

Relationship Processes and Resilience in
Children with Incarcerated Parents

Chapter VI

A Randomized Controlled Trial of a Parent Management Training Program
for Incarcerated Parents: Proximal Impacts

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More than 680,000 parents of minor children are incarcerated in state prisons, accounting for 85% of all imprisoned parents in the U.S. (Maruschak, Glaze, & Mumola, 2010). These fathers and mothers are parents to 1.36 million children (West & Sabol, 2008). Prior to prison, almost half of incarcerated parents lived with at least one of their children, and more than half were the family's primary financial supporter. When their parents are behind bars, most children live with either another parent, or a close relative of the incarcerated parent, such as a grandmother, who may be the same parent who raised the incarcerated individual. About three-quarters of incarcerated parents report having had at least some contact with their children during their sentence, with up to 50% having weekly contact. Given these statistics, it is clear that many children of prisoners are living in situations that are directly impacted by the absence of a parent. Often these situations are quite challenging, and the present circumstances may be a continuation and expansion of difficulties that were present prior to incarceration (Travis & Waul, 2003).

Considering this context, it is not surprising that children of incarcerated parents have often been perceived to be at heightened risk for problems. Initially such concerns emerged from case studies and anecdotal reports, but over the past few decades, a variety of cross-sectional studies of incarcerated parents have found seemingly high rates of problems in their children (e.g., Hunter, 1984; Baunach, 1985; Myers, Smarsh, Amlund-Hagen, & Kennon, 1999). More recently, findings from longitudinal studies have become available (see Murray, 2010), and a meta-analysis found that the children of incarcerated parents were twice as likely as their peers to exhibit antisocial behavior problems, such as aggression, noncompliance, and stealing, even when other risk factors for these problems were considered (Murray et al., 2009).

Although actual data on the subject are sparse, such a finding implies that the children of incarcerated parents may also experience risk for eventual incarceration. Youth antisocial behavior is one of the most powerful predictors of adult adjustment problems, including criminal behavior (Kohlberg, Ricks, & Snarey, 1984; Lipsey & Derzon, 1998). Across numerous studies, 50% to 75% of youths who are arrested for delinquent acts or who meet criteria for a conduct disorder are arrested as adults (Harrington, Fudge, Rutter, Pickles, & Hill, 1991; McCord, 1991), and 40% meet formal psychiatric criteria for antisocial personality disorder (Harrington et al., 1991; Robins, 1966; Zoccolillo, Pickles, Quinton, & Rutter, 1992). Youth involved in criminal behavior during late childhood or early adolescence appear to be at particular risk for continuing such behaviors into adulthood and for incarceration (Gendreau, Little, & Goggin, 1996; Loeber, Stouthamer-Loeber, & Green, 1991; Moffitt, 1993; Patterson, Capaldi, & Bank, 1991).

Notably, however, whereas the risk for a child of an incarcerated parent to exhibit antisocial behavior problems is elevated, it is not extreme. A doubling of risk does not suggest, for example, that most children of incarcerated parents are “destined” to become involved in crime or be incarcerated. As discussed in the papers throughout this volume, resilience in the face of difficult circumstances appears to be the rule, not the exception, and there are likely a variety of protective factors present in many families that mitigate the risks in the natural environment. For families with low levels of protective factors, it is conceivable that malleable factors might be developed or strengthened through intervention, and if successful, that a child of an incarcerated parent would not develop antisocial behavior patterns.

Parenting is one such malleable protective factor, and one that is of particular importance within the attachment theory framework (Poehlmann, 2010) that is at the center of most of the papers in this volume. Problematic parenting not only plays a role in attachment problems, but

also is one of the driving social influences in models of the development of antisocial behavior (e.g., Reid et al., 2002). Unfortunately, many incarcerated parents have childhood histories marked by inconsistent, neglectful or abusive parenting, and they may have not had the opportunity to observe or develop positive parenting repertoires (Chipman et al., 2000). Since most incarcerated parents will be released from prison, and many will function in some parental role after release (Mumola, 2000), including parenting, the parenting skills of incarcerated parents may be important for reducing the numbers of incarcerated adults in the next generation.

Over the preceding decades, reasoning such as this has led to the proliferation of parenting programs for incarcerated parents. However, the scientific rigor of data on the efficacy of these programs has been weak. A review of interventions for mothers (Young & Smith, 2000) found only six studies of prison-based parenting programs that included a comparison group, and none used randomization. Five other comparison group studies existed (four of which were randomized), including three that focused on men (i.e., Bayse, Allgood, & Van Wyk, 1991; Block & Potthast, 1998; Harrison, 1997; Landreth & Lobaugh, 1998; Wilczak & Markstrom, 1999). Each of these studies used relatively small convenience samples. Most found that participants in the intervention group, relative to participants in a comparison group, had higher scores on at least one measure of positive parental attitudes or parenting knowledge immediately following the program. Few other variables were measured or impacted concurrently, and follow-up was rare (see also Loper & Novero, 2010). The programs studied ranged from relatively unscripted discussion groups to packaged interventions. Some programs had been developed or adapted specifically with the needs of the population of incarcerated parents in mind, but most had not. The descriptions of what was actually delivered to parents were often vague. Most importantly, none of the programs appeared to utilize the core elements of the

parenting programs that already had been demonstrated to impact child antisocial behavior in scientifically rigorous studies, namely Parent Management Training (PMT).

The evidence in support of PMT as an intervention for child antisocial behavior is compelling. In a review of 82 high quality studies on the psychosocial treatment of conduct disordered children and adolescents (Brestan & Eyberg, 1998), the only interventions found to meet stringent research criteria for being “well-established” in terms of efficacy were two PMT programs (developed by Gerald R. Patterson and colleagues from the Oregon Social Learning Center; and by Carolyn Webster-Stratton from the University of Washington). In addition, PMT programs have been adapted for use beyond clinical settings, and a variety of evidence-based PMT prevention programs are now available (Reid et al., 2002).

The core elements for PMT are the "family management" skills of positive involvement, encouragement, non-coercive and non-aversive discipline, monitoring and supervision, and problem solving. Central to PMT programs are helping parents develop decision making expertise concerning which skills to use and when, based on key factors such as the age and developmental stage of a child, his or her temperament, and the situation at hand. In short, PMT was a missing piece in the portfolio of research on parenting programs for incarcerated fathers and mothers, and the current study was designed to begin to address this gap.

Theory

PMT is grounded in social interaction learning theory (SLT; Patterson, Reid, & Dishion, 1992), a life course model of the development of antisocial behavior. The theory incorporates key findings on the development and maintenance of child antisocial and related deviant behaviors and of child competencies. SLT is grounded in several key findings. Longitudinal researchers have found that use of clear and consistent discipline techniques, close monitoring

and supervision of the child, high rates of positive reinforcement, and secure, responsive child-adult attachment relationships are related to prosocial outcomes in childhood, adolescence, and adulthood (Fagot & Pears, 1996; Fisher, Ellis, & Chamberlain, 1999; Patterson, 1982). Further, research on the stability of antisocial behavior indicates that certain behaviors, like noncompliance and aggression, commonly begin at an early age in the context of parent- and sibling-child relationships when some or all of these parenting strategies and qualities are not present (Olweus, 1979; Patterson, Reid, & Dishion, 1992; Robins, 1978; Speltz, DeKlyen, & Greenberg, 1999). Finally, early failures in discipline, continued child noncompliance, problematic attachment relationships, and low levels of prosocial skills appear to set the stage for reactions from teachers, peers, and parents that cause the child to be rejected and isolated (Patterson, 1982; Reid & Eddy, 1997). The cumulative effect of these experiences is the development of a coercive interaction style and an insecure attachment style. There is substantial evidence that once these are established, a child is at risk for problems across the span of child and adolescent development and into adulthood (Kazdin, 1987; Walker, Shinn, O'Neill, & Ramsey, 1987; Kerns, Klepac, & Cole, 1996; Schneider, Atkinson, & Tardif, 2001).

Throughout development, SLT emphasizes the interaction between the prior dispositions and learning of an individual and the environments to which he is exposed and which he selects (Cairns & Cairns, 1994; Caspi & Elder, 1988; Hetherington & Baltes, 1988; Magnusson & Torestad, 1993; Rutter, 1989). At the heart of this approach (Bronfenbrenner, 1979, 1986) are individual interactions with the social environment. There has been increasing recognition that children are active agents in shaping their development and that parenting is done in conjunction with, rather than to, children (Kerr & Stattin, 2000; Kuczynski, Harach, & Bernardini, 1999; Maccoby & Martin, 1983). For example, sociable, emotionally regulated, and securely attached

children are likely to exhibit a broad range of competencies later on, including sociability, popularity, perspective-taking skills, and a lack of social anxiety, even in the face of adversity (Bohlin, Hagekull, & Rydell, 2000; Cairns, et al, 1998; Englund, et al, 2000; Sroufe, 1989).

The specific model of interest in the present study is based on SLT and focuses on the theoretical constructs most relevant to the incarcerated parent during and following prison (see Figure 1). Proximally, the intervention was intended to impact parent adjustment, specifically parent stress, depressed mood, and perception of playing an active role in the life of the child; the parent-caregiver relationship, specifically in terms of ease of relationship with caregiver and feelings of closeness to caregiver; and parenting, specifically improving positive parent-child interactions. We hypothesize that improvements in all three of these areas during prison help set the foundation for the parent to gain a new sense of who they are as a parent, the life that they aspire to for their child, and to begin the construction of a new parenting role, however limited or expansive that may be, after release from prison.

The Parent Child Study

In this paper, we report on findings from the Parent Child Study, a randomized controlled trial that compared outcomes for incarcerated fathers and mothers assigned to PMT versus a “services as usual” control condition. The study was conducted in close collaboration with both the Oregon Department of Corrections (DOC) and a non-profit service delivery agency with extensive experience working in the DOC, Pathfinders of Oregon. The PMT intervention, called *Parenting Inside Out* (PIO; Schiffman, Eddy, Martinez, Leve, & Newton, 2008) was designed for delivery to groups of incarcerated parents and was intended to provide parents with motivation, knowledge and skills relevant to their role in the prevention of the development of antisocial behavior and associated problem behaviors in their children. The development of the

program is documented in Eddy, Martinez, Schiffmann, Newton, Olin, Leve, Foney and Shortt (2008). PIO is intended to be the first in a coordinated set of interventions that occur inside and outside of prisons with the purpose of improving outcomes for the children of incarcerated parents and their families. The current vision for this intervention set is described in Eddy, Kjellstrand, Martinez, and Newton (2010). The primary aim of the Parent Child Study was to examine the impact of PIO on incarcerated parents and their families. Here, we report on the most proximal outcomes for participants, after program completion and before release from prison, and specifically whether the intervention impacted indicators of three constructs in our theoretical model, parental adjustment, parent-caregiver relationship, and parenting.

Method

Study Design

Incarcerated parents were recruited from all 14 correctional institutions (i.e., prisons and work camps) in Oregon, but the study was conducted within four minimum or medium security level prisons (3 for men, 1 for women) that were designated as “releasing institutions”, where inmates were sent during the months prior to their release. Once an inmate expressed interest in participating in the study, potential study eligibility was determined (see criteria below), and if a participant who met all other eligibility criteria did not reside in a study prison, a transfer was requested. After transfers were complete, to ensure a demographically diverse sample, women and minority participants were oversampled from the eligible pool, with goals of 50% women and 50% racial/ethnic minority participants. Participants were randomized into the PIO “intervention” condition or a services as usual “control” condition, and were then assessed prior to the start of the intervention, following the intervention, and at six and 12 months after release from prison. The study was approved by the federal Office of Human Research Protections and

overseen by the Oregon Social Learning Center Institutional Review Board.

Eligibility and Recruitment

To be eligible for participation, an inmate was required to have (1) at least one minor child (with the target child age range from 3 to 11 years), (2) the legal right to contact their child, (3) some role in parenting their children in the past and an expectation of playing some such role in the future, (4) contact information for the caregiver of at least one of his or her young children, (5) not committed either a crime against a child or any type of sex offense, (6) less than 9 months remaining before the end of his or her prison sentence, and (7) the DOC be willing to transfer him or her to a study institution. During the 3 year recruitment period, the study was advertised throughout the DOC through a variety of means, including advertisements in inmate newspapers, posters on bulletin boards, announcements during inmate club meetings, and special meetings about parenting and the study. To encourage minority participation, a bicultural, bilingual team of study staff members developed and employed recruitment strategies tailored for the major racial and ethnic groups represented in the corrections system. Inmates were invited to send a letter through prison mail if interested in the study. Of the 1483 inmates who expressed interest in the study and who were screened, 453 were eligible. The most common reasons for ineligibility were no minor children and release dates that were more than 9 months away. Approximately 80% of eligible inmates consented to participate in the study. Overall participation rates were high for both fathers and mothers, but there was a significant difference ($p < .05$) in participation by sex, with 68% of eligible men and 92% of eligible women participating. The majority of men (51 out of 77) who did not participate did so because they did not want to transfer from their current institution to a study institution. If an inmate was interested in a transfer, almost all requests were granted. Reasons for not granting requests were

not revealed to the study team, but were most likely due to security concerns. The DOC agreed to put transfers on hold once an inmate enrolled in the study, and transfers of participants during the PIO for a given cohort were rare.

Randomization

Randomization to condition was at the individual level, blocking on sex and on race and ethnicity. Since the intervention was delivered within specific prisons within which participants resided, and the program was delivered a limited number of times, randomization occurred within time and institution-based cohorts before the start of each new set of PIO sessions.

Sample

Participants ($N = 359$) included 161 incarcerated men (45%) and 198 incarcerated women (55%). In terms of race/ethnicity, 59% of participants were White, 13% African American, 11% multi-racial, 8% Native American, and 8% Latino (versus 75% White, 11% African American, 2% Native American, and 11% Latino in the DOC at large). Approximately 37% of participants had less than a high school education, 31% had a high school diploma or GED, and the remainder had at least some post-high school training or education (less than 1% had a college degree). On average, parents had 3 children. Most children were biological children, and the average child was 8 years old ($SD = 2.8$; range 1 to 15.6 years). In the month before incarceration, 34% of parents had lived with their children full-time, 9% part-time, 18% visited with their children at least once a week, 14% less than once a week, and the remainder had little or no contact. These values did not differ by sex of inmate. Men tended to have been sentenced for a person crime (61% versus 40%, $p < .001$), to be serving longer sentences than women (2.2 years versus 1.5 years, $p < .001$), and to have been in the custody of the DOC a greater number of times (1.7 versus 1.4, $p < .001$). Women were more likely to have been older than men the first

time they were arrested as an adult (23 years versus 20 years, $p < .001$). Most parents had histories of drug and/or alcohol abuse or addiction (87% of men and 93% of women, $p < .05$), and many had histories of other mental health problems (27% of men and 45% of women, $p < .001$). Approximately 55% of participants had a parent and 53% had a sibling who had spent time in jail or prison. An even greater number had a parent (70%) or a sibling (61%) who had had problems with drugs or alcohol at some point in life. Intervention and control groups did not significantly differ on these variables.

Conditions

Intervention. PIO was delivered in a group format. Groups of approximately 15 participants met for in 2 ½ hour sessions 3 times per week for 12 weeks, for a total of 90 hours of instruction delivered across 36 sessions. The meeting frequency and length of the program were set by the DOC, whose leadership desired an intensive, comprehensive, and research evidence-informed prison-based parenting program. PIO (Schiffmann et al., 2008) is an adaptation for incarcerated parents of the basic PMT program created by clinicians and research scientists from the Oregon Social Learning Center over the past fifty years (Reid et al., 2002). Based on focus groups with incarcerated parents and their families, observations of existing prison-based parenting classes, and interviews with prison-based parenting instructors around Oregon and the U.S., the content and process of PMT was tailored to the incarcerated parent population. In addition to the core topics in PMT, added topics included communication and cooperation with the child's caregiver and other adults, thoughtful decision making around romantic partners post-release, as well as topics found in existing prison parenting programs, such as child development, child health and safety, and positive parenting from prison through letter writing, phone calls, and prison visits. PIO sessions were designed to be engaging and interactive, and include brief

presentations on parenting topics, video clips, extensive role plays, large and small group discussions, and class projects and skills building exercises conducted both inside and outside of sessions. In addition to group time, individual meetings occur between the parenting instructor, or “coach”, and participants during the middle of the program to discuss unique family circumstances and find out if referrals for other services are needed. PIO was designed to be culturally respectful, but was not created to be culturally competent for issues within specific cultural groups. However, parents were referred to other appropriate groups, including religious services, within the prison to address cultural issues related to children and families, and were encouraged to participate in cultural activities of meaning and important to them and their families. The program was offered in English, but a culturally competent version of PIO was developed and delivered to Spanish speakers interested in participating in the study, and a separate pilot study was conducted with these participants (Eddy et al., 2011). Throughout PIO, participants were encouraged to discuss session information and activities with the caregivers of their children. Caregivers who requested class materials were sent handouts from the class. Caregivers were also encouraged to contact coaches if they had any questions or needed local referrals for services or other types of assistance. PIO classes were taught by coaches who were employees of Pathfinders of Oregon. Coaches were required to have experience working with parents and families, and a bachelor’s degree and three years of clinical experience or an equivalent combination of education and experience. Experience teaching in a correctional setting and experience teaching parent education courses was preferred. Prior to teaching PIO, coaches participated in three days of PIO-focused training as well as additional training from the DOC and Pathfinders in procedures and protocols related to working in prison. New coaches observed experienced coaches teaching PIO, and then team taught PIO during their first few

sessions. Coaches met or spoke on the phone weekly with their coach supervisor, and the coaching team met once per month with the coach supervisor and the principal investigator for group supervision and continuing education. Over the course of the study, 16 coaches taught PIO. Assisting coaches with classroom organization and activities were incarcerated parent assistants who had graduated from PIO.

Control. Historically, “services-as-usual” in terms of parenting interventions in each of the participating prisons had been a non-standardized parenting program usually created by the person who delivered the program. Such programs were not offered on a consistent basis, and openings had typically been available for a relatively small number of inmates in a given year. Programs often focused on a discussion of how an inmate had been parented, rather than on how an inmate might actually parent his/her own child(ren), but varied widely in scope and approach. Few included elements of PMT. Most were lecture or discussion based, and offered few opportunities to practice new skills. Programs such as this continued in each prison during the course of the study. Participants assigned to the services-as-usual condition could not enroll in PIO, but like participants in the PIO condition, they had access to all other parenting programs or services for which they were eligible based on DOC requirements.

Assessment and Variables

Because of varying literacy levels, all interviews were conducted in person. Interviews were conducted pre-intervention, before the PIO program began in a given prison, and post-intervention, after the completion of the program but before release from prison. Participants were compensated \$30 for their time for participating in each interview. Interviews comprised nationally standardized questionnaires, in house questionnaires used on past studies with similar samples, and questions written for this specific study. Inmates were asked to identify one of his

or her minor children, and interview questions at each assessment focused on that particular child and his or her current caregiver. Variables in the analyses were as follows. *Parent stress* was measured using 12 items from the 14 item Perceived Stress Scale (PSS; Cohen, 1983). Questions asked about feelings of stress in the past month such as “how often have you felt that you were unable to control the important things in your life” and “how often have you felt confident about your ability to handle your personal problems?” The internal reliability for the scale in this sample was $\alpha = .85$, similar to the reliability of the full scale in general population samples. *Parent depression* was measured with 20 items drawn from the Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977). CES-D asks about the respondent’s mood in the past week with questions such as “I felt depressed” and “I thought my life had been a failure”. The internal reliability for the scale in this sample was the same as in past studies of the general population ($\alpha = .85$). *Likely to play a active role in child’s life* was measured using one item regarding how likely an inmate thought it was that he or she would play an active role in their child’s life six months after release from prison (1 “very unlikely” to 5 “very likely”; sample mean of 4.6, $SD = 0.9$). *Positive parent-child interaction* was a composite variable which was constructed from two sets of items. The first averaged scores from three items, each addressing parental perceptions about whether contact with his/her child had a positive, negative or neutral influence on the child’s behavior. The second averaged scores from four other items, each addressing parental perceptions of child behavior after parental contact (e.g., “After contact was the child happy”). The two scales were standardized and then averaged to compute an overall measure of positive parent-child interaction ($\alpha = .84$). *Ease of relationship with caregiver* was measured by standardizing and averaging 13 items relating to the parent-caregiver relationship (e.g., “how often does the parent and caregiver argue or disagree about the child”, “how often

does the parent and caregiver argue”). Reliability for the scale was acceptable ($\alpha = .88$). *Closeness to caregiver* was measured by standardizing and averaging nine items relating to the parent and caregiver relationship (e.g., “how much do you and the caregiver care about each other?”, “how well do you understand each other?”). Reliability for this scale was also acceptable ($\alpha = .88$). *Family contact in prison* was measured by totaling the number of reported phone, letter, and in person contacts during the month prior to the pre-intervention interview; a transformation was used to normalize this variable (i.e., 1 plus the natural log). *Female* was a dummy variable, code 1 if the participant was female and 0 if male. *Condition* was also a dummy variable, coded 1 if the participant was in the intervention condition and 0 if in the control condition. *Age* was the age of the participant in years. All participants completed the interview before the PIO program began (pre-intervention), and 88% of participants completed the interview following the intervention and before release from prison (post-intervention). Within a particular interview, variables were missing due to a variety of reasons, such as the late arrival of an inmate to an interview due to work duties, or the early termination of an interview due to a prison lock-down. In such cases, attempts were made to continue the interview, but were not always successful.

Analytic Strategy

Data were missing for some participants at the pre-intervention assessment point. We used the multiple imputation procedure in STATA statistical software (Stata Corp, 2009a) to impute missing independent (but not dependent, post-intervention assessment) variables. For each missing value, we imputed 50 values and then used the mean of these values as the final imputed value (Boldner, 2008). Intervention participants were included in analyses regardless of whether or not they attended PIO sessions. Because participants were clustered by prison and by

class (i.e., the PIO intervention was delivered to groups of 15 participants), we examined each outcome for significant nesting using STATA's multilevel mixed-effects procedure (Rabe-Hesketh & Skrondal, 2008). We found no significant nesting. Therefore, we used OLS linear regression analysis in STATA to test each outcome for a condition main effect, controlling for the baseline measure of the outcome as well as participant sex, age, and total family contact in prison. In a second model, we then tested for a condition by baseline interaction. Models were also run with race and ethnicity as controls, but no differences in outcomes were found.

Results

Intervention Integrity and Fidelity

Of the 194 participants assigned to the intervention, 182 began the PIO program, with the remainder unable to enroll in a class due to a variety of reasons, such as unavailability due to work schedules. The average parent who started the program attended 24 of the 36 sessions, with 66% attending at least 20 classes. About one third of participants who started did not complete the program, including 36 who dropped out, 5 who were transferred by the DOC, 6 who were placed in disciplinary segregation, and 10 who discontinued due to other DOC administrative issues. Approximately 72% of women and 58% of men in the intervention condition were ultimately listed as officially "graduating" from PIO, a designation of meaning to the DOC that was determined by Pathfinders staff members and included a consideration both of how many classes an inmate attended and how positively involved they were in the class (e.g., completing homework, participating in class, appropriately behaved). The content of classroom sessions was tracked by the incarcerated parent assistants in each classroom. During an average class, 90% ($SD = 14\%$) of the curriculum content was taught. Classroom observations by the coach supervisor were conducted each month for each coach. On average, 5 classroom observations

were conducted per coach. Coaches received an average score of 3.9 out of 5 (with 1 “below expectations” to 5 “exceeds expectations”) on 32 questions related to appropriate teacher behaviors. Following an observation, a supervisor would meet with the coach, discuss his or her observations, and, if necessary, make a plan on how to improve teaching behaviors to be more congruent with the PIO model of intervention.

Consumer Satisfaction

Participants expressed strong satisfaction with PIO. On a scale of 1 to 5, with 5 indicating that a parent would “strongly recommend” PIO to other inmates, the average score was 4.5 and the median score was 5. Approximately 70% of parents rated the information they received in PIO as “quite” or “very” helpful. Over 90% of parents rated PIO as having a “positive” or “very positive” effect on them, and 95% rated the class as “somewhat” or “very” useful to them as parents.

Outcomes

The regression coefficients and significance levels for the models examined are listed in Table 1. Of most interest was whether intervention condition significantly impacted each outcome, and whether condition interacted with pre-intervention levels of the outcome. For three outcomes (i.e., parent stress, parent depressed mood, positive parent-child interaction), we found significant condition main effects, and for three outcomes (i.e., parent depressed mood, likely to play an active role, and ease of relationship with caregiver) we found significant baseline by condition interactions. Findings by outcome are described below.

Parent stress. There was a significant effect of condition on parent stress. Controlling for pre-intervention stress ratings, inmate gender and age, and total family contacts in prison, participants assigned to the intervention condition reported significantly less stress than control

participants at the post-intervention assessment ($b = -.128, p = .03$). At the mean levels of the control variables, intervention participants were, on average, 8.8 percent lower on parental stress at post-intervention than controls. Inmate age was negatively related to post-intervention parent stress ($b = -.012, p < .01$) and pre-intervention stress was positively related ($b = .296, p < .01$). Neither inmate gender nor family contacts in prison were related to parental stress.

Parent depressed mood. There was a significant effect of condition on parent depressed mood. Controlling for pre-intervention mood, inmate gender and age, and total family contacts in prison, participants assigned to the intervention condition reported feeling significantly less depressed than control participants at the post-intervention assessment ($b = -.112, p = .02$). At the mean levels of the control variables, on average, males in the intervention group were 7.4 percent lower on scores of depressed mood than males in the control group, while females in the intervention group were 7 percent lower than control females. Females reported significantly higher levels of depressed mood than males ($b = .110, p < .05$). The relation between pre-intervention and post-intervention depressed mood scores was significant ($b = .225, p < .01$). Neither inmate age nor family contacts in prison were related to depressed mood.

In Model 2, the baseline by condition interaction was significant ($b = -.158, p = .002$), as was the main effect of condition ($b = -.119, p = .01$). Figure 2 depicts the relationship between pre-intervention depressed mood and condition for men. In the figure, the slope for the control group is much steeper than for the intervention group, and at very low levels of pre-intervention depressed mood (-2 to -1.5; 4.5% of sample), the control group fared the best. However, at the mean level and above for pre-intervention scores, participants in the intervention condition were significantly lower on depressed mood than the controls (-.22 and above; 50% of the sample). The percent difference between the intervention and control conditions varies by the pre-

intervention score. At the mean pre-intervention score, intervention participants were 14% lower than control participants. The percent difference increases as pre-intervention score increase.

Positive parent-child interaction. There was a significant intervention effect on positive parent-child interaction. Controlling for pre-intervention scores, inmate gender and age, and total family contacts in prison, participants assigned to the intervention condition reported significantly more positive interaction post-intervention ($b = .254, p = .02$). At mean levels of the control variables, participants in the intervention group were 12.4 percent higher, on average, on positive parent-child interaction than controls. Inmate age was related to positive interaction ($b = .026, p < .01$) as was pre-intervention interaction ($b = .329, p < .01$). Neither inmate gender ($b = -.163, p = .14$) nor total family contacts in prison ($b = .100, p = .07$) were related.

Likely to play an active role in the child's life. In Model 1, there was not a significant intervention main effect on likely to play an active role in the child's life. However, in Model 2, the pre-intervention by condition interaction was significant ($b = -.469, p = .01$) as was the main effect of condition ($b = 2.334, p = .01$). Figure 3 illustrates this interaction for males. The slope for the control group is much steeper than for the intervention group. Except for the very highest levels, participants assigned to the intervention condition rate themselves are more likely to play an active role in their child's life following the completion of the PIO program. The difference between the intervention and control conditions varies by the pre-intervention score. At the lowest levels, intervention group participants were 180% percent higher than control group participants, but this gap decreased as the score increased.

Closeness to caregiver. There was not a significant condition effect in Model 1, nor a significant condition effect or baseline by condition interaction effect in Model 2. However, in Model 2, the baseline by condition interaction approached significance ($b = -.16, p = .08$). Again,

the slope of the control group was much steeper than the slope for the intervention group. At low pre-intervention scores, intervention group participants reported higher scores than control group participants, and at high pre-intervention levels, there was a scant difference between the groups.

Ease of relationship with caregiver. In Model 1, there was not a significant effect of condition on ease of relationship with caregiver. However, in Model 2, the pre-intervention by condition interaction was significant ($b = -.24, p = .03$). As in the other baseline by condition interactions, the slope for the control group was much steeper than the slope for the intervention group, and thus the difference between the conditions varied by the pre-intervention score. At the lowest pre-intervention scores, intervention participants were 150% higher on scores than control participants. This gap decreased as the pre-intervention score increased until at the highest scores, the control group was higher.

Discussion

The *Parenting Inside Out* program shows promise as one component in a preventive intervention strategy designed to improve outcomes and foster resilience processes within the growing population of children of incarcerated parents. The program expands on past efforts in prison-based parenting programs by incorporating content and process from a well-established, evidence-based intervention, Parent Management Training, designed specifically to target the development of child antisocial behavior. The rigorous evaluation of program outcomes described in this paper push the field beyond the small convenience samples and quasi-experimental studies of the past. Most parenting programs for incarcerated parents have not been studied in a manner that provides parents, practitioners, or policymakers the information they need to make good decisions about the value of the program. With this first look at outcomes from a relatively large scale randomized controlled trial conducted with a demographically

diverse sample, high quality information is now available to assist in consumer decision making.

On the basis of the findings presented here, *Parenting Inside Out* appears to have a significant impact on incarcerated parents while in prison in three areas of particular importance, parent adjustment, parent-caregiver relationships, and parenting. Some of these effects were main effects of the intervention, whereas others were interactions between the intervention and baseline levels of a given outcome. In the case of interactions, the intervention appeared to impact the parents who most needed the intervention, and had little impact on those in less need. This is the type of effect that would be expected from a preventive, rather than a clinical, intervention program.

Only a few parents in prison in the U.S. live with their children, and in all cases, the children are infants (see Byrne, 2010). Children require moment-to-moment, day-to-day parent-child interaction, and clearly, no incarcerated parent can provide such to children in the age group targeted in this study (ages 3 to 11 years). Even those fathers and mothers who do have regular contact with their children from prison do not see or speak with them often (Maruschak et al., 2010). Thus, the typical assumption underlying most parenting programs in the community, that parents will attend a group, learn some new ideas, and go home and try them out, does not fit for prison-based programs. Further, parents have been living in social conditions in prison, and sometimes for many years, that do not allow the practice of the characteristics of healthy relationships that are crucial to parent-child relationships, such as warmth, trust, and nurturance (see Travis & Waul, 2003). Secure attachments are not the norm in prison life.

Given this, it seems reasonable to hypothesize that the goals of a prison-based parenting program are different from the typical goals of a community-based program. Our primary goal was to help parents build a new vision for themselves as a parent, and to begin to make changes

relevant for preparing a new, to-be-defined role as parent following release from prison. Our expected proximal impacts focused on the incarcerated parent because he or she was the person involved in the intervention under the highly constrained conditions of prison. Evaluating effects in parenting skills or even parenting knowledge when an individual is not actually parenting on a moment-to-moment basis is difficult and of potentially dubious value. In contrast, evaluating whether changes have taken place in the foundations for parenting, such as the relationship with a co-parent and the relationship with the child, seem quite reasonable and important. This was our focus here.

The argument can be made, and rightly so, that like past studies of parenting programs, this report focuses on only parent-reported points of view on self and relationship to others. This is not necessarily a weakness, however, when changes in parent-report are examined within the context of a randomized controlled trial. In the early days of the development of PMT, researchers recognized that regardless of observed changes, or lack thereof, in parent-child interactions, parents tended to report improvements from assessment point to assessment point (see Reid et al., 2002). In a randomized controlled design, the parents in the control group serve as a counter to this phenomenon. If more changes are observed in the intervention group than the control group, perhaps some true change is actually occurring, and such appears to be the case here. Whether or not these changes are important in the child's life, however, remain to be seen.

In this regard, the next step in The Parent Child study is to examine whether the intervention had an impact on post-release outcomes. Key here is whether parents in the intervention group continue to exhibit better adjustment than parents in the control group, and specifically in terms of areas that may lead to parent substance use and criminal behavior. Further, once a parent is on the outside, the full spectrum of parenting skills may now become

relevant, depending on the role a parent plays in the child's life and whether or not he or she lives with the child or sees the child frequently. At this point, whether or not a parenting program like *Parenting Inside Out* has an impact on child behavior seems relevant.

Of course, to examine impacts such as these, an incarcerated parent and his or her family must be followed and assessed at repeated points across time. As other research teams have commented, this can be quite challenging (B. A. Eddy et al., 2001). Conducting a randomized controlled trial within a prison system and assessing parents in prison is one thing; following parents out into the community is another. In subsequent reports, we will present findings on our attempts to follow the parents after release and what happened, not only to them but to their children and the caregivers of their children.

On the basis of findings from this study to date, we continue to hold to our original ideas regarding the value of parenting programs in prison (Eddy et al., 2010). Such programs have the potential to impact incarcerated parents, and we continue to suspect that such impacts are an important part of making a difference in the lives of their children. However, we hypothesize that parenting programs are a necessary but not sufficient part of a comprehensive intervention for incarcerated parents and their children, and that without follow-up on the outside of prison, and without other interventions that provide parents and children with the supports they need to succeed, parenting programs for incarcerated parents are likely to have little long term impact. Assisting former inmates in securing housing, finding a job, avoiding substances, engaging in positive interactions with family members, and staying away from situations that in the past that led to criminal behavior, including associations with deviant peers, are equally important considerations to parenting skill and knowledge development in prison and post-prison parenting programs. Children may need such supports as well, especially as they reach adolescence and

young adulthood.

Table 1. Regression Models Predicting Proximal Outcomes

	Parent Stress (<i>n</i> =315)		Parent Depressed Mood (<i>n</i> =261)		Parent Child Positive Interaction (<i>n</i> =225)		Likely to Play Active Role (<i>n</i> =309)		Closeness with Caregiver (<i>n</i> =248)		Ease of Relationship with Caregiver (<i>n</i> =246)	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Constant	1.78**	1.77**	.85**	.86**	-.92**	-.90**	2.75**	1.50**	.07	.06	-.47**	-.50**
Condition ^a	-.13*	-.13*	-.11*	-.12*	.25*	.26*	.10	2.33**	.02	.03	.07	.07
Female ^b	.02	.03	.11*	.13**	-.16	-.18	.03	.01	.08	.07	.22**	.22**
Total Family Contact	-.06	-.05	-.01	.03	.10	.10	.12*	.11*	.00	.00	.00	.01
Age	-.01**	-.01*	.02	-.01	.03**	.03**	.01	.01	-.00	-.00	.01	.01
Baseline ^c	.30**	.32**	.23**	.32**	.33**	.42**	.33**	.58**	.33**	.42**	.60**	.72**
Baseline ^c By Condition		-.06		-.16**		-.18		-.47**		-.16		-.24*
Adjusted R ²	.25	.25	.28	.30	.23	.24	.06	.08	.19	.19	.38	.39
F(df, df)	22.1** (5, 309)	18.5** (6, 308)	20.9** (5, 255)	19.6** (6, 254)	14.3** (5, 219)	12.5** (6, 218)	4.8** (5, 303)	5.3** (6, 302)	12.2** (5, 242)	10.8** (6, 241)	30.4** (5, 240)	26.6** (6, 239)

Notes. * $p < .05$. ** $p < .01$. a = control condition is the reference group. b = males are the reference group. c = baseline is pre-intervention measure for the given model (e.g., parent stress for parent stress model).

Figure 1. Theoretical Model

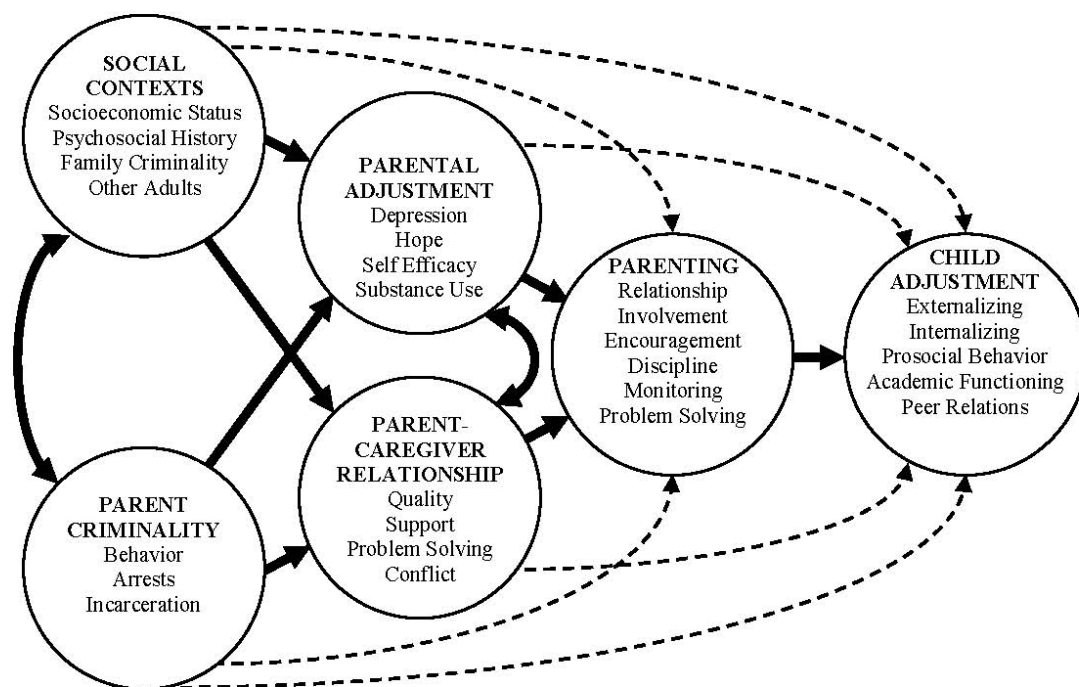


Figure 2. Interaction between Pre-Intervention Depressed Mood and Condition for Men

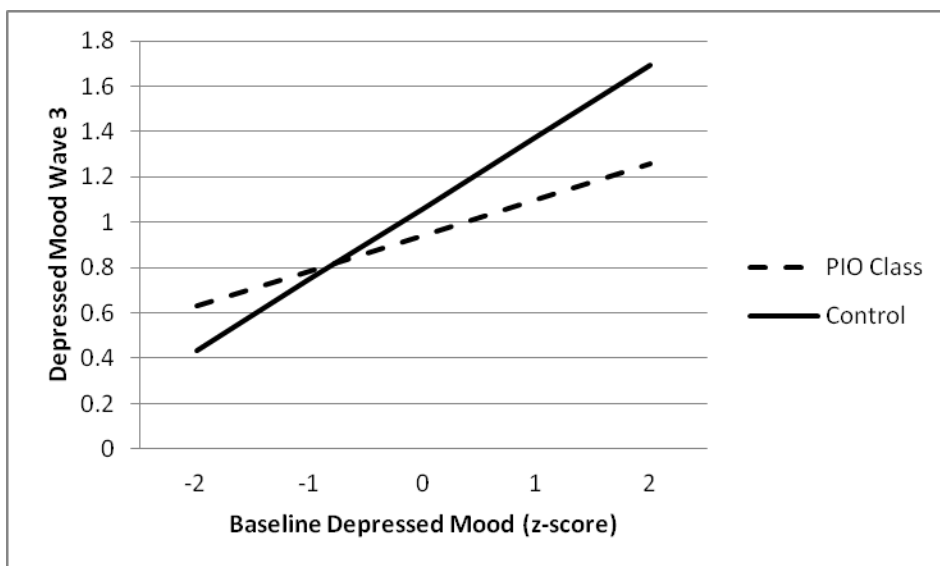


Figure 3. Interaction between Pre-Intervention Active Role and Condition for Men

