss feeling states with them have been found to have better awareness and understanding of emotions [36–38]. Talking with children about emotions allows children to identify their feelings and process emotions experienced in relational settings to gain clarity and understanding [39, 40]. The concept of *emotion coaching* (which includes emotion discourse) was proposed by Gottman, Katz and Hooven [22, 41]

and described a style of parenting where the parent was aware and accepting of their own and their child's emotional experiences and taught their child how to understand and regulate their feelings before seeking solutions to a problem. The combination of an emotionally responsive and coaching parenting style and a home context that is supportive, secure, has clear limits and effective discipline provides an optimal environment for the development of prosocial behavior and emotional and social competence [12, 19, 22, 42]. Conversely, parenting that is emotionally unresponsive and dismissive/disapproving of emotions has been found to be related to child behavior problems through its impact on emotion regulation [43]. Emotion dismissive parenting includes beliefs that emotions may be used manipulatively, or that emotions are to be avoided or punished [22]. If parents react to children's distress-related emotions by ignoring, criticizing, or punishing them, children may learn that they cannot communicate their emotions in a clear and direct way [44]. Dismissive responses have been linked to poorer child emotion understanding and regulation, higher physiological arousal, and poorer adaptive outcomes [22, 45–48]. Parental attempts to change children's behavior without responding to underlying emotions might miss addressing the meaning or function which that behavior holds [49–51].

Parent's own emotion awareness and regulation also plays an important role in emotion socialization. Katz and Windecker-Nelson [52] found that mothers of conduct problem children were less aware of their child's emotions, had poorer insight into emotional experiences, were less able to differentiate emotions, and had fewer strategies to teach their children about emotions. Thus, both parents' emotion socialization practices and their own emotion awareness and regulation represent important targets for intervention.

Tuning into Kids

The *Tuning into Kids* (TIK) program [53] was designed as a group program for parents of preschool children, to focus on parental emotion socialization practices with the expectation that children's emotional knowledge, regulation, and behavior would improve as a result. The program has the additional aim of improving parents' emotion awareness and regulation so that parenting is calmer and more sensitive, attuned and responsive, leading to an improved parent–child relationship and the prevention or amelioration of child behavior problems. An efficacy trial of the TIK program with a community sample of parents of preschool children, of whom approximately one-third were above the clinical cut-off score on a measure of child behavior problems, found improvements in parent emotion coaching, parent emotion regulation and child behavior post intervention [54], and at follow up 6 months later, when there were also increases in observed parent emotion socialization and child emotion knowledge [16]. Changes were found across home and school contexts and across measures (parent and teacher report, direct observation).

Current Study

This study evaluated the TIK program with a sample of parents of 4- and 5-year-old children presenting with behavior problems to clinical services. The same measures, program and design as the TIK community trial were used; only the recruitment context was different. We addressed three research questions. First, would the TIK program result in improvements in parents' awareness and regulation of their own emotions? Second, would emotion socialization factors (that are related to children's emotion competence and behavior) improve after parents participated in the TIK program? Finally, would the TIK program improve children's emotion knowledge and reduce behavior problems? We

predicted that outcomes for this clinical sample would be similar to those found in the community sample.

Method

Participants

Participants were recruited from the Behavior Clinic of the Royal Children's Hospital (RCH) and the Western Sunshine Hospital in Melbourne, Australia. Primary care-giving parents of 4–5 year-old children who presented with externalizing behavior difficulties were invited to participate. Parents were excluded from the research if they did not have sufficient English language skills to complete the assessment tasks and understand the intervention or if the target child was on stimulant medication or had a diagnosis of a Communication or Pervasive Developmental Disorder. The study conformed to all ethical requirements for research (Melbourne Royal Children's Hospital Human Ethics Committee—HREC25122) and all parents participating gave informed consent for themselves and their children.

The sample comprised 54 children (78 % boys) aged between 48 and 71 months (M child age $= 59.31$, $SD = 7.38$) who at Time 1 were all attending either a preschool program or their first year of school. All children had elevated scores on the Eyberg Child Behavior Inventory, with a mean Intensity Score of 169.34 ($SD = 25.48$) [the measure's clinical cut off is 131]. The study included only the primary caregiving parent; all were mothers (M age in years $= 35.66$, $SD = 6.73$; sole parent $= 33.3$ %) rather than fathers. Most mothers were native English speakers (77.4 %); the remainder had European or Asian origins with English as their second language. Maternal education varied: non-completion of high school (37.7 %), high school graduation only (24.5 %), post-school certificate or diploma (47.2 %) and bachelor degree or higher (28.3 %). Gross annual family incomes (AUD) ranged from very low to high: less than \$40,000 (41 %), \$40,000–\$99,999 (46 %), \$100,000 or more (11 %), and one unreported.

Procedure

Upon enrollment in the study, participants were sequentially randomized into intervention and waitlist control conditions using a computerized random-number generator. As a no-treatment control condition in this situation was deemed unethical, all participants received usual pediatric care throughout the study (see below). Participants in the intervention condition ($n = 31$) started the TIK program immediately; parents ($n = 23$) in the waitlist control condition were offered the program after follow-up data collection. Questionnaire data were collected from all parents pre-intervention (Time 1), post-intervention (Time 2) and at 6-month follow-up (Time 3). Questionnaires were completed by 72 % of parents at Time 2, and 76 % at Time 3. Teachers completed questionnaires at Times 1 (78 %) and 3 (70 %). A videotaped home observation of parent–child interaction assessing parental emotion discourse was conducted at Times 1 (100 %) and 3 (78 %). Child emotion knowledge was also assessed at each home observation. See Fig. 1 for participant flow.

Intervention: *Tuning into Kids Parenting Program*

The TIK program has been described in greater detail in Havighurst et al. [54]. In brief, the program was delivered with two facilitators (one of whom was either Havighurst, Wilson
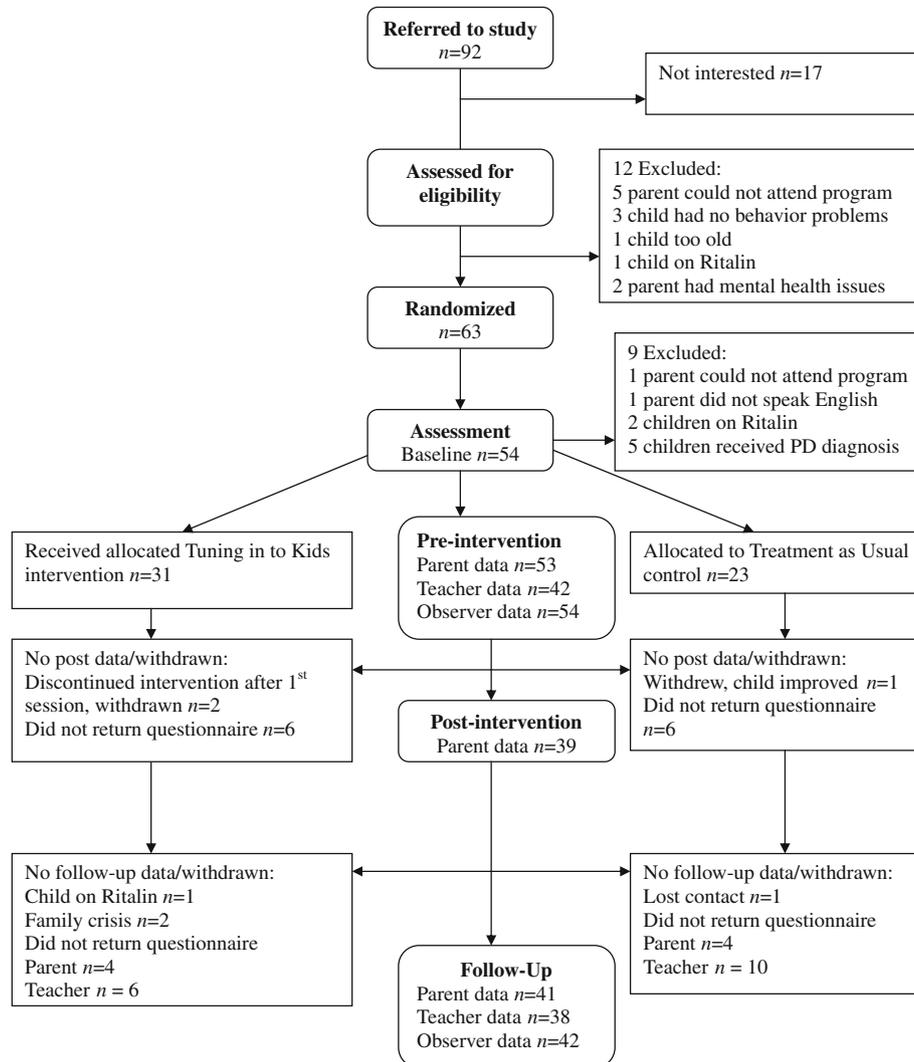
Fig. 1 Participant flow

or Harley) using a structured manual [53] with fidelity checklists (100 % of the compulsory content was delivered). The program encouraged changes in parenting beliefs and behaviors related to valuing and spending time teaching children about emotions with the expectation that this would increase the emotional connection between parent and child. Parents were taught the five steps of *emotion coaching* [50] via a series of exercises, role plays, DVD materials and psycho-education. Emphasis was placed on parents becoming aware of their own emotions as well as their children's emotions, including at a physiological level. In the first three sessions, parents were taught to attend to children's lower intensity emotions, and to reflect, label and empathize with the child's emotion. The fourth session addressed anxiety and problem solving; and the last two focused on more intense emotions, particularly anger, and included emotion regulation strategies such as slow breathing, relaxation, self-control

using the turtle technique from Promoting Alternative Thinking Strategies (PATHS; 23), and ways to safely express anger. Parents were also taught skills in understanding and regulating their own emotions, particularly anger, and reflected on the influence of family of origin experiences on their beliefs and responses to emotions.

The TIK program was delivered in community settings during school hours each school term during 2006–2008, for 2 h per week for 6 weeks, with two booster sessions offered at two-monthly intervals. Participants attended group programs that also included parents recruited via preschools (see [16]). Thus, each parenting group included 1–4 of the current sample but comprised 8–14 parents in total. Placing parents from the clinical sample with community participants reduced stigmatization and pathologizing of children's emotional experience and behavior, provided positive role models of emotion coaching within each group, and ensured clinical participants could begin an intervention immediately (rather than waiting until there were sufficient numbers to fill a 'clinical' group). To maximize accessibility, free child care was provided. The majority of intervention participants (83.9 %) attended at least half of the program; 10 mothers (32.3 %) attended every session, 11 mothers (35.5 %) attended five, and 5 mothers (16.2 %) attended three or fewer sessions. Fifteen mothers (48.4 %) attended one or more booster sessions.

Treatment as Usual: Pediatric Treatment

As part of the pediatric service, a number of treatment options were offered to parents and children in both the TIK intervention and waitlist control conditions. Pediatric treatment included seeing a pediatrician for guidance in use of behavioral strategies for responding to the child, as well as speech-language, psychology, and occupational therapy as needed. Chi squared tests showed no significant difference in frequency of pediatric treatment between parents in the intervention and waitlist control conditions ($n = 37$; $p = .140$), with 11 (52.4 %) intervention parents and 13 (81.3 %) waitlist control parents receiving pediatric treatment, although there was a trend for more pediatric treatment in the waitlist control group. Data about pediatric treatment was missing for 5 participants at follow-up.

Parent Measures

Parent Reported Emotion Awareness and Regulation

This was assessed with the *Difficulties in Emotional Regulation Scale* (DERS; [55]), a self-report questionnaire measuring difficulties with emotion awareness, expression and regulation. Respondents use a 5-point scale to rate how often 36 emotion-related items (acceptance of emotions, ability to engage in goal-directed behavior when distressed, impulse control, awareness of emotions, access to strategies for regulation, and clarity of emotions) apply to themselves. High scores indicate greater difficulties in emotion regulation. Cronbach's alphas were .80 (Time 1), .78 (Time 2), and .80 (Time 3).

Parent Reported Emotion Socialization

The instrument used to assess parents' report of emotion socialization beliefs and behaviors was adapted from the 14-item *Maternal Emotional Style Questionnaire* (MESQ; [56]). The MESQ asks mothers to rate how they cope with their child's emotions of sadness and anger using a 7-point Likert scale. Example items are: *Childhood is a happy-go-lucky time, not a time for feeling sad or angry* (emotion dismissing) and *Anger is an*

*emotion worth exploring (*emotion coaching). For the present study, we also examined parents' responses to children's fears and worries by adding seven further items to assess this (e.g., *I try to change my child's worried moods into cheerful ones* [emotion dismissing, ED]; *When my child is worried I want to know what he/she is thinking* [emotion coaching, EC]). We refer to this 21-item measure as the *Parent Emotional Style Questionnaire* (PESQ). Cronbach's alphas at Times 1, 2 and 3 were .82, .87 and .86 for ED (10 items); and .78, .82 and .84 for EC (11 items).

Parent Reported Empathy and Emotional Connection

To assess parents' connection and empathy with their child we identified five relevant items in the PESQ and created a new subscale which we named the Empathy Scale. Items were: *when my child is scared, it's an opportunity for getting close*; *when my child is angry, it's an opportunity for getting close*; *when my child is scared, I take some time to try to experience this feeling with him/her*; *when my child is angry, I take some time to try to experience this feeling with him/her;* and *when my child gets sad, it's a time to get close*. Reliability for this subscale was satisfactory with Cronbach's alpha: .67 (Time 1); .82 (Time 2); and .80 (Time 3).

Observed Emotion Discourse

Emotion discourse is one aspect of emotion coaching. To assess this, parent and child were videotaped at home during a structured parent–child story telling task using a dolls' house and toys [57]. Participants first had 10 min free play before the examiner re-entered the room and gave instructions for the task. Parents acted out four emotional events in a story intended to elicit child emotional responses of fear, anger, sadness, and happiness. The events were: (1) parents leave their child to go on an overnight trip; (2) the children have an argument over a toy; (3) the family dog runs away; (4) the parents return the next day. Participants were free to elaborate regarding what the characters said, did and felt. Task completion took an average of 13.8 min at Time 1 and 12.6 min at Time 3. Parent–child interaction was transcribed verbatim and coded using Cervantes and Callanan's coding for frequency of parent use of emotion labels (e.g., pleasure, fear). Emotion coaching skills include questioning and enquiring about emotions and discussing their causes and consequences; therefore, frequencies were also calculated for parents' asking their child: to label emotions, causes of emotions, and what happened/resulted during an emotional event. These scores were summed to create a composite score called emotion exploration.

Transcripts were coded independently by four trained coders blind to experimental condition following 20 h of training in Cervantes and Callanan's coding procedure by the first author. Inter-rater reliability was carried out on 20 % of the assessments with an intraclass correlation score of between 0.80 and 0.97 for emotion labels and between 0.77 and 0.99 for emotion exploration.

Child Measures

Receptive Language

Children were administered The Peabody Picture Vocabulary Test—Third Edition (PPVT-III; [58]), a widely used individually administered, norm-referenced verbal comprehension

test, with good psychometric properties. This measure was included because language skills are known to influence child emotion knowledge. Standard Peabody scores ranged from 63 to 143 ($M = 99.69$, $SD = 16.18$).

Emotional Knowledge

The *Emotion Skills Task* [59] assessed child emotional knowledge. This well established task (e.g., [60]) measures emotion labeling, causal knowledge, emotional identification and knowledge about situational resolution, and perspective taking skills. Due to ceiling effects, the emotion labeling and perspective taking subtests were not included in analyses. A composite emotional knowledge score (possible score range 0–36) was created by adding two sub-test scores: (1) causal knowledge (e.g., "What made puppet feel sad/angry/happy/afraid?"); and (2) eight emotion scenarios assessing accuracy of emotion identification and knowledge about situational resolution (e.g., Pushed over by another child; What is the feeling? What does s/he do?). Inter-rater reliability was calculated for 20 % of assessments using bivariate correlations (due to the data being non-symmetrical) and was .92 at Time 1 and .79 at Time 3.

Behavior

Parents Completed the *Eyberg Child Behavior Inventory 6* (ECBI; [61]). The ECBI is a psychometrically strong and widely used 36-item parent reported scale of conduct problem behaviors. Items are rated on a seven point Likert scale from $1 = never$ to $7 = always$ and summed to create an *Intensity scale* score; Cronbach's alphas for the Intensity scale ranged from .90 to .93 (Times 1–3). Parents also rate whether the behavior is a problem (yes/no); responses are summed to create a *Problem score*. Teachers completed the *Sutter-Eyberg Student Behavior Inventory*, a teacher-version of the ECBI [61] with Chronbach's alphas of .97 (Time 1) and .97 (Time 3) for the Intensity scale.

Results

Data Analysis Approach

Sample characteristics were assessed for comparability between intervention and waitlist controls at Time 1. Children whose parents were in the intervention condition had significantly greater verbal ability at Time 1 ($M = 103.61$, $SD = 16.17$) compared with children in the waitlist control condition ($M = 93.90$, $SD = 14.71$); $t[50] = 2.20$, $p = .03$. Hence, verbal ability was covaried in all further analyses. There were no significant differences in group characteristics on any other Time 1 variable. Parents who did not return questionnaires at Time 3 did not differ from the rest of the sample on any baseline measure. There was no significant difference in questionnaire return rate between the intervention ($n = 24$, 77.4 %) and waitlist control condition ($n = 17$, 73.9 %), χ^2 (1, $n = 54$) = 0.00, $p = 1.000$, $\varphi = -.04$, nor in completion of the follow-up home observation between intervention ($n = 25$, 80.6 %) and waitlist control ($n = 17$, 73.9 %), χ^2 (1, $n = 54$) = 0.07, $p = .797$, $\varphi = -.08$.

Two main analytic strategies were used to test child and parent outcomes: Growth Curve Modeling (GCM) and Analyses of Covariance (ANCOVA). For the six parent

report variables where there were data for all three data points (emotion coaching, emotion dismissing, empathy, difficulties with emotion regulation, behavior intensity, and behavior problems), GCM was carried out using MPlus [62] followed by tests of group differences using ANCOVA to assess score differences at Time 2/post intervention. GCM generates two parameters to describe a trajectory for change: the intercept (i.e., the estimated baseline scores) and the slope (i.e., the estimated change over time). Both latent variables are derived from the participants' scores obtained at the three time points. Importantly, Mplus employs state-of-the-art Full Information Maximum Likelihood procedures that utilize the expectation maximization (EM) algorithm [63] so that all available data is included in the calculation of parameter estimates. One advantage of GCM is that linear and non-linear trajectories can be modeled in order to determine the pattern of change over time. Linear trajectories assume a constant change over time in outcome scores, whereas square root trajectories typically exhibit a more rapid change in the early months followed by a decreased rate of change thereafter. In contrast, quadratic trajectories show relatively little change initially followed by more rapid change over time. In all cases model fit statistics for a linear trajectory were compared with those from either a square root or quadratic function depending upon the pattern of means (see Table 1). A better fitting model was defined as having a lower χ^2 statistic, a higher Comparative Fit Index (CFI) [64] and a lower Bayesian Information Criterion (BIC) [65]. Jones, Nagin, and Roeder [66] advanced the following convention for interpreting the magnitude of the change in BIC when comparing two models: 0–1 is *Not worth mentioning*, 1–3 is *Positive*, 3–5 is *Strong*, and greater than 5 is *Very strong* (p. 389). Other model fit indices (e.g., Akaike's Information Criterion [67]; Root Mean Square Error of Approximation, and Standardized Root Mean Square Residual) were calculated but not included because they provided no unique information for model selection. While BIC statistics are useful for comparing model fits, non-significant χ^2 values and CFI values greater than .900 indicate a good model fit [64].

The GCM fit statistics and parameter estimates for the intercept and slope terms for the better fitting model for each outcome measure are presented in Table 2. Because Mplus can utilize all of the available data, there were 54 participants with scores on at least one occasion for all outcome measures. Testing for differences between participants in the intervention and the waitlist control conditions was conducted by regressing the intercept and slope terms, generated by the GCM, on group membership (see Table 3). A positive parameter for the intercept term regressed on group membership indicates that the estimated outcome measure score at baseline is greater for the intervention group than for the waitlist control group. A negative parameter for the slope term regressed on group membership indicates that the estimated mean intervention group outcome measure is negative relative to the control group; and the larger the parameter the greater the disparity in change over time.

For the five observational and teacher report variables, where there were data for only Time 1 (0 months) and Time 3 (9 months), instead of carrying out GCM, Analyses of Covariance were conducted. The parameter of interest for these analyses is the interaction between group membership and change over time for the outcome measure. Havighurst et al. [16] established the predicted direction of change for these outcome variables and so the current study used one-tailed tests of significance in all analyses.

Table 1 Means, standard deviation and effect sizes (Cohen's d) for parent and child outcomes

	Baseline			Post-intervention				6-Month follow-up			
	Mean	SD	n	Mean	SD	d	n	Mean	SD	d	n
Parent-rated parent outcomes											
Emotion coaching											
Intervention	43.03	5.06	30	45.87	4.51	.59	23	44.48	4.81	.29	24
Treatment as usual	40.56	3.28	23	39.37	3.61	.35	16	38.75	6.66	.34	17
Emotion dismissing											
Intervention	38.23	4.69	30	31.94	6.46	1.11	23	32.75	5.42	1.08	24
Treatment as usual	38.78	5.04	23	37.19	3.64	.36	16	35.29	4.91	.70	17
Empathy											
Intervention	18.28	2.95	30	21.00	2.97	.92	23	20.15	2.79	.65	24
Treatment as usual	16.49	2.39	23	15.63	3.44	.29	16	16.03	2.96	.17	17
Difficulties with ER											
Intervention	73.98	22.66	30	73.70	21.92	.01	23	72.94	21.58	.05	24
Treatment as usual	74.71	16.56	23	77.87	27.16	–	16	70.66	16.75	.24	17
Observer-rated parent outcomes											
Emotion exploration											
Intervention	4.42	5.41	31	–	–			5.60	7.04	.19	25
Treatment as usual	1.81	2.40	22					1.53	2.65	.11	17
Emotion labels											
Intervention	5.77	5.99	31	–	–			10.60	11.46	.53	25
Treatment as usual	4.68	5.05	22					3.41	2.21	.33	17
Parent-rated child outcomes											
Behavior intensity											
Intervention	169.34	22.99	30	141.26	23.79	1.20	23	148.61	32.25	.74	24
Treatment as usual	165.99	28.83	23	157.46	31.30	.28	16	148.69	30.36	.58	17
Behavior problem											
Intervention	23.14	5.15	29	16.86	6.66	1.05	21	15.57	9.44	1.00	23
Treatment as usual	21.00	8.26	23	20.27	9.04	.08	15	16.25	9.09	.55	16
Teacher-rated child outcomes											
Behavior intensity											
Intervention	124.23	46.55	18	–	–	–	–	101.12	35.57	.56	18
Treatment as usual	132.09	52.09	11					137.11	55.39	.09	11
Behavior problem											
Intervention	7.06	7.12	18	–	–	–	–	3.94	6.50	.46	18
Treatment as usual	9.36	8.80	11					10.12	9.78	.08	11
Observer-rated child outcomes											
Emotion knowledge											
Intervention	9.50	4.51	30	–	–	–	–	14.71	3.58	1.28	24
Treatment as usual	8.11	5.54	19					11.41	4.12	.68	17

Table 2 Fit statistics and parameter estimates for parent and child outcome variable trajectories from parent report

Outcome measure	Form	χ^2	p	CFI	BIC	Intercept	SE	Slope	SE
Parent reported parenting									
Emotion coaching	Linear	4.013	.045	.881	821.38				
	Quadratic	1.980	.159	.961	819.35	42.583***	0.621	−0.035†	0.024
Emotion dismissing	Linear	9.775	.002	.749	821.29				
	Square root	3.617	.057	.925	815.13	38.440***	0.672	−1.408***	0.279
Empathy	Linear	4.325	.038	.921	689.22				
	Square root	2.964	.085	.953	687.86	17.499***	0.395	0.277*	0.157
Difficulties with ER	Linear	0.453	.501	1.000	1,119.77				
	Quadratic	0.058	.810	1.000	1,202.12	74.998***	2.786	−0.048**	0.021
Parent reported outcomes on child behaviors									
Behavior intensity	Linear	11.770	.001	.785	1,249.82				
	Square root	4.493	.034	.930	1,242.54	167.528***	3.644	−6.774***	1.258
Behavior problem	Linear	7.281	.007	.878	861.288				
	Square root	0.892	.345	1.000	854.899	22.148***	0.912	−2.222***	0.381

$n = 54$; For all χ^2 values $df = 1$

Difficulties with ER = Difficulties with (parent) emotion regulation

CFI comparative fit index, *BIC* bayesian information criterion, *SE* standard error

*** $p < .001$, ** $p < .01$, * $p < .05$, † $.05 < p < .10$

Table 3 Effect of group membership on outcome measure trajectory parameters

Outcome measure	Intercept			Slope		
	Coefficient	SE	p	Coefficient	SE	p
Parent outcomes						
Emotion coaching	4.404	1.172	.000	−0.013	0.051	.397
Emotion dismissing	−0.773	1.413	.584	−0.599	0.580	.151
Empathy	1.893	0.772	.014	0.731	0.309	.009
Emotion regulation	0.513	5.628	.927	−0.005	0.042	.448
Child outcomes						
Behavior intensity	2.911	7.256	.344	−2.031	2.491	.208
Behavior problem	1.926	1.873	.304	−1.002	0.773	.098

$n = 54$

SE standard error

Parent Outcomes

Parent Reported Parenting

Growth Curve Modeling and ANCOVAs were performed to examine the relative changes over time of the two groups for parent reported emotion socialization and emotion awareness/regulation. A negative slope parameter was found for emotion dismissing and a positive slope parameter was found for empathy suggesting that, overall (i.e., intervention and waitlist combined) there were significant improvements on these measures (see Table 2). Further, a square root function was found to provide the better fit of the data in both cases meaning that most change occurred in the first 3 months, i.e., during the intervention phase. For parent emotion coaching the quadratic function, along with the negative slope parameters, indicates that, overall, there was a trend for a loss of coaching competence over time. There was a significant improvement in parents' own emotion awareness and regulation over time, predominantly in the latter months post intervention.

Despite significant overall changes over time for the four parent outcomes, only for empathy was there a significant difference between groups. Unlike the control group, which changed little over 9 months, those in TIK showed improvement over time (see Table 3). In addition to the GCM, ANCOVA was used to examine between-group differences at Time 2. These showed that parents in the intervention condition reported significantly lower emotion dismissing (F(1,34) = 6.58, *p* = .008, partial eta squared = .16), higher emotion coaching (F(1,34) = 13.43, *p* < .001, partial eta squared = .28) and greater empathy (F(1,34) = 12.08, *p* < .001, partial eta squared = .26), when compared with parents in the waitlist control condition.

Observer-Rated Emotion Discourse

ANCOVAs were conducted to investigate the impact of the TIK program on parents' observed emotion socialization. The two observed parenting variables were both positively skewed with most parents using few emotion labels or emotion exploration during the play task at either time point. However, some parents from the intervention condition made large increases in their use of emotion labels and emotion exploration at follow up, which created extreme outliers and homogeneity of error variances. To address this, log transformations were conducted for both variables at both time points. Means are presented in Table 1 and, for ease of interpretation, untransformed means are reported for the two observer-rated parent variables.

Compared with parents in the waitlist control, parents in the intervention group were observed to use significantly more emotion labels (*F*(1,38) = 3.71, *p* = .031, partial eta squared = .09) and more emotion exploration (*F*(1,38) = 4.14, *p* = .025, partial eta squared = .10).

Child Outcomes

Parent Reported Outcomes on Child Behavior

Growth Curve Modeling and ANCOVAs were performed to examine change over time and between group differences for parent reported child behavior: a square root function, along with a negative slope parameter, was found for both conditions (see Table 2). This suggests

that, over time, there were significant improvements in child behavior overall and the change in the first few months was substantially greater than in the subsequent months.

Inspection of descriptive statistics (Table 1) suggested that the intervention condition improved faster than the waitlist control condition on behavior intensity; however, the difference was not significant (see Table 3). Compared with parents in the waitlist control, there was a trend for parents in the intervention condition to report a greater improvement in child behavior problems (i.e., a reduced number of problems). Post hoc testing to compare the two conditions at Time 2 using ANCOVA showed that, compared with waitlist parents, parents in the intervention condition reported significantly lower child behavior intensity ($F(1,34) = 6.32$, $p = .009$, partial eta squared $= .16$).

Teacher Reported Outcomes on Child Behavior

ANCOVAs were conducted to investigate teacher reports on children's behavior problems. Condition significantly predicted teacher-rated behavior intensity ($F(1,26) = 4.87$, $p = .036$, partial eta squared $= .16$) and teacher-rated behavior problems ($F(1,26) = 4.87$, $p = .036$, partial eta squared $= .16$). These findings indicate that, at follow-up, teachers of children in the intervention condition reported lower child behavior intensity and fewer problems with child behavior than those in the waitlist control condition.

Observer-Rated Child Emotion Knowledge

ANCOVA was conducted to investigate the impact of the TIK program on children's emotion knowledge. Condition significantly predicted children's changes in emotion knowledge ($F(1,34) = 5.10$, $p = .015$, partial eta squared $= .13$). On average, children whose parents had attended the TIK program performed significantly better on the emotion knowledge task at 6 month follow-up when compared with children in the waitlist control condition.

Discussion

This study evaluated the *Tuning into Kids* (TIK) parenting program when used as an intervention for a clinical sample of 4–5 year old children with behavior problems. TIK was used as an adjunct to usual pediatric care which included parent and child appointments with a pediatrician (and other professionals for some). Those receiving TIK in addition to usual care (intervention) were compared with those receiving usual care alone (waitlist control).

Parents' capacity to regulate their own emotions is important for effective parenting, and, in turn, for children's wellbeing. Parental emotion regulation was specifically targeted in TIK; however, in this study, parents in both conditions significantly improved in their ability to regulate their emotions over time (between 3 and 9 months post baseline). This suggests that both TIK and usual care were helpful interventions in assisting parents to manage their emotions. Given the stress experienced by families with a child showing behavior problems and the reciprocal impact of children's difficult behavior on parents' functioning, this is an important positive outcome of treatment for families with a child with behavior problems.

Changes in parenting were also examined. Both TIK and usual pediatric care encouraged parents to use new parenting strategies (emotion coaching strategies in TIK, and use

of family rules, planned ignoring and time out in usual pediatric care) that included efforts to reduce critical and harsh parenting, a style of parenting that contributes to poorer outcomes for children [47]. Parents in each condition significantly reduced emotion dismissing (part of a harsh parenting style) and increased in empathy, with greater improvement in the first 3 months. While the difference between the two conditions on emotion dismissing was not statistically significant at follow-up, there was a larger effect size for those in the TIK intervention than for those only receiving treatment as usual. In contrast to strategies taught as part of usual treatment, developing empathy and practicing 'stepping into their child's shoes' is a central component of the TIK program: and parents in the TIK condition showed significantly greater gains in empathy than those in the waitlist group. Further, post hoc testing revealed that changes in emotion socialization were more rapid for those families participating in TIK. Immediately post-intervention, TIK parents were significantly less dismissing, were higher in empathy and reported more emotion coaching than parents in the waitlist control condition. Improvement happening sooner (rather than later) is likely to reduce the impact on the wider family system of a child with challenging behavior. Increasing the intervention 'dose' with better attendance at booster sessions and/or or a longer program might also strengthen these changes.

In contrast to a community sample [16], this clinical sample did not report increases in emotion coaching. However, observed parenting changes are a more reliable indicator of skill acquisition than self-report. When observed at follow-up, only the intervention group used significantly more emotion labels and emotion exploration (emotion discourse) with their children. Parent emotion discourse is closely related to emotion coaching [68]. These positive findings on the observed measures of emotion discourse/coaching suggest that, despite no change in their reported beliefs about emotion coaching, parents attending TIK had developed some emotion coaching skills.

Regarding child outcomes, as predicted, and consistent with Havighurst et al. [16], there were significant improvements in children's emotion knowledge for those in the TIK condition; improvements in the waitlist control group only reached trend level. Thus, while improvements in emotion knowledge may have occurred as part of normal development over the duration of the study, change was substantially enhanced for those participating in TIK. For children with behavior problems, this enhancement may have protective and preventive benefits in reducing their risk for later conduct disorder because such children often have problems with accurate identification of other's emotions, and a tendency towards a hostile attribution bias [69]. In contrast, understanding one's own and other's emotions assists children to manage emotions, behavior and social relationships [17].

The current sample of children were at significant risk for ongoing difficulties, having presented at a clinical service for problem behaviors with a very high mean ECBI behavior intensity score at Time 1 of 169.34, compared with Havighurst et al.'s [16] community sample's mean score of 119.90. Despite the greater severity of problems here, we expected that parent participation in TIK would have a beneficial impact on child behavior as it did in the community sample study. According to parent reports, although there was a trend towards a greater reduction in behavior problems for the TIK intervention condition, both the intervention and the treatment as usual participants had significant reductions in intensity of difficult behaviors (frequency of various difficult behaviors) and behavior problems (whether or not these behaviors are problematic), indicating both forms of treatment were effective. For the TIK condition only, however, teachers, as well as parents, reported significant improvements in children's behavior; thus, improvements had generalized from the parenting context to the school environment, an important outcome for children's future developmental trajectory. Further, behavioral improvement across raters

and contexts is a more reliable indicator of change, and so this is an important outcome of the TIK intervention.

Limitations

Limitations to this study include several common to clinical studies where treatments are delivered to services' existing clients. First, the sample was small, and compounded by missing data, thus reducing the reliability of findings; changes on some variables may have been more readily detected in a larger sample. Second, the pediatricians who referred parents of children with behavior problems did not provide information regarding how consistently they referred eligible families, or the number of parents who refused participation. Third, treatment as usual was not regulated, so how strategies used in normal treatment supported or conflicted with strategies taught in TIK is unknown. Lastly, because there was no additional comparison treatment group, the extra contact time with professionals for those parents participating in TIK may have contributed to differences between the two groups.

Conclusion

This research evaluated the *Tuning into Kids* (TIK) program with a clinical sample of 4–5 year old children with behavior problems, comparing a group in which parents attended the TIK program with a group receiving only usual pediatric care. Despite both groups of parents reporting being less emotionally dismissive at follow-up, only parents in the TIK condition showed significantly greater empathy and were observed to be better at emotion discourse with their children. TIK children also showed improvements in emotion knowledge over and above improvements shown by those in the usual treatment group. Further, while parents reported reduced child behavior problems in both conditions, these improvements only generalized to the preschool/school setting for those in the TIK condition. These findings suggest that by including an emotion coaching approach to parenting in a clinical intervention, child emotional competence and behavior improved; thus TIK offers a promising addition to usual pediatric care for young children at behavioral risk.

Summary

This study evaluated a 6-session group parenting program, Tuning in to Kids (TIK), as a clinical treatment for young children (aged 4.0–5.11 years) with behavior problems. TIK targets parent emotion socialization (parent emotion awareness, regulation and emotion coaching skills). Fifty-four parents, recruited via a child behavior clinic, were randomized into intervention (TIK) or waitlist (a treatment as usual condition involving pediatric care). Parents reported emotion awareness/regulation, emotion coaching, empathy and child behavior (pre-intervention, post-intervention, 6-month follow-up); teachers reported child behavior and observers rated parent-child emotion coaching and child emotion knowledge (pre-intervention, follow-up). Data were analyzed using growth curve modeling and ANCOVA. Parents in both conditions reported less emotional dismissiveness and reduced child behavior problems. In the TIK condition parents also reported greater empathy and had improved observed emotion coaching skills compared to the waitlist parents. Children of parents in the TIK condition had greater emotion knowledge and reduced

teacher-reported behavior problems while waitlist children did not. TIK, which teaches parents emotion socialization skills, appears to be a promising addition to treatment for child behavior problems and warrants further investigation as a clinical treatment.

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