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The Baby Elmo Program: Improving teen father–child interactions within juvenile justice facilities

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ABSTRACT

The aim of the Baby Elmo Program is to establish a low-cost, sustainable parenting and structured visitation program for non-custodial incarcerated teen parents. The program is taught and supervised by probation staff in juvenile detention facilities and unlike traditional programs, this intervention is not based on increasing the teen's abstract parenting knowledge, but rather in building a relationship between the teen and his child. The sessions target the interactional quality of the relationship by introducing relationship, communication, and socio-emotional enhancing techniques. Because the intervention is conducted in the context of parent–child visits, it fosters hands-on learning and increases the opportunity for contact between these young parents and their children, a benefit in itself. Twenty father–infant dyads, with infants ranging in age from 6 to 36 months, participated in the present preliminary evaluation of the program. Individual growth curve analyses showed significant gains in five of six measures of emotional responsiveness with the age of infant as a significant covariate. These results indicate improvements in positive high quality interactions and communication during sessions between infants and their incarcerated parents and this increase in the interactional quality of the relationship increases the likelihood that the incarcerated teen and child will form and maintain a positive relationship with one another.

1. Introduction

Recent estimates suggest that parental incarceration affects one in every 40 children in the U.S. (National Resource Center on Children and Families of the Incarcerated, 2007). In 2007, there were 890,000 parents in prison (an increase of 79% from 1991) and of these incarcerated parents, 92% were fathers (Schirmer, Nellis, and Mauer, 2009). According to the Department of Justice Bureau of Justice Statistics the number of children with an incarcerated parent has increased significantly over the last two decades (Mumola, 2000). In 2007, more than 1.7 million children under the age of 18 had at least one parent in jail or prison and 22% of children whose parents are incarcerated are under five years of age (National Resource Center on Children and Families of the Incarcerated, 2007).

Children of incarcerated parents not only suffer the relational loss of a parent, but experience economic and social challenges that result from incarceration. These children are highly vulnerable to maladjustment and more likely to be delinquent, use drugs, experience early pregnancy, drop out of school, and exhibit emotional problems than their peers whose parents are not incarcerated (Murray, 2005; Murray and Farrington, 2005; Myers, Smarsh, Amlund-Hagen, and Kennon, 1999; Trice and Brewster, 2004). One in five children with incarcerated parents displayed clinically significant internalizing problems (anxiousness, depression, etc.) and one in three exhibited signs of significant externalizing behaviors (ADHD, aggression, etc.) (National Resource Center on Children and Families of the Incarcerated, 2007). Murray and Farrington (2005), for example, examined the effects of parental incarceration in 411 boys, ages eight to nine. They found that not only is parental incarceration associated with a number of risk factors (e.g., frequent housing and school change), but even after controlling for these risk factors, parental incarceration still uniquely predicted negative psychosocial outcomes. The 23 children whose parents had been incarcerated during the first 10 years of their life had the highest average number of risk factors across several individual, parenting, and family-related outcomes. In addition, federal data show that for the most recent period available, 2003, over 29,000 or 6% of children in foster care had been removed because of parental incarceration (Hayward and DePanfilis, 2007). Children placed in the state foster care system due to parental incarceration face extra obstacles preserving a connection with their parent because the correctional system, child welfare system, and substitute caregivers must coordinate both visitation and plans for reunification.

Post-release success is higher among inmates who have maintained family ties during incarceration (Hairston, 2001), and the opportunity to maintain contact with the parent during the period of

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separation will modify the nature of the parent–child relationship, which in turn, will affect the child's adjustment. Although beneficial, 57% of fathers in state prison reported never receiving a visit from their children (Mumola, 2000). Adult institutions allow for regular parent–child visitation, recognizing the importance of family ties and the futility of punishing a child for the parents' acts (Loper and Tuerk, 2007; Rudel and Hayes, 1990; Sampson and Laub, 1993; Uggen, Manza, and Behrens, 2004; Wilczak and Markstrom, 1999), but this is not true for many juvenile detention facilities.

1.1. Parenting programs in prison settings

Some attempts have been made to introduce parenting programs to incarcerated parents. In adult prison and juvenile detention settings, parent-education programs have had some success at increasing parental efficacy and parenting knowledge (e.g. Nurse, 2002; Wilczak and Markstrom, 1999). These programs are limited, however, by the fact that they are based on a skills model focusing on classroom learning. These programs target discipline, child development, and the mechanics of parenting in the absence of parent–child contact (Loper and Tuerk, 2007; Nurse, 2002; Parke and Clarke-Stewart, 2003). The parent–child dyad is not studied, and success is based on parent report alone.

Even though child visitation was one of the highest incentives to participate in a parenting program in adult correctional facilities, few programs include both an education and visitation component, and as a result efficacy of this approach has not been well investigated (Rudel and Hayes, 1990; Wilczak and Markstrom, 1999). One exception was a study conducted by Landreth and Lobaugh (1998) in an adult prison setting that combined parent visitation and play therapy. Parent report measures demonstrated that the experimental group of fathers scored higher on acceptance and empathy toward their 4- to 9-year-old child and scored lower on parental stress than the control group of fathers after a 10-week intervention. Parent–child interactions were not, however, directly measured.

Within juvenile correctional facilities, accommodations for visitation are minimal and opportunities for parenting education are rare (see Nurse, 2002). This is despite the fact that an estimated 30% of incarcerated teen males have their own children (Nurse, 2002). When children are able to visit their incarcerated teen parents, the visitation experience can be difficult for both parent and child. Visitation occurs in non-contact form through glass or for short periods of time in a lunchroom or office. The child is often brought into an unfamiliar place, and there is nothing available (toys, puzzles, and books) for the teen parent and their very young child to play with. Institutions do not offer teen parents, who frequently have not had positive parenting themselves, with the support necessary to prepare for a visit, or deal with difficult situations that arise during visits such as a child's unwillingness to engage with a parent who has been absent.

2. Designing an effective intervention

The theoretical approach for the current intervention is derived from Bronfenbrenner's ecological model of development, which states that child development must be considered within the multiple relationships and systems that surround the child (e.g. Bronfenbrenner and Morris, 1998). When this model is applied to children who have incarcerated parents, the environment of the detention facility and the personnel in those facilities also form a system that affects the incarcerated youth and the infant's development. Therefore an effective intervention should target and assess not only the teen parent, the teen parent–child dyad, and the caregiver, but also focus on the juvenile detention environment and personnel (see also Bronfenbrenner and Morris, 1998; Murray and Farrington, 2005; Parke and Clarke-Stewart, 2003; Sampson and Laub, 1993). The characteristics of these systems all pose interrelated potential risks and opportunities for resilience. A strictly task-focused, direct approach in prevention and intervention cannot succeed; instead, an intervention must not only focus on the needs of the parent, but rather on a rewarding and resilient parent–child relationship (Bernstein, Hans, and Percansky, 1991). In adult prison settings, there have been a limited number of studies that have changed the physical environment to improve visitation opportunities for parents and their children (e.g. Clement, 1993; Fishman, 1983), but this change has not been examined within the juvenile detention facilities. Parke and Clarke-Stewart (2003) suggest that an interactional approach is necessary to study incarcerated parents and their children because of the complexity of the environments and dynamic changes that occur as a result of incarceration.

2.1. Overcoming obstacles to implementation

There are a number of additional obstacles to overcome when introducing a teen parenting intervention in a juvenile detention center. First, financial resources to cover the cost of the intervention program are limited. Second, incarcerated teen parents often have poor literacy skills, which may limit the distribution of reading material, manuals, and other literature that, while helpful, could be overwhelming for the majority of inmates whose literacy skills are generally at the 4th grade level (Wilczak and Markstrom, 1999). Third, the intervention must earn the trust of the participants while maintaining feelings of efficacy (Parra-Cardona, Wampler, and Sharp, 2006) and motivation (Rudel and Hayes, 1990; Wilczak and Markstrom, 1999). One area to reduce cost and to capitalize on an adolescent strength is through a media-based intervention. Adolescents live in a media-centered world and spend on average eight hours per day engaged in some form of media and over the past five years media usage has dramatically increased due to mobile technology (Rideout, Foehr, and Roberts, 2010). Using a media-based intervention is cost-effective, less reliant on high literacy levels, and more likely to induce higher levels of efficacy and motivation than traditional classroom-like parenting programs.

Although media-based parent training interventions have not previously been conducted in juvenile detention facilities, media-based parent-training programs can be effective. In a review of the literature on programs for teen mothers, Cohen, Barlow, and Stewart-Brown (2003) found that parent-training programs that included educational video components were generally effective at promoting a wide range of positive developmental outcomes for both parent and child. Other studies have found videos to be helpful with low-risk as well as high-risk mothers (Brown, Yando, and Rainforth, 2000) and media-based training combined with active interaction has been shown to be the most effective (Huebner and Meltzoff, 2005; Sharry, Guerin, Griffin, and Drumm, 2005).

3. Intervention components

3.1. Modification of the juvenile detention facility and staff training

The first component of the Baby Elmo Program is the modification of the environment. As part of this intervention, juvenile detention facilities were required to set up a play context by converting one of their rooms to a more child-friendly atmosphere. Posters, toys, soft mats, and books were brought in to facilitate parent–child interactions (see Fig. 1). The Baby Elmo Program is specifically designed to be implemented independently by juvenile facilities with limited outside staffing and financial support. In addition, the program supports institutional security and habilitation by providing incentives for youth to comply with institutional standards, as well as increasing community contact. Trained parole officers and volunteers who do not have extensive training in child development can administer this intervention. The lessons are designed for use by staff that routinely supervise and counsel youth in the facility, making

Fig. 1. Environmental changes in the visitation space prior to the implementation of the intervention at two different juvenile detention facilities.

the program less expensive and easier to implement. More importantly, it also means that ongoing training can continue while youth is in the unit and fosters a better relationship between the incarcerated minor and juvenile detention staff.

3.2. Parent training sessions

The second component of this intervention is the parent-training sessions led by a staff member or volunteer, who incorporates specific media into the lesson plans to model positive parent–child interactions. Several intervention components from Dozier et al. (2006) with demonstrated efficacy were adapted for use within the juvenile detention facility and written into a systematized intervention manual, accompanied by video segments from the *Sesame Street Beginnings* videos. Pempek, Demers, Hanson, Kirkorian, and Anderson (2011) found that parent–infant interaction quality increased as a function of indirect exposure to the high quality interactions modeled on these infant-directed videos. Clips from the *Sesame Street Beginnings* videos were chosen to model positive parent–child interactions.

The program consists of 10 training sessions with each session focusing on a specific topic. Concepts introduced in the first three sessions aim to establish or reestablish a relationship with the child and cover concepts such as separation anxiety, exploration of the environment, and following the child's lead. Sessions four through six focus on communication development where the importance of praising the child, labeling, and asking questions are emphasized. Sessions seven through nine focus on socioemotional development stressing the role of physical affection, modeling, and imagination. The final session is a review of all the skills presented throughout the program. During the training session, teen parents discuss the prior visit and plan activities for the upcoming visit with their child. This program incorporates both cognitive/language development and social/emotional development—both of which are critical skills for the parent in creating a relationship with a baby and promoting healthy child development (Bernstein et al., 1991; Bornstein, Tamis-LeMonda, Hahn, and Haynes, 2008; Dozier et al., 2006).

3.3. Parent–child visits

The final component of this intervention gives the incarcerated parent the opportunity to practice the concepts from the training session with his or her child. In the juvenile justice setting, there are very few if any visitation opportunities for parents and their young children. These semi-structured visits are scheduled for 45 min. To ensure that information is carried over between the visit and the training session, the parents are required to complete a post-session questionnaire after the visit. Questions such as what they liked and disliked about the visit, what the child enjoyed, what was difficult about the visit and what they would like to try during the next visit are asked to facilitate information retention and parental efficacy.

4. Program evaluation

The overarching goal of the Baby Elmo intervention is to provide a quality parenting program targeted at improving the parent -child relationship that will enhance the quality of interactions, foster secure attachments, and maintain strong bonds during the period of incarceration. Ultimately this intervention will improve developmental outcomes for the child and the teen parent. In the present study, we hypothesize that fathers will begin the program with poor beliefs about their parenting capacity as indexed by the This is my Baby Interview (TIMB, Bates and Dozier, 1998), but that father–child dyads will demonstrate increases in interactional quality as indexed by increased levels of emotional responsiveness over the course of the sessions.

4.1. Participants

This preliminary analysis consisted of 20 parent–infant dyads from detention centers located in four California counties: Fresno, Yolo, San Bernardino (two sites), and Sacramento. Three are long-term commitment facilities serving post-dispositional youth and two are traditional juvenile halls serving youth awaiting hearing. The facilities either had no pre-existing system for visitation for juvenile parents other than court-ordered visitation or sporadic visitation without regular structure. Teen father ages ranged from 15 to 18, with an average age of 17.10 years ($SD = 0.62$). Infant ages ranged from 6- to 36-months with an average age of 16.10 months ($SD = 7.41$). Fifteen of the 20 teen participants were Hispanic; four were African-American and one was of mixed racial descent. Twelve of the infants were male and eight were female. All participants completed at least four of the 10 sessions and participation in the study was voluntary. The average number of sessions completed was 6.76 ($SD = 1.97$).

4.2. This is My baby (TIMB) measure

Pre- and post intervention interviews developed by Bates and Dozier (1998) lasting approximately 10 min were used to measure parent's commitment to his child, parent's acceptance of his child, and how much the parent is aware of his influence on his child's life. The TIMB includes seven questions regarding the parent–child relationship, as well as an eighth question concerning the parent's experience as a parent. The audio taped recorded interviews are transcribed and coded from the transcripts. Acceptance, commitment, and awareness of influence are rated on a 5-point scale. Acceptance assesses how much the parent accepts the child as his own, commitment measures how committed the parent is to the child, and influence looks at how much parental influence (both the short-term and long-term) the father believes he has.

Responses from pre- to post-intervention on the TIMB interview were compared. We predict an increase in all three components of the interview, with the biggest gains seen with how much the parent feels they influence their child. Researchers were trained to strict reliability criterion according to the University of Delaware TIMB protocol. An intraclass correlation yielded an interobserver reliability coefficient of .84 based on 50% of interviews.

4.3. Emotional responsiveness measure

Emotional responsiveness (ER) is a comprehensive, universal term that encompasses a series of elements key to a healthy relationship. Emotionally responsive parenting is correlated with positive developmental outcomes including emotional security, social facility, symbolic competence, verbal ability, and intellectual achievement; it is necessary for optimal child socio-emotional, cognitive, and communicative development (Ainsworth, Bell, and Stayton, 1974). Improvements in emotional responsiveness may be particularly important for a highly vulnerable dyad. Six different sub-scales of emotional responsiveness were coded for 20 min of each session. The six subscales were joint attention, emotional engagement, parental involvement, child involvement, turn taking, and following the lead. Each subscale was coded on a scale of 1–4, with four being high and one being low. A rating was made every 5 min and then averaged across the 20 min session.

All six sub-scales have been associated with the development of a positive, dynamic dyadic relationship (Bernstein, Percansky, & Hans, 1987; Bornstein et al., 2008; Dodici, Draper, and Peterson, 2003). Joint attention describes the quality of interaction between the dyad and plays a significant role in language and skill development (Harris, Jones, Brookes, and Grant, 1986). Emotional engagement refers to the warmth, enthusiasm, and affection the parent shows toward the child. Parent and child involvement measure the level of interaction between parent and child. The degree of responsivity and sensitivity in a relationship have been consistently related to positive child outcomes in areas of social, cognitive, and language skills (Barnard, 1997; Lamb-Parker, Boak, Griffin, Ripple, and Peay, 1999; Landry, Smith, Miller-Loncar, and Swank, 1997; Landry, Smith, Swank, Assel, and Vellet, 2001). Turn-taking measures how well the dyad can sustain these interactions and following the lead examines the parent's ability to pay attention to the infant's wants and needs. Such a relationship involves an active parent who tries to elicit attention from the child, partakes in age-appropriate interactions, adjusts to meet the child's interests, and attempts to maintain the child's focus through communication and engaged interaction rather than through restrictions.

Thirty percent of the videos were double-coded for ER and the overall reliability was 92% (Cohen's $\kappa = .88$). Looking at each individual subscale the reliability for joint attention was 94% (Cohen's $\kappa = .90$), emotional engagement was 93% (Cohen's $\kappa = .90$), parent involvement was 95% (Cohen's $\kappa = .93$), child involvement was 92% (Cohen's $\kappa = .87$), turn taking was 89% (Cohen's $\kappa = .85$) and following the lead was 91% (Cohen's $\kappa = .85$).

Participant: SAC006

Q: *How do you think your relationship with [baby's name] is affecting him right now? That you are in here?*

A: I mean, you know, I...I know..its probably, I'm not sure what a baby goes through but. By me I've been in a situation like this with my dad not there, so I.. I can pretty imagine that its hard for him to not see his father. You know, like where he at? You know, I would...I would want to say that I'm not there because by force...but you know, I'm willfully not there because I did what I did to came here.

Q: *How do you think your relationship with [baby's name] will affect him in the long-term?*

A: I mean, right now I'm away so our relationship is still close and tight because he..he still knows who I am and you know, when we're together there's no problems or anything but its affecting him a lot because he don't see me, he don't see me like he normally sees me on a daily basis. so its kind of like, you know kind of hard for him because he's like where's my dad, and you know its hard for me because I'm not with my son.

Q: How has the Baby Elmo program helped you?

A: It helped me get through this time and you know helped me do good in here because I got something to look forward to, seeing my son.

Participant: SAC004

Q: How do you think your relationship with [baby's name] is affecting him right now?

A: Um, just need these visits. Helping him to know that I still love him and I'm still trying to be there for him. I know he misses me and I know he wishes I was there and vice-versa. So its not hurting but it's a loss.

Q: How do you think your relationship with [baby's name] will affect him in the long-term?

A: Good. I think it will affect him a lot because I am teaching him everything that I did and how to do the right things from what I did wrong. Just be there for him and let him know that he has a father in his life. Even though I'm not there right now. That's willing to take care of him and show him the right path.

Q: What do you want for [baby's name] right now?

A: For him to just know that his dad loves him and his dad wants to be there for him. Teach him how to grow up the right way and that his father will be there for him no matter what.

Q: How has the Baby Elmo program helped you?

A: It has affected me a lot of ways. Taught me a lot of ways to help parent him, so I was thankful for that. And it also taught me a lot of ways for us to have fun while teaching him things so. Um, I just want to thank you guys for giving me the time through the program and helping me out with the program. Like I said, it taught me a lot of ways to help father him and it also helped me to keep my cool and deal with my child. So, I thank you guys for the program.

Fig. 2. Example TIMB questions and answers from Sacramento County.

5. Results

5.1. TIMB measure

The TIMB measure was used a control measure to examine whether increases in parent–child interactions were solely due to higher levels of commitment or responsibility to the child and not due to the effectiveness of the intervention. Thirteen of the 20 fathers completed a pre-intervention TIMB interview and we compared their responses to a control group of 13 demographically matched fathers who completed the TIMB interview, but failed to complete more than 4 sessions of the intervention. These fathers in the control group may have been released from juvenile detention early or have opted not to continue with the program. As shown in Fig. 3, there was no difference between these two groups of fathers on measures of *acceptance* $F(1,24)=0.85$, $p=0.37$, partial $\eta^2=0.03$, *commitment* $F(1,24)=0.82$, $p=0.37$, partial $\eta^2=0.03$, or *influence* $F(1,24)=0.02$, $p=0.90$, partial $\eta^2=0.001$. It is important to note that these initial levels of commitment by these incarcerated teen fathers ($M=2.7$, $SD=0.85$) are lower than those reported by Dozier and Lindhiem (2006) for foster parents ($M=3.3$, $SD=1.1$). However, this finding is not surprising since the teen fathers are much younger in age than the foster parents and being incarcerated may increase their feelings of estrangement from their families.

Due to early releases or participant transfers to other facilities, only five of the 13 fathers completed a post-intervention TIMB interview. Fig. 2 provides examples of transcripts from two participants after completing the program. Although statistical analyses could not be conducted to measure differences in TIMB scores, preliminary scores from fathers who have completed both pre- and post-TIMB interviews show promising signs of significant change across time (Fig. 3).

5.2. Emotional responsiveness measure

We used individual growth curve analysis (Singer and Willett, 2003) to analyze the change in emotional responsiveness for each subscale across the sessions, with time centered at zero at the intervention baseline. First, the between variance estimates were significantly different for all models at $p<0.05$, indicating individual differences in ER levels at baseline and change rates across the course of the intervention. Second, for the unconditional model, the estimated slopes for *Joint Attention*, *Emotional Engagement*, *Child Involvement*, *Turn-taking*, *and Following the Lead* across time were all positive and statistically significant, showing significant increases across sessions. Although there was a positive slope in *Parental Involvement* across sessions it was not significant (see Table 1, Model A). Since this intervention was voluntary, a non-significant finding for *Parental Involvement* was not surprising. These parents planned out activities to incorporate during their parent–child visits and compared to the other subscales, *Parental Involvement* had the highest intercept (2.62). Overall, these findings suggest that as participants completed more sessions, an increase in their level of emotional responsiveness was demonstrated.

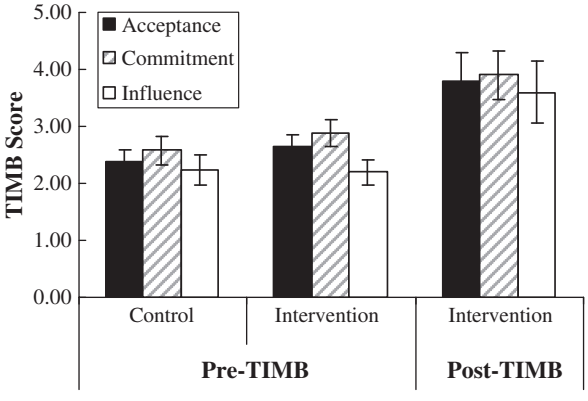

Fig. 3. TIMB scores between intervention and control groups as well as pre/post measures.

Table 1
Estimated intercepts and slopes for the unconditional model A of time and emotional responsiveness scores and Model B with baby age as a covariate.

		Model A		Model B	
Fixed effects		Intercept	Slope	Intercept	Slope
Joint attention	Time	2.48	0.08**	2.19	0.15***
	Age of baby				0.54**
	Time × Age				−0.11**
Emotional engagement	Time	2.42	0.06*	2.21	0.12**
	Age of baby				0.51 (ns)
	Time × Age				−0.10*
Parental involvement	Time	2.62	0.06 (ns)	2.32	0.14**
	Age of baby				0.57*
	Time × Age				−0.14**
Child involvement	Time	2.05	0.06*	1.78	0.12**
	Age of baby				0.50*
	Time × Age				−0.11*
Turn-taking	Time	1.95	0.09**	1.51	0.17***
	Age of baby				0.83**
	Time × Age				−0.15**
Following the lead	Time	2.22	0.08**	1.86	0.16***
	Age of baby				0.69**
	Time × Age				−0.14**

* $p<0.05$.
** $p<0.01$.
*** $p<0.001$.

Due to the small sample size, age of child was treated as a dichotomous variable and 6- to 16-month-olds were categorized as "infants" and 17- to 36-month-olds were categorized as "toddlers." When age of child was added to the unconditional model as a covariate, all subscales except *Emotional Engagement* exhibited a significant positive increase across sessions, all the estimated slopes doubled for each measure, and there was a significant interaction between age of baby and sessions (see Table 1, Model B). These results indicate that the age of the child influenced the rate of change across sessions in each of the Emotional Responsiveness measures where the fathers with infants start off with lower ER scores at session 1 (see intercepts Table 1, Model B), but demonstrate greater gains across the intervention than fathers with toddlers.

5.3. Case study

This case study examines a 17-year-old father and his 12-month-old daughter at the Fresno county Juvenile Justice Campus (JCC). This facility opened on July 22, 2006, as a state of the art juvenile facility that is currently operating at 390 minors with 184 of those minors in the commitment facility where the Baby Elmo Program is housed. Father and child are both of Hispanic ethnicity, although the father spoke only in English to his daughter and facility personnel. The father completed nine sessions of the Baby Elmo Program and completed the "This Is My Baby" interview at the beginning and end of the intervention. Looking at the changes in parental attitudes assessed by the "This Is My Baby" interview, there is an increase in feelings of acceptance (score of 1.5 to 3), commitment (2 to 3), and influence on the child (1.5 to 3) by the father.

For the first three sessions, the grandmother had to stay near the child at all times and the child looked visibly uncomfortable with her father. The grandmother played an active role in calming down the child when upset, and the father was quiet and relatively passive in the interactions. While he made subtle attempts to engage in activity, the grandmother was often called upon to intervene. For example, the grandmother was showing the father how the child could walk by

herself. The grandmother was holding the child's hand and the father called out to his daughter to come to him. The child ignored her fathers' calls and walked closer to her grandmother. By the fourth session, there was a shift in the sense of togetherness; the child was sitting on her father's lap as he read to her, and there was a great deal of back and forth communication. The child sat happily in her father's lap but felt secure enough to get up to get different books and toys to bring back to play with her father. In these sessions the grandmother was present in the background, but not active in any of the interactions. The father and child were smiling, laughing, and engaged in joint play. By the fifth session, the father was asking questions, using many more labels and descriptions, and evoking more positive responses from his child. By the ninth session, the father had shown a significant improvement in attention, engagement, activity, turn taking, and following the lead. In the final session, he and his daughter engaged in pretend play, a high-level cognitive activity, with the facility telephone. The child was very intent on playing with this phone, however, the phone was off-limits for use, so he adeptly redirected her attention by lifting her up, swinging her, and calling her attention to other toys in the room. Even though she repeatedly went back to the phone, the parent skillfully diverted her away from the telephone by using a number of skills practiced throughout the course of the intervention. These improvements can also be seen in the increases in his emotional responsiveness scores where individual growth curve analysis showed that the father–child dyad increased significantly on all six measures of emotional responsiveness over the course of the intervention For every session, this dyad significantly increased by 0.20 in *Joint Attention*, 0.25 in *Parental Involvement*, 0.22 in *Child Involvement*, and 0.21 in *Following the Lead* (See Fig. 4). *Emotional Engagement* and *Turn-Taking* showed positive increases but these coefficients were not significant for this particular dyad. Both of these scores were fairly high over the course of the intervention for this father and therefore significant changes were not demonstrated. These results suggest that both parent interactions and infant positive responses increased across the intervention.

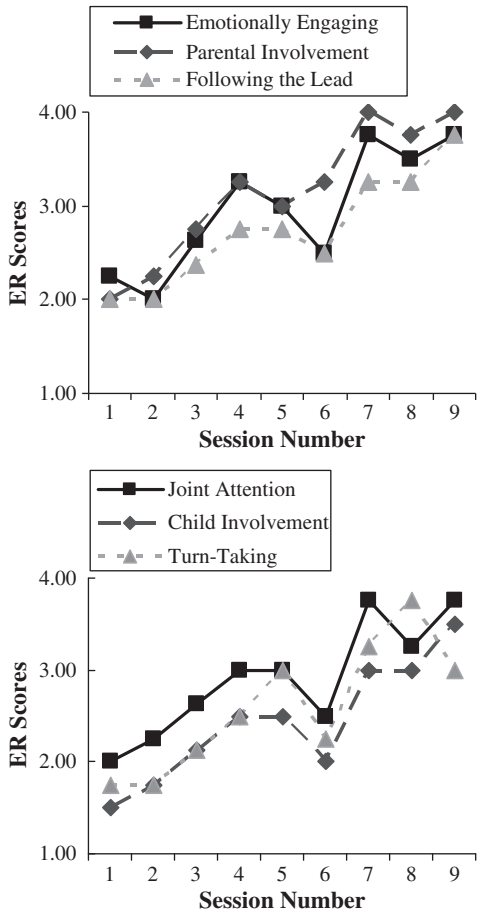

Fig. 4. Top panel. Changes in Emotional Responsiveness (ER) across sessions for FR002 for parent-driven subscales (*Emotional Engagement*, *Parent Involvement*, and *Following the Lead*). *Bottom panel.* Changes in Emotional Responsiveness (ER) across sessions for FR002 for dyad-driven subscales (*Joint Attention*, *Child Involvement*, and *Turn-taking*).

6. General discussion

The primary goals of the program are to improve the quality of parent–child interactions, to improve the physical and social environment in the institution, and to focus on habilitation and reintegration into the community as a parent. The long-term aims of this project are to increase the chances of rehabilitation for the juveniles by maintaining and enhancing family ties and to permanently impact the environment of participating juvenile detention facilities. While the mechanism is not fully understood, a few studies show that a deeper commitment to being a parent can help adult prisoners develop prosocial identities (Sampson and Laub, 1993; Uggen et al., 2004). Studies examining both juvenile and adult inmates have shown that maintenance of ties with family members is associated with reduced recidivism (Abbott, 2006; Adams and Fischer 1976; Hairston, 2001; Klein, Bartholomew, and Hibbert, 2002; Ohlin, 1954; Parke and Clarke-Stewart, 2003) and is important to successful reentry into society (Edin, Nelson, and Paranal, 2004; Sampson and Laub, 1993; Uggen et al., 2004).

The present preliminary study makes an important contribution to the literature for the following reasons: first, there are very few published studies of parent training programs in juvenile detention facilities. Second, there is little research on this very high-risk group of adolescent teens and their children. Our preliminary findings on the TIMB measure indicate that parents' perceptions of their influence on the child's development prior to the intervention are very low and increased post-intervention. Such positive perceptions of parenthood are related to stronger ongoing relationships and subsequent cognitive gain in children (Bronte-Tinkew, Carrano, and Guzman, 2006; Bronte-Tinkew, Carrano, Horowitz, and Kinukawa, 2008; Dozier and Lindhiem, 2006). Preliminary findings also suggest that emotional responsiveness increased across sessions for five of the six subscales, demonstrating that incarceration can be an opportunity to improve their parenting skills and strengthen ties between teen parents and their children (Eddy, Powell, Szubka, McCool, and Kuntz, 2001; Kazura, 2001; Nurse, 2002; Parra-Cardona et al., 2006). Most importantly, the three Emotional Responsiveness subscales that focused on the child (i.e., *Joint Attention*, *Child Involvement*, and *Turn*-Taking) did increase significantly across the sessions suggesting that child outcomes can be influenced even in this limited setting and positive steps can be taken to establish and/or maintain the attachment between father and child. Third, this research will provide guidance on how to improve juvenile detention facilities to support positive developmental outcomes for teen fathers.

These preliminary findings also raise the possibility of future research to examine the efficacy and generalizability of this non-custodial parenting program. Future research will be required to establish whether the age of the child is an important factor in terms of success of the intervention. The present results indicated that the emotional responsiveness of fathers with infants was initially lower than for fathers with toddlers but fathers with infants made significant positive gains across time. We will examine whether the intervention will be effective for fathers and their newborn babies. we will also examine whether different variables are more sensitive to change between fathers and their toddlers by conducting an extensive investigation of the patterns of father–child vocal behaviors. The need for direct measurement of father–child interactions to inform evidence-based practice for non-custodial parents in juvenile and other welfare settings is apparent from these preliminary findings.

Past research has established that ER is related to positive developmental outcomes, including greater levels of emotional stability, sociability, emotional security, and intellectual achievement (Ainsworth et al., 1974), and this research now demonstrates a new setting in which the same theory can be applied. The focus on the family unit and socio-emotional dyadic interactions provides stability and security for a high-risk group of individuals and infants. There is little research on the interactions between teen fathers in juvenile detention facilities and their young children and how to improve these interactions, despite knowing that both groups are at risk for poor outcomes. While past studies have shown the positive impact emotionally responsive fathers have on their children, these studies have not been extended to the teen parenting population and less attention has focused on fathers (Pruett, 1987). Therefore, our research is relevant, necessary, and quite novel. It may provide a positive change to the myriad of risks that face teenage parents and their offspring. Research shows that teenage parents are at a greater risk of poverty, inadequate social support, limited education, and poor health than non-teen parents (Brooks-Gunn and Furstenberg, 1986; Flanagan, 2005). A relationship-centered intervention may help buffer some of these risks and strengthen dyadic interactions. In conclusion, the focus on the central family unit is important because early child behavior is a predictor of later child competence (Bernstein et al., 1991). Having an incarcerated parent puts the child at risk for later behavioral, social, and emotional problems. For a successful intervention program, it is essential to strengthen the dynamic dyadic relationship between the parent and child through successful communication and interactions, interest and pride in child development, and by helping parents to have age-appropriate expectations for their child (Bernstein et al., 1991). Strengthening the parent–child relationship through increased positive interactions during the incarceration period is a crucial element of rehabilitation for the parent and encourages the parent to form and maintain a relationship with their child. To sum up how our program achieves these goals, in the words of one of the Baby Elmo participants at the end of the program, "My heart melts when I see my daughter laughing and smiling at me. The weekends are the only time I have the opportunity to be a father to my baby. If [it] wasn't for this program I'd be a stranger to my daughter. She wouldn't even know I exist."

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