Efficacy of a Crisis Intervention in Improving Mother–Child Interaction and Children’s Play Functioning

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OBJECTIVE. We examined the efficacy of a crisis-based intervention in improving mother–child interaction and children’s play functioning for families who had experienced domestic violence.

METHOD. Using a pretest–posttest two-group control study design, we assigned the intervention group ($n = 20$ mother–child dyads) to the Family Intervention for Improving Occupational Performance (FI–OP) program and the control group ($n = 17$ dyads) to a playroom program. Both programs consisted of eight 30-min sessions. We videotaped dyads during free play and used standardized tools to assess interactions, play skills, and playfulness.

RESULTS. After the intervention, mother–child interaction was significantly better in the FI–OP group than in the playroom group. The children in the FI–OP group also demonstrated significantly greater improvement in play skills, but not in playfulness.

CONCLUSION. FI–OP is a promising program for improving aspects of mother–child interaction and children’s play functioning among survivors of domestic violence.

Domestic violence is a widespread phenomenon with negative ramifications for women and their children in various areas of their lives (Levendosky, Huth-Bocks, Shapiro, & Semel, 2003; Osofsky, 2003). An important occupational area that may be affected is a woman’s parenting (Casanueva, Martin, Runyan, Barth, & Bradley, 2008; Levendosky, Lynch, & Graham-Bermann, 2000) and interaction with her children. Concomitantly, the children’s overall development, especially play functioning, may be negatively affected (e.g., Cooper, 2000; Katz & Low, 2004; Prinz & Feerick, 2003).

A review of published studies related to this population revealed a lack of recent research on intervention programs that focus on improving the mother–child interaction and its impact on children’s play functioning. We examined the efficacy of an occupational therapy intervention program provided to mothers and their children who resided in shelters for people who had experienced domestic violence.

Various studies have noted abused women’s difficulties with parenting. These women have been found to demonstrate higher rates of aggressive behavior and neglect toward their children (Banyard, Williams, & Siegel, 2003; Jones, Hughes, & Unterstaller, 2001) and less emotional availability (Levendosky et al., 2000) and parental responsiveness (Casanueva et al., 2008). Additionally, abused women perceived their children as more difficult to handle and were less flexible or open to change (Huth-Bocks, Levendosky, Theran, & Bogat, 2004). Several studies, however, have shown that abused mothers were just as affectionate, proactive, and capable of providing structure to their children as mothers who had not been abused (Buchbinder, 2004; Letourneau, Fedick, & Willms, 2007; Levendosky et al., 2003).
Children’s exposure to violence between their parents affects their sensory, motor, cognitive (Becker & McCloskey, 2002; Prinz & Feerick, 2003; Wolfe, Crooks, Lee, McIntyre-Smith, & Jaffe, 2003), emotional, and social development (Katz & Low, 2004; Laible, 2004; Lemmey et al., 2001). In addition, children of abused women display developmental deficits manifested in delayed play functioning (Cooper, 2000). Play constitutes a central and fundamental area of occupation in the lives of children, greatly contributing to their development (Kjorstad, O’Hare, Soseman, Spellman, & Thomas, 2005; Sigafouos, Roberts-Pennell, & Graves, 1999). Through play, children develop sensory, motor, cognitive, language, emotional, and social behaviors by way of an experimental process of exploratory and pleasurable learning (Waldman-Levi, 2012).

Valentino, Cicchetti, Toth, and Rogosch (2006) found that infants from abusive or neglectful families exhibited more imitation during play and engaged in less independent interaction with their parents. They also found that abused children were less competent during peer interaction (i.e., social play) and demonstrated more imitative dramatic play themes than nonabused children. Similarly, Howard (1986) demonstrated that abused children were delayed in their overall developmental play skills. In contrast to Valentino et al.’s study, however, Howard’s participants also scored lower in imitation play. Cohen, Chazan, Lerner, and Maimon (2010) reported that children who exhibited a higher frequency of posttraumatic stress disorder symptoms also showed a higher rate of posttraumatic play (characterized by compulsively repeated themes that do not get resolved through play, seriousness, and a lack of joy) and a lower developmental level of play.

Various studies have noted that children’s play, social–emotional development, and interaction with their mother are interrelated. Feldman and colleagues (Feldman & Eidelman, 2005; Feldman, Keren, Gross-Rozval, & Tyano, 2004) considered play to be an important indicator of a child’s interaction with his or her mother. Furthermore, cooperative play between mothers and children is thought to be a positive and important component in the child’s emotional, social, and cognitive development (Keren, Feldman, Namdari–Weinbaum, Spitzer, & Tyano, 2005; Lindsey & Mize, 2000). Moreover, Feldman et al. (2004) indicated that a creative and facilitating approach to play in the dyadic context predicts the child’s level of symbolic play, highlighting the beneficial nature of a positive mother–child relationship. Therefore, intervention programs for improving mother–child interaction and children’s play functioning should reflect this mutual relationship.

The literature includes several studies describing interventions focused on improving mother–child interaction (e.g., DeGarmo, Patterson, & Forgatch, 2004; Windham et al., 2004; Wolfe et al., 2003). Other studies have focused on improving children’s play functioning (Bell, Lyne, & Kolvin, 1989; O’Brien et al., 2000). Only Okimoto, Bundy, and Hanzlik (2000) emphasized improving both; however, their sample did not include domestic violence survivors, who have special needs. In the most recent study of an intervention related to trauma in abused children, Lieberman, Van Horn, and Ozer (2005) investigated the efficacy of parent–child psychotherapy with preschoolers exposed to domestic violence. This intervention was based on psychodynamic, attachment, cognitive–behavioral, and social learning theories. It consisted of weekly 1-hr sessions over the course of 12 mo and was found to be effective in decreasing the severity of both mothers’ and children’s maladaptive symptoms. However, it did not target domestic violence survivors who resided in shelters. We found no intervention programs that embraced both mother–child interaction and children’s play functioning as either intervention content or outcome measures. Moreover, intervention programs are lacking for survivors of domestic violence who reside in shelters and need a short-term, crisis-based intervention.

Even though the average length of stay in a shelter is short (a few days to several weeks), it is a unique and challenging environment. Because people who have experienced severe domestic violence are often forced to relocate to shelters, they may face occupational disruption (Christiansen & Townsend, 2004), which adds to the stress they already experience (Jarvis, Gordon, & Novaco, 2005) and to their feelings of loss and anger. Additionally, because they must share shelter quarters with other families, they lose privacy and space. Simultaneously, their children often experience adaptation difficulties because of the loss of their home environment and of both positive and negative contact with their fathers. Consequently, these factors may influence mothers’ performance in all areas of life, including parenting, and children’s play ability.

Over the course of a decade, while working with women and their children who had experienced domestic violence and resided in shelters, the first author (Waldman-Levi) developed a short-term, crisis-based intervention for them, the Family Intervention for Improving Occupational Performance (FI–OP). The purpose of FI–OP is to address observed difficulties in mother–child interaction and deficits in children’s play functioning. FI–OP is based on several theories relating to maternal functioning and the crucial importance of mother–child interaction to children’s overall development and play functioning. Attachment theory...
focuses on the primary relationship between mother and child (George & Solomon, 1999). Social learning theory posits that a child’s compliance with his or her mother is a product of positive and negative reinforcements that the child perceives as related to his or her behavior (Strand, 2002). Social–cognitive theory maintains that the cognitive, emotional, social, and linguistic development of the child is related to reciprocal and compatible interaction between mother and child (Feuerstein, Klein, & Tannenbaum, 1991). Aspects of play in FI–OP are based on Reilly’s (1974) conceptualization regarding children’s play. Finally, FI–OP is grounded in Winnicott’s (1995, 1999) theory, which relates to the important concept of “the secure space,” in which play and interaction co-occur between mother and child. The creation of this space is one of FI–OP’s fundamental components and includes aspects of dyadic play and interaction, the child’s play functions, and the environment.

The main purpose of the current study was to examine the efficacy of the FI–OP program for mothers and their children in domestic violence shelters. This study sought to substantiate the intervention’s effectiveness in improving mother–child interaction and children’s play functioning, including play skills and playfulness. Our hypothesis was that providing a theory-based intervention—and not merely an opportunity to play and interact in a quiet and adapted environment—is necessary to improve mother–child interaction and children’s play functioning. The results of this study expand the knowledge related to effective intervention programs to improve mother–child interaction through dyadic play and children’s play functioning in general in this deprived population.

Method

Research Design

We used a pretest–posttest, two-group control study design in which one group participated in the FI–OP (intervention) program and the other in a playroom (control) program. To prevent mothers in the FI–OP group from sharing information with mothers in the playroom group, we did not administer the programs in the same shelter simultaneously. We based our decision about which program to implement in which shelter on technical factors such as number and availability of mother–child dyads, space provided by the shelters, and other programs provided in the shelter. We obtained permission for the study from the university’s institutional review board and permission to approach the women from the organization in charge of the shelters. We provided mothers with an explanation of the study, and if they agreed to participate, we asked them to sign a consent form.

Participants

The study included 37 mother–child dyads recruited through convenience sampling from eight domestic violence shelters in Israel. The study’s inclusion criteria ensured that participating children were free of known neurological or sensory dysfunctions and that their mothers spoke Hebrew well enough to complete the study questionnaire and participate freely in the intervention.

Instruments

A questionnaire developed exclusively for this study included items relating to the demographic characteristics of the participants. It was administered in the form of a structured interview.

The Revised Knox Preschool Play Scale (R–KPPS; Knox, 1997) is an observational, criterion-referenced measure for use with children ages birth to 72 mo as they engage in free play in familiar play environments. The R–KPPS yields age-level scores in months for 12 categories of play in four dimensions: Space Management, Material Management, Pretense–Symbolic Play, and Participation. A score for each dimension is calculated by averaging scores on the categories of play, and a total R–KPPS score is calculated by averaging the dimension scores.

Knox (1997) recommended two 30-min observations in different settings (indoors and outdoors). Other researchers (Jankovich, Mullen, Rinear, Tanta, & Deitz, 2008; Lee & Hinojosa, 2010), however, have obtained reliable and valid scores with two 15-min sessions. The psychometric characteristics of the R–KPPS are based on two studies, one with typically developing children (Jankovich et al., 2008) and the other with children with disabilities (Knox, 1997). These studies concluded that the best psychometric properties are derived from the dimension scores and the overall score. Therefore, both types of scores were calculated in the current study. Interrater reliability was high for three dimensions: Material Management (r = .85–.99, p < .001), Pretense–Symbolic Play (r = .89–.94, p < .001), and Participation (r = .87–.99, p < .001). The interrater reliability for the Space Management dimension was low (r = .04–.22); therefore, this dimension was excluded from the analysis. Cronbach’s α demonstrated high internal consistency of the three retained R–KPPS dimensions (α = .83).

The Test of Playfulness (ToP; Bundy, 1997, 2003) is a standardized observation tool for use with children and adolescents ages 6 mo to 18 yr. Scores are based on
15-min observations in familiar play settings (Skard & Bundy, 2008). The ToP consists of 29 items that represent four core concepts: intrinsic motivation, internal control, freedom from unnecessary constraints of reality, and framing. The items are scored on a 4-point scale (0–3) with respect to extent (proportion of time), intensity, and skillfulness.

Psychometric properties of data gathered with the ToP have been investigated in various populations, including typically developing children and children with a range of cultural and ethnic backgrounds and conditions and disabilities. ToP items have been found to have acceptable goodness of fit (93%–96%) within the expectations of the Rasch model (e.g., Harkness & Bundy, 2001; Leipold & Bundy, 2000). The ToP also has been found to differentiate between clinical and typically developing samples (Harkness & Bundy, 2001; Leipold & Bundy, 2000). Rater reliability has been reported to be high (93%–100% agreement; Hamm, 2006). In the current study, three raters were calibrated to ensure reliability using Rasch analysis by the ToP developer. Raters were unaware of the study purpose.

The Coding Interactive Behavior (CIB; Feldman & Eidelman, 2005) is a global rating system for scoring 15-min observations of parent–infant or parent–child interaction during indoor play. The CIB has two versions, one for children ages 2–36 mo and the other for those ages 36 mo to 6 yr, both of which were used in the current study. The CIB includes 46 items (21 items relate to the mother, 16 to the child, and 9 to the dyadic interaction) rated from 1 to 5 and organized into the following categories: Sensitivity, Intrusiveness, Limit Setting, Involvement, Withdrawal, Compliance, Reciprocity, and Negative States. For each category, a mean score and a measure of internal consistency are calculated. Data collected with the CIB have been shown to be valid in numerous studies of infants who were healthy (e.g., Feldman & Klein, 2003) or at risk (e.g., Feldman et al., 2004). Scores are sensitive to infant age, interacting partner, cultural background, and developmental risk conditions. Internal consistency is reported to be good to excellent (Cronbach’s $\alpha \geq .85$; Feldman & Eidelman, 2005; Feldman et al., 2004; Feldman & Klein, 2003). In this study, the categories of Sensitivity, Limit Setting, Involvement, Reciprocity, and Negative States had acceptable $\alpha$ values (> .65); therefore, only these categories were used. A mean total score was calculated from the mean score of these five categories.

**Procedures**

The pretest procedure was similar in both study groups. After the demographic questionnaire was completed, the researcher or research assistant videotaped the mother and child engaged in free play twice. The first videotape was taken after the first or second meeting between the mother and the interviewer, and the second was taken 4–7 days later. A mobile video camera carried by the researcher or assistant was used for the taping and coding of the children’s play functions (for the R–KPPS and ToP) and mother–child interactions (for the CIB). Raters of the R–KPPS and ToP included three experienced occupational therapists trained by the first author. The raters separately rated each of the videotapes. The observations of the CIB were coded by a psychologist trained for this purpose. In all cases, the coders were unaware of the study purpose and were blinded to group assignment.

**Interventions**

The framework of the FI–OP and playroom programs included eight 30-min sessions, with an interval of 4 days to 1 wk between sessions. Because both interventions took place at the shelters, we selected the number of sessions on the basis of previous intervention studies (e.g., O’Brien et al., 2000; Okimoto et al., 2000; Wadsby, Sydsjö, & Svedin, 2001) and the crisis philosophy of intervention in shelters for abused women. The decision to conduct 30-min sessions was in accordance with the expected attention span of children ages 1–5 yr. The FI–OP program was delivered by two occupational therapists: the first author, who developed FI–OP, and a therapist who was trained to use the program. Both therapists had more than 10 yr of experience, of which at least 2 yr were spent working with abused mothers and their children in shelters. The playroom program was supervised by an occupational therapy practitioner or occupational therapy student who was guided by the first author in implementing this program.

FI–OP is a dynamic intervention designed to suit the dyad’s needs and children’s play skills and playfulness behavior. It has a constant construct, including opening (5 min), joint play (20 min), and closure and separation (5 min). The following intervention themes were addressed:

- **Mother–child interaction** (enhancing the mother’s sensitivity to her child’s needs, abilities, and preferences, especially during play)
- **Reciprocity** (enabling and augmenting reciprocity in the mother’s and child’s responses to each other)
- **Playfulness** (developing, encouraging, and stimulating the following components of playfulness: internal motivation, internal control, freedom from constraints of reality, and framing)
- **Play skills** (developing, enabling, and encouraging age-related play skills, such as practice, symbolic or
construction play, exploratory behavior, and achievement behavior).

The therapist implemented the FI–OP themes through the following theory-driven methods:

- **Mediation** (communicating during the interaction between therapist and child and between mother and child to encourage the child to perceive, understand, and experience an event at both the cognitive and emotional levels; it is also used in relation to the dyad to implement a positive interaction in new situations)
- **Modeling** (serving as a playful model for mother and child in each session)
- **Consultation** (disseminating knowledge regarding the importance of playing and interacting)
- **Environmental organization and adaptation** (designing the play environment to be supportive and enhance interaction and playfulness)
- **Reframing** (modifying the meaning of a situation by presenting new ways of viewing it when the mother perceives a child’s behavior in a negative light, interfering with her interaction with her child)
- **Enabling** (promoting the experience of play and interaction in an emotionally and physically safe environment)
- **Reflection** (reflecting the child’s behavior or feelings to the mother).

Systematic monitoring of the FI–OP protocol occurred after each session with each of the dyads. To establish fidelity of treatment, videotapes of 20% of the sessions were examined by two experienced occupational therapists trained in implementing FI–OP (who did not administer the program). These therapists compared the FI–OP protocol with the themes and methods addressed by the treating therapist as observed in the tapes. Analyses showed that very few deviations from the protocol occurred. When they did occur, the differences were discussed with the therapist who administered the program to try to prevent further deviations.

The playroom program served as the control. It took place in a quiet room in the shelter with toys and play materials adapted to the child’s age. Mothers and children were given an opportunity to play together in this room in a structured, development-enhancing environment. The practitioner did not provide any consultation or reaction related to mother–child interaction or children’s play functioning. After completion of the FI–OP and playroom programs, we conducted posttesting in the same manner as in the pretest stage.

**Statistical Analysis**

We calculated an average score for the two pretests and for the two posttests and then used descriptive statistics to determine the distribution of the study variables and demographic data. Because the R–KPPS, ToP, and CIB scores did not follow a normal distribution, we applied non-parametric statistics. To compare demographic characteristics between the study groups, we completed \( \chi^2 \) or \( t \) tests according to the type of data. Before examining intervention efficiency, we carried out a multivariate analysis of covariance (MANCOVA) to determine any differences in the control group’s attendance in the playroom program.

Because of the children’s age distribution and the major role of age in interpreting the results of the R–KPPS, CIB, and ToP, for the purpose of analysis we split the children into two age groups, guided by developmental theories of play: (1) toddlers, ages 1 to 2 yr, 5 mo, and (2) preschoolers, ages 2 yr, 6 mo, to 6 yr. Then, for each of the observational variables, we conducted a Mann–Whitney \( U \) test before examining between- or within-group differences to reveal whether age had any impact on the results. Finally, we carried out Mann–Whitney \( U \) tests to detect preintervention group differences and differences in pretest–posttest changes between the two groups. We used Wilcoxon tests to calculate changes from pre- to postintervention within each group.

**Results**

Initially, 71 mother–child dyads were recruited for this study; however, 34 women dropped out because they decided to leave the shelter and return to their homes or partners. The distribution of dropouts was similar in the two study groups. This phenomenon is common among women who reside in shelters. Unfortunately, we gathered no data regarding these dyads. The final study sample consisted of 37 mother–child dyads divided into two groups: 20 dyads who received the FI–OP program (the intervention group) and 17 dyads who attended the playroom program (the control group). This sample size is comparable to that of Strand (2002), who investigated the impact of a specific intervention (based on attachment and social learning theories) on maternal coordination with child behavior among 34 mother–child dyads with children ages 3–5 yr. For the parameters of this study (\( \beta = 0.8, \alpha = .05, \) effect size = 1.11), we estimated that 15 dyads were required per group.

The ages of the mothers in our study ranged from 18 to 45 yr (mean \( M = 29.23, \) standard deviation \( SD = 5.14 \)), and the children’s ages ranged from 13 to 71 mo (\( M = 32 \) mo, \( SD = 13.94 \)). The \( t \)-test analyses comparing the children’s and mothers’ mean ages in the two study groups demonstrated no significant difference, \( t(35) = 0.61, p > .05, \) and \( t(33) = -1.61, p > .05, \) respectively. The demographic characteristics of the mothers in both groups were similar (Table 1). \( \chi^2 \) analyses revealed no statistically significant
differences between the groups in mothers’ education, $X^2 (4, 36) = 3.60, p > .05$, or marital status, $X^2 (3, 37) = 1.83, p > .05$. Thus, these variables were not controlled for as possible confounders.

Analysis showed that >85% of children in both groups were exposed to some type of violence between their parents and that a significantly higher percentage of children in the intervention group had been physically punished, $X^2 = 4.66, p < .05$. More women in the intervention group reported that abuse occurred during one of their pregnancies, $X^2 (1, 37) = 1.96, p > .05$, and more than half (51.4%) of the women in the intervention group reported exposure to violence in childhood, although these differences were not significant, $X^2 (1, 37) = 1.45, p > .05$.

Because the dropout rate for playroom program participants was higher than for FI–OP program participants, we decided to conduct posttesting after playroom participants had attended a minimum of four sessions (attendance ranged between five and eight sessions; $M = 6.9, SD = 1.2$). We first used MANCOVA to identify any differences in outcome measure results between playroom program participants who did and did not complete eight sessions; the MANCOVA model did not reveal any significant differences between these two groups.

Table 1. Participants’ Demographic Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Group, n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Child’s gender</strong></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>11 (55)</td>
</tr>
<tr>
<td>Male</td>
<td>9 (45)</td>
</tr>
<tr>
<td><strong>Mother’s education</strong>&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>No schooling</td>
<td>2 (10)</td>
</tr>
<tr>
<td>Elementary school</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Grade 7–9</td>
<td>4 (20)</td>
</tr>
<tr>
<td>Grade 10–12</td>
<td>12 (60)</td>
</tr>
<tr>
<td>Postsecondary studies</td>
<td>2 (10)</td>
</tr>
<tr>
<td><strong>Mother’s origin</strong></td>
<td></td>
</tr>
<tr>
<td>Asia</td>
<td>7 (35)</td>
</tr>
<tr>
<td>Europe</td>
<td>6 (30)</td>
</tr>
<tr>
<td>Africa</td>
<td>6 (30)</td>
</tr>
<tr>
<td>North America</td>
<td>1 (5)</td>
</tr>
<tr>
<td><strong>Mother’s marital status</strong></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>10 (50)</td>
</tr>
<tr>
<td>Separated</td>
<td>2 (10)</td>
</tr>
<tr>
<td>Divorced</td>
<td>4 (20)</td>
</tr>
<tr>
<td>Single</td>
<td>4 (20)</td>
</tr>
<tr>
<td><strong>Number of children in family</strong></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>5 (25)</td>
</tr>
<tr>
<td>2</td>
<td>6 (30)</td>
</tr>
<tr>
<td>3</td>
<td>8 (40)</td>
</tr>
<tr>
<td>≥4</td>
<td>1 (5)</td>
</tr>
</tbody>
</table>

<sup>Note</sup>: Percentages may not total 100% because of rounding.

<sup>a</sup>In the control group, education was not noted for 1 participant.

Next, we used the Mann–Whitney $U$ test to examine whether children’s age levels affected mother–child interaction (CIB), children’s play skills (R–KPPS), and children’s playfulness (ToP). No significant differences were found between the two age groups in total CIB score or its five category scores, in total R–KPPS score or its three dimension scores, or in ToP score. Therefore, our statistical analysis related to both age groups together. Moreover, before examining intervention efficiency, we used the Mann–Whitney $U$ test to compare the pretest scores on each of the outcome measures for each study group. No significant differences were found between groups in total CIB score or its five category scores (Table 2), in total R–KPPS score or its three dimension scores (Table 3), or in ToP score (Table 4). These results indicate that before intervention, the groups did not significantly differ with respect to the study’s outcome measures.

Effect of FI–OP on Mother–Child Interaction

Mann–Whitney $U$ tests comparing the groups’ difference scores (posttest vs. pretest; see Table 2) with respect to mother–child interaction revealed that improvement in the FI–OP group was significantly greater than in the playroom group as reflected in the CIB total score, $U = 101, p < .05$, and two categories, Sensitivity, $U = 92, p < .05$, and Limit Setting, $U = 101, p < .05$. No significant differences were found for Involvement, Reciprocity, and Negative States.

The Wilcoxon test used to examine within-group differences in mother–child interaction for both study groups showed significant differences in the FI–OP group with respect to Limit Setting, $Z = -1.96, p < .05$, and Negative States, $Z = -2.17, p < .05$, but not in the playroom group. No significant differences were found for either group in CIB total score or in Sensitivity, Reciprocity, and Involvement scores. In the five CIB categories we analyzed, an improvement occurred from pretest to posttest in the FI–OP group only, although the improvement did not reach significance.

Influence of FI–OP on Children’s Play Skills

The Mann–Whitney $U$ test comparing the study groups’ difference scores (posttest vs. pretest; see Table 3) with respect to children’s play skills (R–KPPS) revealed that the improvement in the FI–OP group was significantly greater than in the playroom group in the Pretense–Influence dimension, $U = 11.5, p < .01$. However, no significant differences were found for R–KPPS total score or the Material Management or Participation dimension scores.

The Wilcoxon test used to examine within-group differences in children’s play skills showed significant
differences in the FI–OP group with respect to the R–KPPS total score, \( Z = -3.14, p < .001 \), and the three dimension scores: Material Management, \( Z = -1.88, p < .05 \); Pretense–Symbolic, \( Z = -2.84, p < .01 \); and Participation, \( Z = -2.45, p < .05 \). In contrast, the playroom group showed no significant differences (\( p > .05 \)) in total R–KPPS score or the four dimension scores.

**Influence of FI–OP on Children’s Playfulness**

The Mann–Whitney \( U \) test used to compare the study groups’ difference scores (posttest vs. pretest; see Table 4) with respect to children’s playfulness (ToP) revealed no significant difference between the FI–OP and playroom groups. The Wilcoxon test examining within-group differences in child’s playfulness showed no significant difference in the FI–OP group, \( Z = -1.19, p > .05 \), but a significant difference in the playroom group, \( Z = -1.76, p < .05 \).

**Discussion**

Domestic violence is a relatively widespread phenomenon. It has been found to affect the interaction between mothers and their children and children’s development, often noted in their play skills and playfulness (Levendosky et al., 2003; Osofsky, 2003; Valentino et al., 2006). These ramifications may be exacerbated when mothers and children reside in shelters (Jarvis et al., 2005), which intensify their occupational deprivation. To date, most intervention programs for this population have addressed either mother–child interaction or children’s play performance but not both. This study examined the efficacy of the FI–OP program, which focuses on improving both mother–child interaction and children’s play functioning. The FI–OP program was developed using several theoretical frameworks explaining the dynamics of mother–child interaction, such as attachment theory (George & Solomon, 1999) and social–cognitive theory (Feuerstein et al., 1991), and Reilly’s (1974) conceptualization of children’s play.

Results of this study show that FI–OP was effective in improving several components of mother–child interaction, such as the dyads’ ability to regulate negative states. It was also more effective than the playroom program in improving mothers’ sensitivity and ability to set limits. Setting limits is an important aspect of maternal involvement in response to the child’s initiatives because it provides feedback the child can use to guide his or her future behavior (Valentino et al., 2006).

Similar results were reported by Van Zeijl et al. (2006), who implemented a home-based video-feedback intervention. The purpose of their study was to promote positive parenting and sensitive discipline in families of

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**Table 2. Mean Pretest, Posttest, and Difference Scores on the Coding Interactive Behavior**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Intervention Group (( n = 20 ))</th>
<th>Control Group (( n = 17 ))</th>
<th>( U )</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( M )</td>
<td>SD</td>
<td>( M )</td>
<td>SD</td>
</tr>
<tr>
<td>CIB Total</td>
<td>3.54</td>
<td>1.06</td>
<td>3.87</td>
<td>0.81</td>
</tr>
<tr>
<td>Pretest</td>
<td>3.78</td>
<td>0.79</td>
<td>3.64</td>
<td>0.70</td>
</tr>
<tr>
<td>Posttest</td>
<td>0.24</td>
<td>0.75</td>
<td>-0.22</td>
<td>0.78</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>3.28</td>
<td>1.20</td>
<td>3.76</td>
<td>0.81</td>
</tr>
<tr>
<td>Pretest</td>
<td>3.51</td>
<td>0.94</td>
<td>3.31</td>
<td>0.95</td>
</tr>
<tr>
<td>Posttest</td>
<td>0.23</td>
<td>0.80</td>
<td>-0.48</td>
<td>1.08</td>
</tr>
<tr>
<td>Limit Setting</td>
<td>3.88</td>
<td>1.01</td>
<td>4.28</td>
<td>0.81</td>
</tr>
<tr>
<td>Pretest</td>
<td>4.30</td>
<td>0.86</td>
<td>4.12</td>
<td>0.91</td>
</tr>
<tr>
<td>Posttest</td>
<td>0.42</td>
<td>0.91</td>
<td>-0.11</td>
<td>1.04</td>
</tr>
<tr>
<td>Involvement</td>
<td>3.30</td>
<td>0.77</td>
<td>3.31</td>
<td>0.76</td>
</tr>
<tr>
<td>Pretest</td>
<td>3.50</td>
<td>0.71</td>
<td>3.23</td>
<td>0.48</td>
</tr>
<tr>
<td>Posttest</td>
<td>0.20</td>
<td>0.71</td>
<td>-0.08</td>
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<tr>
<td>Reciprocity</td>
<td>3.53</td>
<td>1.33</td>
<td>3.64</td>
<td>1.07</td>
</tr>
<tr>
<td>Pretest</td>
<td>3.42</td>
<td>0.82</td>
<td>3.19</td>
<td>0.75</td>
</tr>
<tr>
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<td>-0.11</td>
<td>0.97</td>
<td>-0.46</td>
<td>1.02</td>
</tr>
<tr>
<td>Negative States</td>
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<td>1.38</td>
<td>1.66</td>
<td>0.96</td>
</tr>
<tr>
<td>Pretest</td>
<td>1.82</td>
<td>1.02</td>
<td>1.64</td>
<td>1.02</td>
</tr>
<tr>
<td>Posttest</td>
<td>-0.45</td>
<td>0.81</td>
<td>-0.02</td>
<td>1.10</td>
</tr>
</tbody>
</table>

Note. CIB = Coding Interactive Behavior; \( M \) = mean; SD = standard deviation. Scores on the CIB range from 1 to 5.

**Table 3. Mean Pretest, Posttest, and Difference Scores on the Revised Knox Preschool Play Scale**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Intervention Group (( n = 20 ))</th>
<th>Control Group (( n = 17 ))</th>
<th>( U )</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( M )</td>
<td>SD</td>
<td>( M )</td>
<td>SD</td>
</tr>
<tr>
<td>R–KPPS Total</td>
<td>27.16</td>
<td>12.46</td>
<td>28.90</td>
<td>16.06</td>
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<tr>
<td>Pretest</td>
<td>32.66</td>
<td>14.31</td>
<td>29.50</td>
<td>16.19</td>
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<tr>
<td>Posttest</td>
<td>5.17</td>
<td>6.74</td>
<td>3.12</td>
<td>8.33</td>
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<td>Material Management</td>
<td>28.20</td>
<td>13.91</td>
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<td>14.45</td>
<td>28.87</td>
<td>16.28</td>
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<tr>
<td>Posttest</td>
<td>4.65</td>
<td>9.56</td>
<td>2.06</td>
<td>9.53</td>
</tr>
<tr>
<td>Pretense–Symbolic</td>
<td>25.41</td>
<td>11.23</td>
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<td>13.87</td>
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<tr>
<td>Pretest</td>
<td>30.40</td>
<td>13.36</td>
<td>19.80</td>
<td>5.33</td>
</tr>
<tr>
<td>Posttest</td>
<td>6.69</td>
<td>7.95</td>
<td>0.00</td>
<td>1.90</td>
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<td>Participation</td>
<td>27.60</td>
<td>13.54</td>
<td>27.20</td>
<td>18.33</td>
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<td>Pretest</td>
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<td>25.50</td>
<td>12.66</td>
</tr>
<tr>
<td>Posttest</td>
<td>4.05</td>
<td>6.76</td>
<td>2.54</td>
<td>8.47</td>
</tr>
</tbody>
</table>

Note. \( M \) = mean; R–KPPS = Revised Knox Preschool Play Scale; SD = standard deviation. R–KPPS scores range from 6 to 72 mo.
toddlers at risk for externalizing behavior problems. The intervention was based on attachment and coercion theories and focused on mirroring and discussing parent–child interaction. Mothers who received this intervention had more favorable attitudes toward sensitivity and sensitive discipline (i.e., limit setting) than mothers in the control group.

Results of both studies suggest that focusing on themes drawn from attachment theory may improve mother–child interaction by enhancing the mother’s sensitivity toward her child’s abilities and preferences, especially during play, and augmenting reciprocity in the mother’s and child’s responses toward each other. This focus may also increase mothers’ ability to set limits for their children when necessary.

The results of this study indicate that children in the FI–OP program significantly improved their play skills compared with the playroom group, in which no significant improvement was noted. Moreover, the children in the FI–OP group had significantly higher scores in pretense–symbolic play. These results suggest that merely providing children with an opportunity to play is not sufficient to improve their play skills. Rather, guidance through play by trained staff who serve as models or affirm children’s play choice or behaviors may enhance their play skills (Kennedy-Behr, Rodger, Graham, & Mickan, 2013; Weintraub & Waldman Levi, 2009).

Improvement in children’s play skills in the FI–OP program may also be attributed to improvement in the mothers’ responsiveness and sensitivity to mother–child interaction (Brittin, Marvin, & Pianta, 2005; McGrath, Sullivan, & Seifer, 1998, Tamis-LeMonda, 1996). Bodle, Zhou, Shore, and Dixon (1996) claimed that a sensitive mother has both to hold on—that is, to validate her child’s play and give it meaning—and to let go—that is, to give the child freedom to explore. Thus, mothers with sufficient sensitivity transfer to their children responsibility for the aspects of a task they believe the children are ready to manage alone while continuing to provide support for less well mastered aspects. Support for this claim may be found in a study by Smith and Landreth (2003), who examined the efficacy of 12 sessions of filial therapy, in which parents were trained in basic child-centered play therapy skills, for children who resided with their mothers in domestic violence shelters. They compared the effects of this intervention to child play therapy and to a sibling group and found that filial therapy enabled mothers in the experimental group to improve their ability to allow their children to be self-directive in a play situation. Thus, it appears that by placing greater emphasis on improving maternal sensitivity and responsiveness to the child’s needs and interests within the play context, and by improving, fostering, and elaborating play preferences and abilities, the FI–OP program may have cultivated a safe environment in which interaction and play co-occurred and influenced one another (Keren et al., 2005; Winnicott, 1995, 1999).

Although improvement was noted in children’s play skills in the FI–OP group, no significant improvement was found in these children’s playfulness. In contrast, a significant increase in playfulness was noted in the children in the playroom group. One of the components of playfulness is freedom from constraints (Bundy, 2003). Therefore, a possible explanation for this finding is that the increase in the use of limit setting among the mothers in the FI–OP group may have constrained their children’s creativity, thus limiting their playfulness. In contrast, the children in the playroom group were surrounded by age-appropriate toys and games, which may have encouraged free play unconstrained by their mothers’ negative or positive comments. However, knowledge relating to reciprocity in mother–child interaction—specifically, limit setting—and playfulness is limited, and thus this finding requires further study.

Limitations and Future Research
Although the results show that FI–OP is a promising program, this study has several limitations. The first is the moderate sample size; a larger sample is necessary to further validate the results. The second is the sampling method; the nonrandomized sampling may limit the external validity of the study. Finally, the study did not include a follow-up phase, thus limiting our ability to examine the long-term efficacy of the FI–OP program.

Implications for Occupational Therapy Practice
This study examined the efficacy of the FI–OP program, which was provided to mothers and their children who resided in shelters for those who have experienced domestic violence. The results of the study show that an occupational therapy intervention focused on the occupational performance of mothers and their children may be effective in improving their interaction and the children’s play skills. This study also demonstrates that merely providing a stimulating environment for this population is
not sufficient. It appears that the improvement in FI–OP program participants was attained by providing guidance, mediation, and modeling, thus creating a secure space in which play and interaction co-occurred. However, it is still necessary to find the balance between improving mothers’ sensitivity and ability to set limits while not constraining their children’s playfulness.

The FI–OP program seems to be a promising intervention protocol for this special population, which to date has received little attention in the occupational therapy literature. Moreover, the current findings establish FI–OP as an evidence-based, innovative intervention with the potential to improve aspects of mother–child interaction and children’s play skills and to be implemented in different clinical settings with varied populations. The study’s findings have the following potential applications to practice:

- The FI–OP program may be effective in improving mother–child interaction and children’s play skills among abused women and children residing in shelters.
- The creation of a safe space during intervention may facilitate mother–child interaction.
- Mediated play and mother–child interaction can be used to enable and foster change in meaningful occupations such as family relations and play.

Acknowledgments

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References


