

Child–Parent Psychotherapy: 6-Month Follow-up of a Randomized Controlled Trial

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ABSTRACT

Objective: To examine the durability of improvement in child and maternal symptoms 6 months after termination of child–parent psychotherapy (CPP). **Method:** Seventy-five multiethnic preschool-age child–mother dyads from diverse socioeconomic backgrounds were randomly assigned to (1) CPP or (2) case management plus community referral for individual treatment. Children were 3 to 5 years old. Follow-up assessments were conducted 6 months after the end of a 1-year treatment period. Mothers completed the Child Behavior Checklist and the Symptom Checklist Revised to assess child’s and mother’s symptoms. **Results:** For treatment completers, general linear model (GLM) repeated-measures analyses support the durability of CPP with significant group \times time interactions for children’s total behavior problems and mothers’ general distress. Intent-to-treat analyses revealed similar findings for children’s behavior problems but were not significant for maternal symptoms. **Conclusions:** The findings provide additional evidence of the efficacy and durability of CPP with this population and highlight the importance of a relationship focus in the treatment of traumatized preschoolers. *J. Am. Acad. Child Adolesc. Psychiatry*, 2006;45(8):913–918. **Key Words:** child witnesses of domestic violence, preschool-age children, child–parent psychotherapy, randomized trial, follow-up.

There is extensive empirical evidence that preschoolers who witness marital violence involving their mothers respond with increased rates of disturbances in self-regulation and in emotional, social, and cognitive functioning (Osofsky, 2004; Pynoos et al., 1999; Scheeringa and Zeanah, 1995). These findings highlight the importance of developing and testing the efficacy of treatment approaches that alleviate symptoms and restore the child’s developmental momentum toward healthy functioning. Child–parent psychotherapy (CPP) is a relationship-based treatment that showed

efficacy in decreasing behavior problems and symptoms of posttraumatic stress disorder among both children and their mothers in a culturally diverse, low-income group of preschoolers exposed to marital violence and their battered mothers when they were compared with a control group receiving a combination of case management and individual psychotherapy (Lieberman et al., 2005). This differential posttreatment improvement raises the question of sustainability of CPP treatment effects in the absence of ongoing intervention. Determining whether the treatment gains resulting from CPP are maintained is of major theoretical importance because this treatment approach is based on the premise that focusing on the child–mother relationship as the therapeutic mechanism of change will have self-sustaining value because of the mother’s improved competence in responding appropriately to the child’s emotional needs. The present study followed the original sample to examine whether treatment gains in the children and the mothers were maintained 6 months after termination of CPP treatment when compared with the control group.

CPP integrates modalities derived from psychodynamic, attachment, trauma, cognitive-behavioral, and social learning theories. The child–parent relationship

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is used as the vehicle for improving the child's emotional, cognitive, and social functioning through a focus on safety, affect regulation, the joint construction of a trauma narrative, and engagement in developmentally appropriate goals and activities. The CPP treatment manual describes treatment strategies and provides clinical examples to address the following domains of functioning: play; sensorimotor disorganization and disruption of biological rhythms; fearfulness; reckless, self-endangering, and accident-prone behavior; aggression; punitive and critical parenting; the relationship with the perpetrator of the violence and/or absent father; and separation issues related to the termination of treatment (Lieberman and Van Horn, 2005). Child and mother are seen in joint sessions, and individual collateral sessions with the mother are scheduled when indicated. The interventions focus on promoting affect regulation in the child and in the parent; changing maladaptive behaviors in the child, the mother, and their interaction; supporting and encouraging developmentally appropriate interactions and activities; and guiding the child and the mother in creating a joint trauma narrative that includes finding avenues for conflict resolution and restoration of hope and trust in their relationship.

Prior CPP treatment outcome research findings support the value of the child–mother relationship as the mutative mechanism in alleviating the negative impact of a variety of risk factors affecting child functioning, including anxious attachment in 1-year-olds (Lieberman et al., 1991), toddlers of depressed mothers (Cicchetti et al., 1999, 2000), neglected/maltreated preschoolers (Toth et al., 2002), and most recently, preschoolers exposed to marital violence (Lieberman et al., 2005). This empirical base resulted in CPP being classified as “well supported and efficacious” on the practices grid of the National Child Traumatic Stress Network (NCTSN) Empirically Supported and Promising Practices (National Child Traumatic Stress Network, 2005).

Demonstrating that CPP efficacy is maintained on follow-up is crucial to strengthen the evidence base for this approach and encourage clinicians to systematically incorporate a focus on the child–mother relationship when treating disorders of mental health in infancy and early childhood. In the present study, we hypothesized that the gains associated with CPP treatment would be maintained for both the child and the mother and lead

to a continuation of the significant treatment effects found at termination of treatment (Lieberman et al., 2005).

METHOD

Participants

Participants were 39 girls and 36 boys ages 3 to 5 years (mean 4.06, SD 0.82) and their mothers. Child–mother dyads were referred because there were clinical concerns about the child's behavior or mother's parenting after the child witnessed or overheard marital violence. Child–mother dyads were recruited into the study if the child was 3 to 5 years old, had been exposed to marital violence as confirmed by mother's report on the Conflict Tactics Scale 2 (Straus et al., 1996), and the perpetrator was not living in the home. Exclusionary criteria for the mothers were documented physical or sexual abuse of the target child, current substance abuse, homelessness, mental retardation, and psychosis. Children with mental retardation or autism spectrum disorder were also excluded. Participants were ethnically diverse. At intake, 38.7% of the children had mixed ethnicity (predominantly Latino/white) and the rest were 28% Latino, 14.7% African American, 9.2% white, 6.7% Asian, and 2.7% of another ethnicity. Additional details regarding the sample are provided in the original treatment outcome study (Lieberman et al., 2005).

Of the 65 child–mother dyads assessed at the end of treatment, two (5.6%) treatment and four (13.8%) comparison group dyads were not available for the 6-month follow-up assessment. There were no significant differences in the follow-up rates for the treatment and comparison groups. The two treatment families lost to follow-up could not be located. For the comparison group, two families could not be located, one comparison family declined participation on the grounds of not having the time to do so, and the child from another family was placed in foster care by Child Protective Services.

Nine additional dyads were not included in the follow-up study. Seven treatment group dyads were not assessed because their treatment ended before adding the 6-month follow-up to the study. Two comparison group participants were removed from the analyses. In one case, the dyad received CPP from another clinic. The mother sought out dyadic services after she was randomized to the comparison group, and she received services from a different clinic where clinicians had been trained in this model. In the second case, the mother experienced postpartum psychosis following the birth of a second child, and her protocol was flagged by the assessor as highly invalid at the time of data collection (Fig. 1).

The final 6-month follow-up sample included 22 girls and 28 boys ages 3 to 6 years (mean 4.04; SD 0.82), 27 in the treatment group and 23 in the comparison group. The ethnicity of the children was as follows: 38% mixed ethnicity, 28% Latino, 16% African American, 12% white, 4% Asian, and 2% of another ethnicity. Dyads lost to attrition did not differ from those who completed the follow-up assessment on 12-month outcome variables, child gender, ethnicity, monthly income, or maternal education, but they tended to have younger children ($t(54) = -2.14, p < .05$; attriters: mean 3.31 SD 0.41; completers: mean 4.04; SD 0.82). For dyads assessed at follow-up, treatment and comparison groups did not differ with regards to outcome variables, child age, maternal education, or family average income level. There were significant group differences for child gender χ^2_1

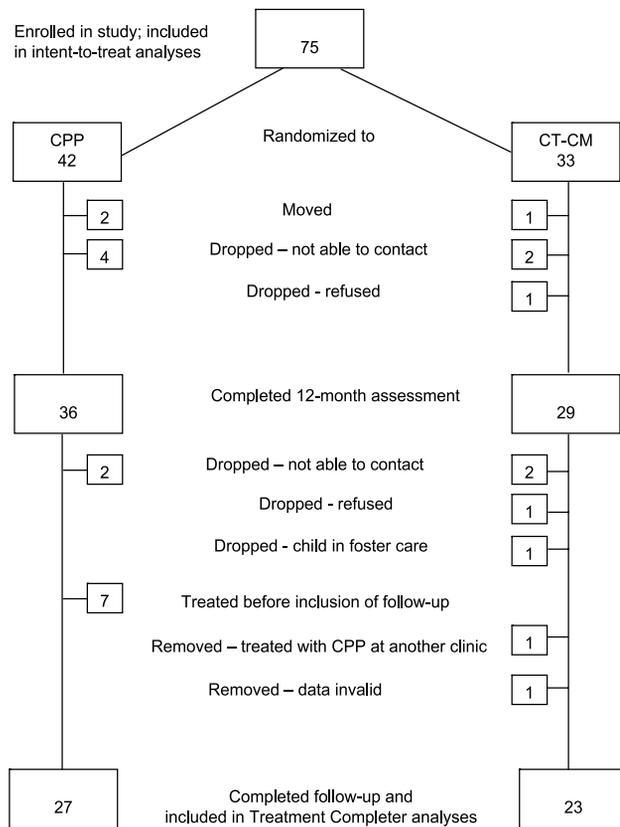


Fig. 1 Flowchart. CPP = child–parent psychotherapy; CT-CM = community treatment case management.

($n = 50$) = 4.92, $p < .05$, $f = -.31$), with the treatment group having 30% boys and the comparison group having 61% boys.

Procedures

All participants in the 6-month follow-up study were part of the original treatment outcome study, where they were randomly assigned to either CPP or case management plus individual psychotherapy. The treatment group attended a mean of 32.09 CPP sessions (SD 15.20). In the comparison group, 73% ($n = 22$) of mothers and 55% ($n = 17$) of children received individual treatment, and 45% ($n = 14$) received separate individual psychotherapy for both mother and child. Mothers in the comparison group reported a range of 2 to 50 sessions for children and 6 to 50 sessions for themselves, with 50% of the mothers and 65% of the children receiving more than 20 individual sessions (see Lieberman et al., 2005 for more details). Participants were followed after the termination of treatment through monthly telephone calls, and 6 months after the conclusion of their outcome assessments, they were invited to participate in the follow-up phase of the study and were paid \$50 for their participation. All procedures were approved and monitored by the University of California San Francisco Committee on Human Research. Different assessors were used at each assessment point, and every effort was made to keep assessors unaware of group assignment. On occasion, group classification was revealed when the mother or the child made a comment indicating group membership. Mothers met with trained

assessors and completed measures on maternal and child symptoms after signing informed consent forms. Spanish-speaking mothers met with Spanish-speaking assessors, gave informed consent in Spanish, and completed Spanish versions of the measures available from the publishers.

Measures

Child Behavior Checklist (2/3 and 4/18). This instrument has versions for 2- to 3- and 4- to 18-year-olds (Achenbach, 1991a, b; Achenbach and Edelbrock, 1983). It discriminates well between children referred for clinical services and nonreferred demographically matched children, is valid for use in cross-cultural samples, and has good reliability, stability, and predictive validity. As in the intake and posttreatment assessments, the Total Behavior Problem scale was examined because it includes stress-related behaviors not represented in the Internalizing and Externalizing scales (e.g., staring into space, smearing feces, refusing to eat, showing too little fear of getting hurt, destroying his or her own things).

SCL-90 Symptoms Checklist, Revised. This 90-item checklist is a measure of current psychiatric symptoms yielding three summary indices and nine primary dimensions, with α ranging from .77 to .90, and test-retest reliabilities from 0.78 to 0.90 (Derogatis, 1994). The Global Severity Index was used because it is considered the best single indicator of current distress.

Treatment

CPP. Participants were randomly assigned at intake to CPP or to case management plus individual treatment comparison group. Weekly CPP child–mother sessions lasted approximately 60 minutes and were conducted over the course of 50 weeks. The clinicians had master’s or doctoral degree–level training in clinical psychology. Treatment fidelity was monitored through intensive weekly clinical supervision that included review of narrative process notes and through weekly case conferences.

Case Management Plus Individual Psychotherapy. After randomization, comparison group mothers received assessment feedback, were introduced to a doctoral degree–level clinician for case management, received information about mental health clinics in the community, and were connected to the clinics of their choice. They received at least monthly telephone calls from their case manager and could contact her as needed. The case manager assisted in facilitating the referral and intake process at the mental health clinic selected by the mother, secured additional needed services, inquired about how mother and child were doing, asked about life changes, and intervened during crises. These calls generally lasted 30 minutes. Face-to-face meetings were scheduled when clinically indicated.

RESULTS

Treatment Effects

Long-term effects were examined using a general linear model (GLM) repeated-measures procedure for each dependent variable with group (CPP versus comparison) as the between-subject variable and time (intake versus 6-month follow-up) as the within-subject

variable (Table 1). Significant group \times time interactions indicate the presence of treatment effects and were followed up using the treatment completer (TC) sample with repeated-measures analyses within each group to determine whether significant change occurred in both groups. Effect size (Cohen, 1988) was calculated with $d = \text{mean group 1} - \text{mean group 2} / \text{pooled SD}$. TC analyses include the 50 dyads that completed the 6-month follow-up assessment. Cases with missing data were deleted listwise for each analysis. Intent-to-treat (ITT) analyses were conducted using a last observation carried forward (LOCF) method, in which the score at the most recent time period (intake, 6-month, or posttreatment) was substituted for later incomplete data points. The original 75 dyads are included in the ITT analyses.

Child Functioning. CBCL Total Behavior Problem scores showed a significant group \times time interaction for both the TC and ITT samples (TC: $F_{1,48} = 5.39, p < .05, d = 0.41$ and ITT: $F_{1,73} = 5.44, p < .05, d = 0.44$) and a significant main effect for time (TC: $F_{1,48} = 14.35, p < .001$; ITT: $F_{1,73} = 14.08, p < .001$). Follow-up analyses revealed that only the CPP group evidenced significant reductions (TC: $t_{26} = 3.92, p < .001$ and ITT: $t_{41} = 4.07, p < .001$).

Maternal Symptoms. For the Global Severity Index (GSI), TC sample analyses revealed significant group \times time interactions (GSI: $F_{1,47} = 5.12, p = .05, d = 0.38$) as well as a significant main effects for time (GSI: $F_{1,47} = 21.50, p < .001$). Follow-up analyses showed that only the CPP group improved significantly ($t_{26} = 5.11, p < 0.001$). ITT analyses showed significant main effects for time ($F_{1,73} = 14.92, p < .001$).

DISCUSSION

The findings indicate that the improvements in children's behavior problems and maternal symptoms as the result of treatment with CPP continue to be evident 6 months after the termination of treatment when compared to the control group. At follow-up, preschoolers randomly assigned to CPP continued to show significantly fewer behavior problems than children in the control group. Mothers in the CPP group had significantly lower scores in the global severity of their symptoms when compared to the control group 6 months after the termination of treatment. The findings confirm the hypothesis that a clinical focus on the child-mother relationship as the mechanism of change would result in greater duration of treatment effects for preschoolers exposed to marital violence and their mothers than standard community treatment supplemented by case management.

It is important to note that 12-month post hoc analyses showed that mothers in both the CPP and the control groups had declined in the severity of their global symptoms. Although there was not a significant group \times time interaction immediately after treatment completion, the decline in symptom severity was statistically significant only for the CPP group mothers, with the control group mothers showing a trend in that direction (Lieberman et al., 2005). In contrast, the follow-up assessment revealed a significant symptom decline only for the CPP group mothers, with no comparable movement in the control group mothers. The finding suggests that mothers in the CPP group continued to improve after the termination of treatment, whereas mothers in the control group did not.

TABLE 1
Intake to 6-Month Follow-up Analyses for Treatment Completer Sample

Measure	CPP ($n = 27$)				Comparison ($n = 23$)				Time \times Group			
	Pre-		Post-		Pre-		Post-		<i>df</i>	<i>F</i>	<i>d</i>	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD				
Child symptomatology (CBCL)												
Total Behavior Problems	60.81	10.59	51.04	9.92	57.39	9.06	55.04	11.45	1,48	5.39*	0.41	
Maternal symptomatology (SCL-90-R)												
Global Severity Index	1.02	0.63	0.49	0.61	0.92	0.70	0.74	0.79	1,47	5.12*	0.38	

Note: SCL-90-R data from one mother were missing. CPP = child parent-psychotherapy; CBCL = Child Behavior Checklist; SCL-90-R = SCL-90 Symptoms Checklist, Revised.* $p < .05$.

The group \times time GSI interaction was significant only for those mothers who participated in the follow-up assessment. The ITT analysis did not show a significant interaction, possibly because of the conservative nature of the method that was used to calculate change in the ITT group, which consisted of carrying forward the latest available score.

The significant group difference in improvement for total GSI scores is surprising because 73% of the mothers in the control group had received individual psychotherapy in addition to regular case management from an experienced clinician. The ongoing improvement process among CPP group mothers supports our premise that women's psychological well-being is strongly influenced by their sense of competence as mothers and by their satisfaction with their children's functioning. We postulate two possible mechanisms for the significant improvement in maternal global symptoms at follow-up. One mechanism involves the beneficial long-term effects of helping the mother and preschooler to create a joint narrative of the trauma, extending to the child-mother relationship the guidelines for the treatment of PTSD in children and adolescents (Cohen et al., 1998). At the end of treatment, mothers in the CPP group showed significant declines in avoidance symptoms when compared to the control group (Lieberman et al., 2005). We posit that as maternal avoidance of trauma reminders decreased, the resulting improvement in functioning may have spurred a decline in other symptoms of distress at follow-up 6 months later. We also postulate that the second mechanism explaining enhanced maternal functioning may be the children's improvement as the result of CPP treatment, which became a protective factor in the mothers' psychological functioning and gave impetus to their continued symptom decline.

Limitations

The limitations of the study include a small sample size and reliance on maternal report for both the child and maternal variables. We were unable to ascertain whether there continued to be a significant group \times time interaction in the frequency and severity of mother's and children's PTSD symptoms at the 6-month follow-up because due to limited resources the diagnostic interviews administered at the end of treatment were not

readministered at follow-up. In the follow-up assessment, dyads lost to attrition had children who were younger as a group than those who completed the assessment, and there were more boys in the comparison group than in the treatment group. These group differences are likely to be the result of chance due to small group sizes because there were no group differences in any other variables between either the 12-month and the follow-up samples or the follow-up treatment and comparison groups. Future research should include a larger sample and add observational and diagnostic instruments to the follow-up assessment to circumvent these limitations.

Strengths of the study include an ethnically and socioeconomically diverse sample recruited from the community rather than from battered women's shelters. An additional strength was the successful retention for follow-up of a sample that is ordinarily difficult to retain because of the instability of living conditions associated with marital violence, particularly when compounded by the low socioeconomic status, precarious employment, and scarce housing that were characteristic of the sample. For example, there was a well-documented flight of families with children from San Francisco because of housing costs and scarcity of low-income housing during the period spanned by the study, and the city currently has the lowest percentage of children in the country (Mayor's Office of Community Development, 2005; Seligman, 2001). This phenomenon illustrates the challenges facing low-income families in the absence of social supports and the obstacles involved in conducting longitudinal studies with low-income, underserved populations.

Clinical Implications

The findings provide significant evidence that the child-mother relationship is an important mutative factor in treatment that results in better maintenance of treatment effects for preschoolers and mothers exposed to marital violence when compared to a control group receiving individual psychotherapy supplemented by case management. These findings confirm the practice parameters outlined by Cohen et al. (1998), which recommend the inclusion of parents as an integral component in the treatment of PTSD in children and adolescents. This study supports the hypothesis that the gains from CPP are sustained over time after treatment

ends and lends further weight to the already existing empirical evidence supporting CPP efficacy.

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REFERENCES

- Achenbach TM (1991a), *Manual for the Child Behavior Checklist 4-18 and 1991 Profile*. Burlington: University of Vermont, Department of Psychiatry
- Achenbach TM (1991b), *Manual for the Teacher's Report Form and 1991 Profile*. Burlington: University of Vermont, Department of Psychiatry
- Achenbach TM, Edelbrock CS (1983), *Manual for the Child Behavior Checklist and Revised Child Behavioral Profile*. Burlington: University of Vermont Department of Psychiatry
- Cicchetti D, Rogosch FA, Toth SL (2000), The efficacy of toddler-parent psychotherapy for fostering cognitive development in offspring. *J Abnorm Child Psychol* 28:135-148
- Cicchetti D, Toth SL, Rogosch FA (1999), The efficacy of toddler-parent psychotherapy to increase attachment security in offspring of depressed mothers. *Attach Hum Dev* 1:34-66
- Cohen J (1988), *Statistical Power Analysis for the Behavioral Sciences*, 2nd ed. Hillsdale, NJ: Lawrence Erlbaum Associates
- Cohen JA, and the Work Group on Quality Issues (1998), Practice parameters for the assessment and treatment of children and adolescents with posttraumatic stress disorder. *J Am Acad Child Adolesc Psychiatry* 37(suppl):4S-26S
- Derogatis LR (1994), *Symptom Checklist-90-R: Administration, Scoring, and Procedures Manual*. Minneapolis: National Computer Systems, Inc.
- Lieberman AF, Van Horn P (2005), *Don't Hit My Mommy*. Washington, DC: Zero to Three Press
- Lieberman AF, Van Horn PJ, Ghosh Ippen C (2005), Toward evidence-based treatment: child-parent psychotherapy with preschoolers exposed to marital violence. *J Am Acad Child Adolesc Psychiatry* 44:1241-1248
- Lieberman AF, Weston DR, Pawl JH (1991), Preventive intervention and outcome with anxiously attached dyads. *Child Dev* 62:199-209
- Mayor's Office of Community Development (2005), San Francisco demographic profile; <http://www.sfgov.org/site/uploadedfiles/mocd/demoprofile.pdf>. Accessed December 20, 2005
- National Child Traumatic Stress Network (2005), NCTSN empirically supported treatments and promising practices; http://www.nctsn.org/nctsn_assets/pdfs/promising_practices/NCTSN_E-STable_21705.pdf. Accessed May 2, 2006
- Osofsky JD (2004), Community outreach for children exposed to violence. *Infant Ment Health J* 25:478-487
- Pynoos RS, Steinberg AM, Piacentini JC (1999), A developmental psychopathology model of childhood traumatic stress and intersection with anxiety disorders. *Biol Psychiatry* 46:1542-1554
- Scheeringa MS, Zeanah CH (1995), Symptom expression and trauma variables in children under 48 months of age. *Infant Ment Health J* 16:259-270
- Seligman K (2001, May 26), Children in exodus: S.F. has the lowest numbers of families in state with members who are under 18, *San Francisco Chronicle*; <http://www.sfgate.com/cgi-bin/article.cgi?file=/chronicle/archive/2001/05/26/MN26533.DTL>. Accessed December 20, 2005
- Straus MA, Hamby SL, Boney-McCoy S, Sugarman DB (1996), The revised Conflict Tactics Scales (CTS2): development and preliminary psychometric data. *J Fam Issues* 17:283-316
- Toth SL, Maughan A, Manly JT, Spagnola M, Cicchetti D (2002), The relative efficacy of two interventions in altering maltreated preschool children's representational models: implications for attachment theory. *Dev Psychopathol* 14:877-908

Time Well Spent? Relating Television Use to Children's Free-Time Activities Elizabeth A. Vandewater, PhD, David S. Bickham, PhD, June H. Lee, PhD

Objectives: This study assessed the claim that children's television use interferes with time spent in more developmentally appropriate activities. *Methods:* Data came from the first wave of the Child Development Supplement, a nationally representative sample of children aged 0 to 12 in 1997 ($N = 1712$). Twenty-four-hour time use diaries from 1 randomly chosen weekday and 1 randomly chosen weekend day were used to assess children's time spent watching television, time spent with parents, time spent with siblings, time spent reading (or being read to), time spent doing homework, time spent in creative play, and time spent in active play. Ordinary least squares multiple regression was used to assess the relationship between children's television use and time spent pursuing other activities. *Results:* Results indicated that time spent watching television both with and without parents or siblings was negatively related to time spent with parents or siblings, respectively, in other activities. Television viewing also was negatively related to time spent doing homework for 7- to 12-year-olds and negatively related to creative play, especially among very young children (younger than 5 years). There was no relationship between time spent watching television and time spent reading (or being read to) or to time spent in active play. *Conclusions:* The results of this study are among the first to provide empirical support for the assumptions made by the American Academy of Pediatrics in their screen time recommendations. Time spent viewing television both with and without parents and siblings present was strongly negatively related to time spent interacting with parents or siblings. Television viewing was associated with decreased homework time and decreased time in creative play. Conversely, there was no support for the widespread belief that television interferes with time spent reading or in active play. **Pediatrics** 2006;117(2):e181-e191.