Research Article

Video-feedback intervention to improve parental sensitivity and the quality of interactions in mother-father-infant triads

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ABSTRACT

The quality of dyadic and triadic family interactions during early childhood significantly influences social-emotional development and childhood mental health. Video feedback is a valuable psychotherapeutic tool for intervention in the early family. A brief intervention using this technique, aimed at mother-infant-father triads with difficulties in social-emotional development, was developed. Eighty triads, composed of heterosexual couples between 20 and 43 years of age for mothers, between 22 and 54 years of age for fathers, and between one and three years of age for children, participated. The results show a significant increase in the quality of triadic

Background

The empirical evidence supports the importance of early emotional bonding and experiences for brain development and childhood mental health, with parents being the main source of interactional experiences during the first years of life [1]. Considering these approaches, a growing number of studies and interventions have focused on family relationships and parenting during this stage of human development [2-5].

Parental skills are tested from the birth of the first child, who, based on the demands associated with parenting, modify the family organization and the couple relationship [6,7]. Faced with these changes, the expression of affection and complicity between parents acts as a protective factor for the proper exercise of parenthood [8]. In this line, studies show that the father's emotional support for the mother has been associated with a greater maternal ability to respond sensitively to the baby's cues [9-11].

In the context of parenting, the ability of both parents to share the tasks associated with parenting, provide mutual support, and show commitment is called co-parenting [12]. Adequate interactions (Wilks' $\lambda = 0.735$, F (1, 77) = 27,794; p < 0.000) and co-parenting (Wilks' $\lambda = 0.098$, F (1, 77) = 8.395; p = 0.005) as well as parental sensitivity (Wilks' $\lambda = 0.661$, F (1, 77) = 39.42; p < 0.000) and sensitivity in the mothers (Wilks' λ = 0.585, F (1, 77) = 54,706, p < 0.000) who were the object of the intervention. The fathers significantly reduced their nonresponsive behavior (Wilks ' $\lambda = 0.903$, F (1, 77) = 8.441; p = 0.005), and the mothers reduced their controlling behavior (Wilks' $\lambda = 0.916$, F (1, 77) = 7.084; p = 0.009).

MeSh Headings/ Key words: Video feedback; Parental sensitivity; Triadic interactions

co-parenting is beneficial and has been associated with greater congruence between the attachment patterns of both parents [13,14]. Complementarily, competitive and hostile co-parenting has been associated with internalizing and externalizing symptomatology in the child during the preschool stage [15,16].

From a systemic view, the various elements of a family system are connected, and there is an interrelation between the conjugal and parental subsystems [17]. In this sense, the literature shows the influence of the couple subsystem on the tasks associated with raising small children and on co-parenting [18], in addition to the influence of these variables on functioning [19].

In the exercise of early parenting, dysfunctional family relationships negatively impact children, which is associated with deficits in children's cognitive and socioemotional development [20]. Specifically, different variables that influence the quality of family interactions have been identified, such as maternal depressive symptomatology and stress in parenting [21,22]; maternal emotional deregulation [23]; and experiences of early parental adversity [24,25].

Complementarily, the scientific literature shows that parents

who develop a relationship with high levels of support and commitment have greater resources to interact in a sensitive manner with their children, whereas conflicting couples present more difficulties in achieving positive interactions [26]. In addition, the individual characteristics of each member of the parental dyad also influence the quality of interactions with their children, with differences also found associated with the gender of the parent [27,28].

Although children are often born and raised in family settings that include two primary caregivers, most studies in early infancy have focused on the mother-baby or mother-infant dyad. From this dyadic view of parenting, the adult's sensitive response, i.e., the adult's ability to read and interpret the child's cues associated with his or her needs and to respond appropriately and contingently [29], has been a widely revised concept and has been associated with the pattern of child attachment developed toward both parents [30,31]. However, this approach has changed over time, from a focus on the behavioral aspects of the adult and the child to an approach that includes internal and representational aspects of the participants and that considers the mutual influence between both members of the dyad [32,33].

Research has consistently shown the protective value of adequate maternal sensitivity in child development [31,34,35] specifically for socio-emotional development [4,5,33,36] and the child's mental health [37]. However, this relationship is not linear, as demonstrated by a recent study. The study shows that maternal psychosocial imbalances in the presence of high sensitivity will not be associated with infant symptomatology, with sensitivity, in this sense, as a protective role for children's mental health in adverse circumstances [34].

Although the value of parental sensitivity in child development and mental health is well-established among clinicians and researchers, its understanding within the triadic dynamic, i.e., that which include the father and mother in the interaction with the child, has been less studied. Recent research describes the differences and similarities between parents, noting that socioeconomic status affects the sensitivity of both parents but that the level of satisfaction with the couple relationship affects only the parents [38]. In this same line, the differences between parents in the capacity to respond to and interpret children's needs have been evaluated, and it has been found that mothers more positively evaluate expressions of happiness and intense childhood emotions, both positive and negative, as more extreme compared to fathers [22].

Expanding this view, the mother-father-infant triad is a unit with its own structure and characteristics, in which the participation of a third person modifies the dyadic dynamic, generating greater interactional complexity and socio-emotional diversity [39].

Cooperative triadic interactions, in a climate of warmth between parents during the first years of life, are child-friendly experiences that promote healthy social development [40-42]. Triadic family cohesion, reciprocal relationships with the mother, and involvement and social commitment in the relationship with the father are predictors of social skills in the child [43]. When children engage in chronic dysfunctional family interactions or recurrent parental conflicts, they develop maladaptive behaviors in the face of conflict management, a failure to develop adequate regulatory mechanisms, and difficulties in peer relationships [44,45]. However, maintaining positive interactions with one parent promotes learning in the child that contributes to reducing stress and facilitating their self-regulatory mechanisms, thus also improving dysfunctional interactions with the other parent [46].

Early Interventions and Video Feedback

Many studies have shown that it is possible to improve the quality of parent-child interactions and to promote children's socio-emotional development through early interventions [2,3,47]. However, the inclusion of the father in interventions in families with children under three years of age is still scarce. The father has been included mainly in an indirect manner, through interventions focused on the co-parenting relationship and its influence on child development [48-50]. The studies that directly include fathers are those involving preterm children [51] and preventive programs to promote positive parenting behaviors within the mother-father-baby family system [52].

In the context of early interventions, video feedback is a technique that is increasingly used as a central or complementary tool [53-57]. It consists of the video recording of interactions between the adult(s) and the child, which are then analyzed by the therapist and presented to the parents. This technique has been shown to facilitate and accelerate internal and behavioral changes, generating an affective experience shared with the therapist and between the parents and the child [58,59]. In addition, it allows parents to learn about their children's non-verbal language, skills, and behaviors, thereby facilitating new forms of interaction [60,61].

Interventions that use this technique show significant improvements in the quality of parent-child interactions, child development and clinical symptomatology [56,62,63]. Two meta-analyses emphasize the value of video feedback as a therapeutic tool due to its effectiveness in increasing parenting skills from a small number of sessions, which allows for favourable results in a short period of time and at low cost [47,62]. Some studies have sought to explain the effectiveness of video feedback by suggesting that working with parents with videotaped interactions will allow them to see themselves, their child, and the relationship with greater perspective and less emotional intensity, which will facilitate the development of a reflective space with the therapist [54,64]. In this sense, the therapeutic space offers parents an instance of self-observation and observation of their child as a distinct human being with his or her own mental states, also facilitating the recognition of the mutual influence between them [54,57].

In Chile, this technique has been used with low-income multi-problem families [65] and with mother-infant dyads with depressive symptomatology, showing improvements in maternal sensitivity [66], but we do not have interventions that use it including the father and the mother simultaneously. The above

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background supports the relevance of early dyadic and triadic family interactions in children's socio-emotional development, the need to include the father in interventions, and the value of video feedback as an early family psychotherapeutic tool. Considering the above, the present study evaluates changes in maternal and paternal sensitivity as well as in the quality of triadic interactions after a video-feedback intervention directed at the mother-father-infant triad.

Method

Design

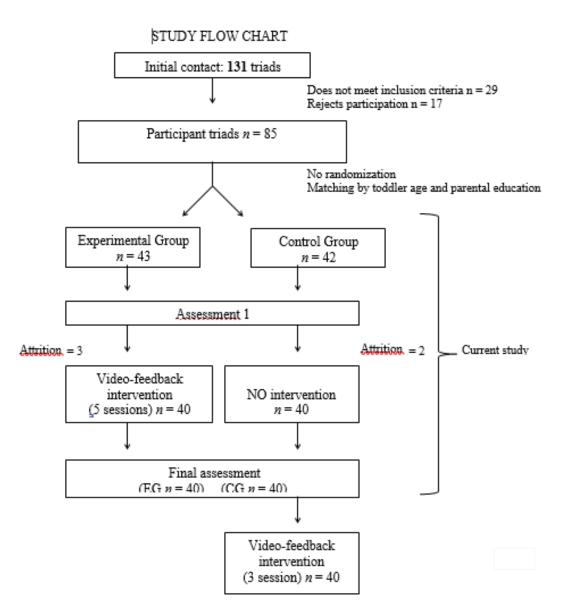
A quasi-experimental study was conducted to evaluate the differences between the pre- and post-intervention measurements in the participants belonging to the experimental and control groups.

Participants

A total of 80 mother-father-child triads between one and three

years old, living in the Metropolitan Region of Santiago, Chile, with difficulties in children's social and emotional development (evaluated with the ASQ-SE) [67] participated in this study. Families were contacted through preschools and public health centers and were referred by the study participants. Forty triads were part of the experimental group (EG) and received a video-feedback intervention after the initial evaluation. Forty triads were part of the control group (CG) and did not receive the intervention between the pre- and post-measurements. The control group received the intervention after the evaluations were completed (Flow Chart).

The inclusion criteria of the study were being fathers and mothers over 18 years of age, in a current heterosexual couple relationship, and with at least one child aged between 12 and 36 months, with socio-emotional difficulties reported by the parents or by one or more of the referring professionals (behavioral, emotional regulation, and sleep, eating, and/or relationship). The exclusion criteria considered in the parents and the children were the presence of some disability (intellectual and of the



Flow Chart: Participants flow chart.

senses), psychoses diagnosed in adults, and/or the presence of addictions.

Instruments

The pre- and post-video-feedback intervention measurements were performed using the following instruments:

Personal information form: This instrument was used to collect the participants' sociodemographic information and mental health history. It was used to collect the participants' sociodemographic information and included questions about children's age, gender, and birth order, the parents' age, the parents' number of children, the parents' years of education, whether the parent has a job, and whether the parents have/had psychological/pharmacological treatment.

CARE-Index, Experimental Index of Child-Adult Relationships [68]. The instrument involves a 3-5-minute video recording of play interaction between the child and the adult. The coding system defines three descriptors for the adult, i.e., sensitive, controlling, and non-responsive, and four for the infant, i.e., cooperative, difficult, compulsive, and passive. It considers a dyadic sensitivity scale that ranges from 0 to 14 points, with 0-4 signalling "risk", 5-6 "inept", 7-10 "adequate", and 11-14 "sensitive"; scores below 7 indicate the need for intervention. The video coding was performed by psychologists trained by the author of the instrument and reached a reliability of ≥ 0.7 in the various scales used. The coding of the videos was performed without the presence of information regarding the source of the videos, i.e., belonging to either the experimental group or the control group. The inter-rater reliability between the three coders who participated in the study was kappa = 0.830 (p = 0.000).

Lausanne Triadic Play (LTP) [6]: This instrument consists of a semi-structured procedure for the observation and evaluation of triadic family interaction. It requires the video recording of an interaction game between the mother, the father and the infant, with the instruction to play as they typically do but following a structure that considers four stages: 1) the mother or the father actively plays with the child while the other adult is only present; 2) these roles are reversed between parents; 3) the father, the mother and the child play actively; and, 4) finally, the father and the mother interact and the child is simply present. The three participants are placed in an equilateral triangle with three seats and a table in the center. To develop the activity, they each have three sets of three small toys, which facilitate symbolic play and the development of co-constructed activities (puppets, cups, and animals). The family interaction is recorded with two cameras, one directed to the body and face of the parents and another to the body and face of the infant. To perform the activity, the family is informed that they have between 10 and 15 minutes in total to perform the four stages and that they themselves regulate the distribution of time through a clock located in a visible place for both parents. The process of coding the interaction is based on "The Family Alliance Assessment Scales" [69]. The scores obtained in the total quality of the triadic interactions can vary between 0 and 30 points and consider seven dimensions: participation, organization, focalization, affect sharing,

miscoordinations, co-parenting and support conflicts, and child regulation/assertiveness. Studies conducted by the Lausanne team report average scores of 19 points in a normative sample and 10.3 in a clinical sample [69]. Studies developed in Chile report an average of 10.09 in a non-clinical population of medium and low socioeconomic status [70]. The alpha value obtained by the triad of the study in the LTP is 0.901. The videos were coded by three independent coders certified by the author of the instrument.

Beck Depression Inventory, BDI [71]. This is a self-reporting questionnaire composed of 21 items. It evaluates current depressive symptoms. In this test, the subject must choose the phrase that best describes his or her emotional state over the previous week from a set of four alternatives ordered from lowest to highest severity. Each item may be evaluated from 0 to 3 points, with a total score varying from 0 to 63. Higher scores indicate greater depressive symptoms, and four categories of depression are identified: minimum, 0-9; mild, 10-18; moderate, 19-29; and severe, 30-63. The reliability analysis is adequate, having been obtained from the Spanish version applied to patients with psychological disorders with an alpha value = 0.90 [72]. The Chilean validation study of the instrument reports an alpha value of 0.92 [73]. The alpha value obtained in the present study is 0.828 for fathers and 0.832 for mothers.

Process

The study was certified by the Institutional Ethics Committees of the Pontifical Catholic University of Chile and the National Commission for Scientific and Technological Research (CONICYT).

The families were contacted through professionals from day cares and JUNJI preschools (National Board of preschools of the Ministry of Education of the Government of Chile), through family public health centers (FPHC) and the spontaneous demand of parents. For the participation of the families in the study, the parents were initially informed of the characteristics of the research, and the inclusion and exclusion criteria were evaluated. Those who met the criteria and agreed to participate signed an informed consent form at the first evaluation session. Once the above was done, the instruments were applied in the homes of the participants. The evaluations were initiated with the recording of the triadic interaction (LTP) and dyadic interaction (CARE-Index) and, finally, the application of the scales and questionnaires. The measurements were made during the years 2015 and 2016 by clinical psychologists who were trained to use the instruments deployed.

The mother-infant dyad with maternal depressive symptomatology [66] was also considered as a general model for the video-feedback intervention, also adding elements oriented toward the triadic aspects of the interaction [74]. The intervention was performed in the homes of families with a weekly frequency. The video recordings of interaction between the adults and the child, their analysis, and the review with the parents of segments that showed positive aspects were considered. The recordings for the CARE-Index and LTP were used for video-feedback sessions 2, 3, and 4. In session 5, new

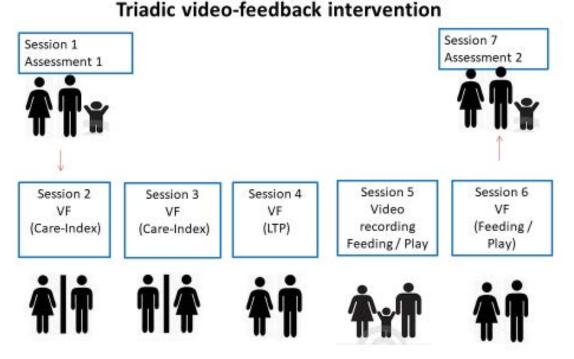


Figure 1: Triadic video-feedback intervention.

videos of triadic feeding and dyadic play were recorded, which were worked on in session 6. Seven sessions were considered in total, two sessions of evaluation and five sessions of intervention directed to the father, the mother, or the parental dyad. The first six sessions were performed by the same pair of therapists, whereas the final evaluation was performed by a family unknown to the couple, avoiding that the link created with the therapists could influence the results. The following diagram shows the outline of the sessions (Figure 1):

Each therapeutic process was developed by two clinical psychologists with at least one semester of training in the care of families and children under three years of age using video feedback. The training consisted of participating in weekly clinical meetings and a two-day training on early childhood, parenting, and the use of the instruments. The clinical meetings included a presentation of the triads and the analysis of the videos and the scripts elaborated for the video feedback, considering the focus of intervention. The team included a total of 18 clinical psychologists, of whom six had previous experience in the psychotherapeutic use of video feedback.

Session 1: This session considered the application of the instruments, the recording of the videos, and the exploration of the concerns of the mother and the father about the child or about the relationship. Then, the modality of the work was explained, and the figure (mother or father) that would be worked on in the second session was agreed upon.

Post-session work: The therapist pair identified the negative and positive sequences in the selected video to be used in the next session, seeking to link the interactions observed with the parents' concerns. Segments of positive interactions were then selected, defining their therapeutic use, and they were presented at the weekly clinical meeting and, subsequently, to the parents. This scheme was repeated after each session until the closure, in session 6.

Sessions 2 and 3: According to the family decision, in session 2, work with the mother or the father began. The selected sequences were reviewed in the dyad free play video clips recorded with the child. A task was built to perform between sessions based on the reflections and discoveries made by the parent in watching the video. In session 3, the same scheme was repeated with the other parent.

Session 4: We worked with the parental dyad from the observation of positive aspects of the video of triadic interaction and defined a task to perform between sessions linked to learning and reflections.

Session 5: New videos were videotaped, two free play mother-infant and father-infant dyads, and video of motherfather-infant triadic feeding. The triadic video consisted of a shared collation of healthy foods defined as enjoyable for the three participants.

Session 6: Work was done with the parental dyad from the observation of the videos recorded in session 5. The general process of intervention and learning was evaluated with the family, and a closure was performed.

Session 7: In this session, the post-intervention evaluation was performed.

Analysis of data

Before performing the statistical analysis of the data, we evaluated the presence of atypical values and the fulfillment of the assumptions of the statistical tests performed, particularly Video-feedback intervention to improve parental sensitivity and the quality of interactions in mother-father-infant triads [537]

| Table 1: Descriptive Statistics of the participants' sociodemographic data. | | | | | | | |
|---|-------------------------|----------|--------------------------|-----------------|-------------------|-------|--|
| Variable | EG n = 40 | | CG n = 4(| Mean Difference | | | |
| | M (S.D) | Min Max. | M (S.D) | Min Max. | T observed | Sig. | |
| Mo age (years) | M = 32.83 (S.D. = 5.17) | 20-43 | M = 31.70 (S.D. = 4.76) | 23-42 | $T_{78} = 1.012$ | 0.314 | |
| F age (years) | M = 35.63 (S.D. = 6.71) | 24-54 | M = 33.70 (S.D. = 5.88) | 22-49 | $T_{78} = 1.365$ | 0.176 | |
| Child's age (months) | M = 25.08 (S.D. = 7.64) | 8-36 | M = 24.15 (S.D. = 7.57) | 12-36 | $T_{78} = 0.547$ | 0.586 | |
| Mo Ed. (years) | M = 14.90 (S.D. = 2.55) | 7-17 | M = 15.03 (S.D. = 2.82) | 8-17 | $T_{78} = -0.208$ | 0.836 | |
| F Ed. (years) | M = 15.05 (S.D. = 2.53) | 8-17 | M = 15.13 (S.D. = 2.54). | 8-17 | $T_{78} = -0.132$ | 0.895 | |

EG: Experimental group; CG: Control group; M: Mean; S.D.: Standard deviation; Mo: Mother; F: Father; Ed: Education.

regarding the normality of the variables using the Kolmogorov-Smirnov test and the evaluation of the QQ. Seven of the 11 variables studied are distributed in a normal manner according to the Kolmogorov-Smirnov test (p > 0.005). For the remaining four variables, the dispersion was evaluated as a function of the QQ plots, and it was considered that the deviation was not enough to discourage the use of parametric tests. The significance criterion used was $\alpha = 0.05$. A descriptive analysis of the main variables studied in each group was conducted. To evaluate the effects of the intervention on the variables of the quality of both dyadic and triadic interactions, repeated-measures analyses of variance (ANOVAs) were performed using the pre- and post-measurement as the intrasubject factor and the group to which it belongs as an intersubjective factor, also controlling according to the age of the child at the time of the evaluation. The assumption of homogeneity was evaluated with the Box test. Sphericity was not evaluated because there were only two groups in the intersubjective factor and two measurements in the intrasubject factor.

Results

Descriptive analysis

The EG triads are composed of mothers with a mean age of 32.83 years (SD = 5.17), fathers with a mean age of 35.63 years (SD = 6.71), and children with a mean age of 25.08 months (SD = 7.64). The CG triads are composed of mothers with a mean age of 31.7 years (SD = 4.76), fathers with a mean age of 33.7 years (SD = 5.88), and children with a mean age of 24.15 months (SD = 7.57). Regarding their level of schooling, in the EG, the mothers have an average of 14.90 years (SD = 2.55) and the fathers an average of 15.05 years of formal education (SD = 2.53). In the CG, the mothers have a mean of 15.03 years (SD = 2.82) and the fathers a mean of 15.13 years (SD = 2.54). Regarding the working day, 58.1% of the mothers and 92.5% of the fathers work full-time. In the CG, 67.7% of the mothers and 97.4% of the fathers work full-time. A chi square test was performed to evaluate the differences in the working day according to group, and no differences were found ($\chi 23 = 4,127$; p = 0.248). A test was also performed to evaluate the differences in the working day by sex, and in this case, differences were found, with fathers having a greater proportion of full-time work than mothers ($\chi 23 = 24,916$, p = 0.000).

To evaluate the differences in the levels of depressive symptomatology of fathers and mothers by group, a bifactorial ANOVA was performed. The results show that the assumption of homogeneity of variance (F (3, 156) = 2.710; p = 0.047) is

not fulfilled and that no significant interaction effect between group and sex (F (1.156) = 0.406, p = 0.525) or a main effect of the group (F (1,156) = 3,656; p = 0.08) is observed. However, a significant main effect of sex is observed (F (1,156) = 16,510, p = 0.000). Thus, in both groups, mothers have higher levels of depressive symptomatology than fathers. Specifically, the mothers of the EG present an average of 11.48 points (SD = 6.90) and the fathers an average of 7.05 (SD = 6.06). In the CG, the mothers have an average of 9.08 points (SD = 5.99) and the fathers an average of 5.85 points (SD = 4.64).

Finally, independent samples were tested for differences between groups with respect to the age of the parents and the child and the years of schooling. There are no significant differences between the groups (p > 0.05; Table 1), and as reported above, there are also no differences in their workday or in their depressive symptomatology. In this manner, it can be stated that the groups are homogeneous with respect to these variables and, therefore, were not considered as control variables in the rest of the analyses.

Comparative analysis

Quality of the triadic interaction, co-parenting and involvement, and self-regulation of the child. As noted above, to evaluate the effects of the intervention on the variables, a mixed ANOVA was performed. In relation to the *quality of the triadic interaction*, the assumption of homogeneity (*Box's M* = 5.447; $F_{(3,1095120)} = 1,765; p = 0.151$) is fulfilled, and a significant interaction effect between measurement and group is observed (λ of Wilks = 0.735, $F_{(1.77)} = 27,794; p < 0.000$). The details are shown in Table 2. Specifically, the EG shows an increase from an initial mean of 12.88 (SD = 5.32) to a post-intervention mean of 18.75 points (SD = 4.54); in contrast, in the CG, the score remains unchanged between measurements 1 ($M_1 = 15.63, SD_1 = 6.20$) and 2 ($M_2 = 16.38, SD_2 = 6.11$), as shown in Figure 2.

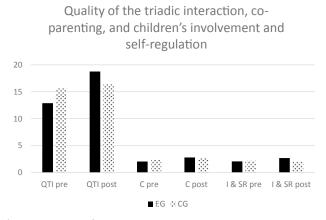
With regard to *co-parenting*, the assumption of homogeneity (*Box's M* = 0.917; $F_{(3, 1095120)} = 0.297$; p = 0.828) is fulfilled, and a significant interaction effect between measurement and group is observed (*A of Wilks* = 0.098, $F_{(1.77)} = 8,395$, p = 0.005). The details can be observed in Table 2. Specifically, the EG shows an increase from an initial mean of 2.05 (*SD* = 0.93) to a post-intervention mean of 2.80 points (*SD* = 0.88); in contrast, in the CG, the score remains unchanged between measurements 1 ($M_1 = 2.35$, $SD_1 = 0.86$) and 2 ($M_2 = 2.53$, $SD_2 = 0.96$). This finding can be observed in Figure 2.

In relation to the child's involvement and self-regulation,

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| Table 2: Descriptive statistics of the triadic interaction descriptors. | | | | | | | | |
|---|-------------------------|-------------------------|-----------|-------------------------|-------|-------------|-------------------|--|
| Variable | M Ev.1 n = 40 | M Ev.2 n = 40 | Wilks's λ | F observed | Sig. | Size Effect | Observed Power | |
| Triadic IQ EG | M = 12.88 (S.D. = 5.32) | M = 18.75 (S.D. = 4.54) | 0.735 | F (1.77) = 27.794 | 0 | 0.265 | 0.999 | |
| Triadic IQ CG | M = 15.63 (S.D. = 6.20) | M = 16.38 (S.D. = 6.11) | 0.755 | $\Gamma(1.77) = 27.794$ | 0 | 0.203 | 0.999 | |
| Co-parent.EG | M = 2.05 (S.D. = 0.93) | M = 2.80 (S.D. = 0.88) | | | | | | |
| Co-parent. CG | M = 2.35 (S.D. = 0.86) | M = 2.53 (S.D. = 0.96) | 0.902 | F (1.77) = 8.395 | 0.005 | 0.098 | 0.816 | |
| Child's ISR EG | M = 2.08 (S.D. = 1.35) | M = 2.70 (S.D. = 1.09) | | | | | | |
| Child's ISR CG | M = 2.18 (S.D. = 1.32) | M = 2.00 (S.D. = 1.22) | 0.921 | F (1.77) = 6.602 | 0.012 | 0.079 | 0.718 | |

EG: Experimental group; CG: Control croup; IQ: Interaction's quality; ISR: Involvement, self-regulation; Co-parent.: Co-parenting.



* QTI: Quality of triadic interaction; C: Co-parenting; I & SR, Involvement and self-regulation.

Figure 2: Quality of the triadic interaction, co-parenting, and children's involvement and self-regulation in EG and CG in the pre- and post-assessments.

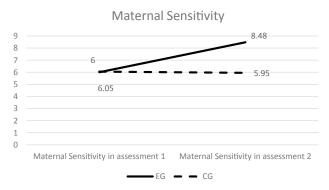
the assumption of homogeneity (*Box's M* = 0.898; *F*_(3, 1095120) = 0.291; *p* = 0.832) is also met, and a significant interaction effect between the measurement and group is observed (λ of Wilks = 0.921, *F*_(1.77) = 6.602, *p* = 0.012). The details can be observed in Table 2. Specifically, the EG shows an increase from an initial mean of 2.08 (*SD* = 1.35) to a post-intervention mean of 2.7 points (*SD* = 1.09); in contrast, in the CG, the score remains unchanged between measurements 1 (*M*₁ = 2.18, *SD*₁ = 1.32) and 2 (*M*₂ = 2.00, *SD*₂ = 1.22) (Figure 2).

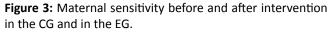
Sensitivity, descriptor controller, and non-responsive descriptor. Regarding the quality of the interactions in the dyads of the study, at a descriptive level, the results show lower frequencies of risk linked to the experimental group after the intervention and a greater need for subsequent intervention in the dyads that did not receive the intervention with video feedback, in both the mothers and the fathers (Table 3).

As established above, to evaluate the effects of the intervention on the sensitivity, the controlling descriptor and the nonresponsive descriptor, mixed ANOVA was performed. In the case of the mothers' sensitivity, the assumption of homogeneity (Box's M = 25.155; F (3, 1095120,000) = 8.152; p = 0.000) is not met. The results show a significant interaction effect between measurement and group (λ of Wilks = 0.585, F (1.77) = 54.706; p = 0.000). The details can be observed in Table 4. Specifically, the mothers of the EG have significantly increased their mean

| Table 3: Frequencies (F) and percentages (%) in sensitivity | | | | | |
|---|------------|------------|-----------|------------|--|
| predictors by group. | | | | | |
| Predictors | CG n = 40 | | EG n = 40 | | |
| Mothers | Pre F (%) | Post F (%) | Pre F (%) | Post F (%) | |
| At risk | 4 (10.0) | 6 (45,2) | 6 (15.0) | 0 | |
| Inept | 22 (55.0) | 20 (51.6) | 23 (57.5) | 9 (22.5) | |
| Adequate | 13 (32. 5) | 14 (3.2) | 9 (22.5) | 23 (57.5) | |
| Sensitive | 1 (2.5) | 0 (0.0) | 2 (5.0) | 8 (20.0) | |
| | Pre | Post | Pre | Post | |
| Fathers | F (%) | F (%) | F (%) | F (%) | |
| At risk | 3 (7.5) | 1 (2.5) | 8 (20.0) | 0 | |
| Inept | 23 (57.5) | 24 (60.0) | 18 (45.0) | 8 (20.0) | |
| Adequate | 10 (25.0) | 14 (35) | 10 (25.0) | 26 (65.0) | |
| Sensitive | 4 (10.0) | 1 (2.5) | 4 (10.0) | 6 (15.0) | |

EG: Experimental group; CG: Control group.





sensitivity from 6.00 points (SD = 1.71) to 8.48 points (SD = 2.06), whereas the mothers of the CG maintain stable levels of sensitivity between both measurements (M1 = 6.05, SD1 = 1.60, M2 = 5.95, SD2 = 1.47), as shown in Figure 3.

In the case of fathers, the assumption of homogeneity (Box's M = 2.433; F (3, 1095120,000) = 0.789; p = 0.500) is met, and a significant interaction effect between measurement and group is observed (λ of Wilks = 0.661, F (1.77) = 39.42; p < 0.000). The details are shown in Table 4. Specifically, the fathers of the EG show a significant increase in their sensitivity, rising from an average of 6.3 points (SD = 2.07) to an average of 8.63 points (SD = 2.18); in contrast, the fathers of the CG maintain their stable levels between measurements 1 and 2 (M1 = 6.28, SD1 = 1.91, M2 = 6.45, SD2 = 1.91), as shown in Figure 4.

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| Table 4: Descriptive statistics: Paternal and maternal sensitivity (PS, MS) by group. | | | | | | | |
|---|-------------------------|------------------------|-----------|-----------------------|-------|----------------|-------------------|
| Variable | Mean Ev.1 | Mean Ev. 2 | Wilks's λ | F observed | Sig. | Effect Size | Observed Power |
| EG Mat. Sens | M = 6.00 (S.D. = 1.71) | M = 8.48 (S.D. = 2.06) | | | | | |
| CG Mat. Sens | M = 6.05 (S.D. = 1.60) | M = 5.95 (S.D. = 1.47) | 0.585 | $F_{(1.77)} = 54.706$ | 0.000 | 0.415 | 1 |
| EG Pat. Sens | M = 6.08 (S.D. = 1.956) | M = 8.63 (S.D. = 2.18) | | | | | |
| CG Pat. Sens | M = 6.28 (S.D. = 1.91) | M = 6.45 (S.D. = 1.91) | 0.661 | $F_{(1.77)} = 39.42$ | 0.000 | 0.339 | 1 |
| M Non-responsiv. EG | M = 3.38 (S.D.= 2.31) | M = 2.3 (S.D. = 2.12) | | (1.77) | | | |
| M Non-responsiv. CG | M = 2.88 (S.D. = 2.26) | M = 2.75 (S.D. = 2.00) | 0.974 | $F_{(1.77)} = 2.095$ | 0.152 | 0.026 | 0.298 |
| F Non-responsiv. EG | M = 4.15 (S.D. = 2.80) | M = 2.20 (S.D. = 2.31) | | () | | | |
| F Non-responsiv. CG | M = 3.28 (S.D. = 2.11) | M = 3.05 (S.D. = 2.45) | 0.903 | $F_{(1.77)} = 8.241$ | 0.005 | 0.097 | 0.809 |
| M Controlling EG | M = 4.63 (S.D. = 2.52) | M = 3.23 (S.D. = 2.07) | | () | | | |
| M Controlling CG | M = 5.08 (S.D. = 2.25) | M = 5.28 (S.D. = 2.04) | 0.916 | $F_{(1.77)} = 7.084$ | 0.009 | 0.084 | 0.748 |
| F Controlling EG | M = 3.55 (S.D. = 2.73) | M = 3.18 (S.D. = 2.07) | | () | | | |
| F Controlling CG | M = 4.45 (S.D. = 2.32) | M = 4.35 (S.D. = 2.47) | 0.997 | $F_{(1.77)} = 0.229$ | 0.634 | 0.003 | 0.076 |

EG: Experimental Group; CG: Control Group; Mat. Sens.: Maternal Sensitivity; Pat. Sens.: Paternal Sensitivity; M: Mother; F: Father; Non-Responsiv.: Non-Responsiveness.

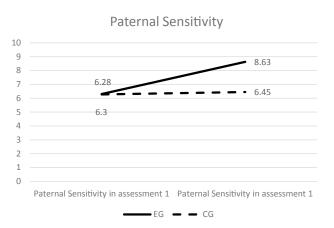


Figure 4: Paternal sensitivity before and after intervention in the CG and in the EG.

Regarding the controlling descriptor, the assumption of homogeneity (Box's M = 0.526; F (3, 1095120,000) = 0.170; p = 0.916) in the mothers is met, and the results show a significant interaction effect between measurement and group (wilks' λ = 0.916, F (1.77) = 7.084, p = 0.009). The details are shown in Table 4. Specifically, the mothers in the EG have significantly improved this aspect, decreasing their average from 4.63 points (SD = 2.52) to 3.23 points (SD= 2.07), whereas the mothers in the CG maintain controlling levels that are stable between the two measurements (M1 = 5.08; SD1 = 2.25; M2 = 5.28; SD2 = 2.04), as shown in Figure 5.

In the case of fathers, the assumption of homogeneity (Box's M = 4,217; F (3, 1095120,000) = 1,367; p = 0.251) is fulfilled, and there is no significant effect of the intervention (λ de Wilks = 0.997, F (1.77) = 0.229, p = 0.634). The details can be observed in Table 4.

Regarding the nonresponsive descriptor, the assumption of homogeneity (Box's M = 0.275; F (3, 1095120,000) = 0.089; p = 0.966) is met in the mothers, and there is no significant effect of the intervention (λ wilks = 0.974, F (1.77) = 2.095; p = 0.152). The details can be observed in Table 4.

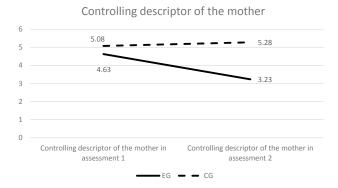


Figure 5: Controlling descriptor of the mother before and after the intervention in the CG and in the EG.

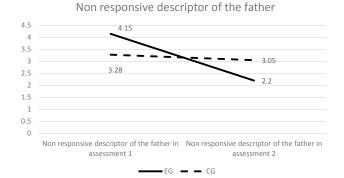


Figure 6: Non-responsive descriptor of the fathers before and after the intervention in the CG and in the EG.

In the case of fathers, the assumption of homogeneity (Box's M = 6,409; F (3, 1095120,000) = 2,077; p = 0.101) is met, and the results show a significant interaction effect between measurement and group (λ of Wilks = 0.903, F (1.77) = 8.241, p = 0.005). The details can be observed in Table 4. Specifically, the fathers in the EG have significantly improved this aspect, decreasing their average from 4.15 points (SD = 2.80) to 2.20 points (SD = 2.31), whereas the fathers in the CG maintain their levels of no responsiveness between both measurements (M1 = 3.28, SD1 = 2.11, M2 = 3.05, SD2 = 2.45), as shown in Figure 6.

Discussion

As expected, the brief intervention implemented with video feedback showed a positive effect on the quality of family relationships. This effect was observed both in the quality of triadic interactions (mother-father-child) and in dyadic interactions, confirming the clinical value of this tool, which has already been reported in previous research [47,62,63].

Deepening the observed changes in triadic interactions, the results of the intervention show positive effects both globally and in the parental and child subsystems. Specifically, the parental subsystem increases the quality of co-parenting, that is, the ability of parents to come together to co-ordinate the tasks associated with parenting. This ability implies mutual cooperation and support between the father and mother as well as the ability to confront conflicts and generate solutions that are adjusted to the context and the needs of their children. This ability is particularly important during the first years of life because it has been associated with healthy social development in children [40-42]. In addition, the results show improvements in the child subsystem. An increase in self-regulatory resources for children and the ability to actively engage in interaction with both parents, experiencing passive and active roles, are demonstrated. In other words, the intervention shows that it is useful for the process of child development and social insertion as an active subject and not only as a recipient of care.

Considering the mutual influence and interrelation between the different systems and family subsystems, it is congruent that the observed improvements in the quality of the interactions in the EG are observed at both the dyadic and the triadic levels. In this vein, it can be hypothesized that parents who support each other in parenting tasks and show adequate triadic interactions will also have the resources and skills to sensitively respond to the needs of their children. In turn, the results of this study coincide with previous research showing that the emotional support that the father provides to the mother positively contributes to maternal sensitivity [9-11]. However, the quality of the interactions with the children can also influence the individual characteristics of both the father and the mother, with the literature showing differences according to the sex of the parent [27]. In this sense, we can explain the differences found in the sensitivity of the fathers and mothers of the EG, who all improved their sensitivity scores, that is, the ability to read and interpret the child's signals appropriately, showing concordant and contingent responses and being able to capture the attention of the infant and to reduce their stress and anxiety. However, the deficit aspects were different between parents. The mothers significantly improved in reducing their controlling behavior in interactions with their children, that is, decreased hostility, intrusiveness, and anger. Meanwhile, the fathers improved on reducing nonresponsive behavior, characterized by difficulties in detecting infant signals or making them at a high threshold because of the poor ability to follow the child's interactional proposals and because of low expressiveness during the encounters.

The differences reported between the parents and the EG,

with decreases in nonresponsive and controlling behavior, respectively, account for a differentiating effect of the intervention in them. Although in recent decades the rate of economic participation of women in Chile has increased, it is still lower than that of men, and male heads of household predominate [75]. In view of the above, traditional roles in which mothers are the individuals who take responsibility for directly educating their children, being able to interact with them from controlling behaviors, unlike fathers, who, traditionally providers, could tend toward more nonresponsive behaviors, are perpetuated. The effect of the intervention performed with video feedback shows a modification in these behaviors, when the triadic family subsystem is included, despite the socio-cultural roots in which these roles are grounded. In this sense, a reflection arises not only from the social role traditionally attributed to the father in the upbringing but also from the exclusion often made by professionals who intervene in the early family, who have mainly focused on the mother-infant dyad.

Although the mothers of both groups present higher depressive symptomatology scores than their partners, it is in the EG that they increase their sensitivity toward children, reduce controlling behaviors, and improve the quality of co-parenting.

At the triadic level, positive interactions imply family cohesion, reciprocity, involvement, and commitment in the participants, with this functioning being associated with an adequate social and affective development for children [44-46]. At the dyadic level, the ability of parents to read, interpret, and respond sensitively to children's cues and needs is highly relevant for their association with development, clinical symptomatology, and child attachment [4,5,30,31,33,34,37]. Taking into account the noted elements, the results of this study will also have positive consequences in the participating children, and it is necessary to evaluate and analyse specifically the infantile variables.

It is a strength of the study that it achieves favourable results based on a brief, focused intervention that includes the father, the mother, and the infant and that uses video feedback. Although the intervention requires unnecessary implements in psychotherapy such as video and screen cameras for its implementation as well as the participation of two therapists in home visits, the observed effectiveness and low cost support their clinical value. The above considers the low number of sessions and the benefit for the three members of the family group from the same intervention.

The reduced sample size, the recruitment characteristics (non-randomized) and the number of measurements (pre- and post-intervention, without a third follow-up measurement) are considered part of the limitations of this study. This last limitation implies cautious consideration of the results in relation to the effect of the intervention. It is necessary to conduct new studies that include follow-up measurements to assess the stability of the quality improvement of triadic interactions, parental sensitivity, co-parenting, and self-regulation of the children and that contribute to the generation of public policies that contemplate intervention at critical moments in the development of children. In turn, the question is opened for new studies on the effect of video-feedback intervention in populations of children and adolescents with characteristics and mental health difficulties that are different from those considered in this study. In addition, there is the need to include the evaluation of the variables of the child beyond what is manifested in the triadic interaction.

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REFERENCES

- Nelson H, Kendall G, Shields L. Neurological and biological foundations of children's social and emotional development: an integrated literature review. *J Sch Nurs.* 2014; 30: 240-250.
- 2. Pontoppidan M. The effectiveness of the Incredible years parents and babies program as a universal prevention intervention for parents of infants in Denmark: Study protocol for a pilot randomized controlled trial. *Trials.* 2015; 16: 386-397.
- 3. Pontoppidan M, Klest S, Moller T. The incredible years parents and babies program: A pilot randomized controlled trial. *PLoS ONE*. 2016; 11.
- 4. Riera J. Improving quality of mother-child relationship and their attachment, as a factor of mental health: A systematic review of interventions. Universidad de Barcelona, Barcelona, España. 2016.
- Salomonsson M, Sorjonen K, Salomonsson B. A long-term follow-up study of a randomized controlled trial ofmotherinfant psychoanalytic treatment: Outcomes on mothers and interactions. *Infant Ment Health J.* 2015; 36: 542-555.
- 6. Fivaz-Depeursinge E, Corboz-Warnery A. The primary triangle, a developmental system view of mothers, fathers and infants. London, UK: Basic Books. 1999.
- 7. Fivaz-Depeursinge E, Philipp D. The baby and the couple. New York, US: Routledge. 2014.
- 8. Shapiro A, Gottman J, Carrere S. The baby and the marriage: Identifying factors that buffer against decline in marital satisfaction after the first baby arrives. *J Fam Psychol.* 2000; 14: 59-70.
- Hyunjeong S, Young-Joo P, MiJa K. Predictors of maternal sensitivity during the early postpartum period. *J Adv Nurs*. 2006; 425-434.
- Olhaberry M, Santelices M. Presencia del padre y calidad de la interacción madre-hijo(a): un estudio comparativo en familias monoparentales chilenas nucleares y

monoparentales. Universitas Psychologica. 2013; 12: 833-843.

- Valenzuela M. Maternal Sensitivity in a Developing Society: The context of urban poverty and infant chronic undernutrition. *Dev Psychol.* 1997; 33: 845-855.
- 12. McHale J, Kuersten-Hogan R. Introduction: The dynamics of raising children together. *J Adult Dev.* 2004; 11: 221-234.
- Caldera Y, Lindsey E. Coparenting, mother-infant interaction, and infant-parent attachment relationships in two-parent families. *J Fam Psychol.* 2006; 20: 275.
- 14. Olhaberry M, Santelices M, Schwinn L, Cierpka M. La tríada padre madre-infante: Evaluación de las alianzas familiares a través del Lausanne Trialogue Play, apego y niveles de depresión parental. *Revista Argentina de Clínica Psicológica Fundación AIGLE*. 2013; 22: 85-94.
- Elliston D, McHale J, Talbot J, Parmley M, Kuersten-Hogan R. Withdrawal from coparenting interactions during early infancy. *Family Process.* 2008; 47: 481-498.
- Frosch C, Mangelsdorf S. Marital behavior, parenting behavior, and multiple reports of preschoolers' behavior problems: mediation or moderation? *Dev Psychol.* 2001; 37: 502-519.
- Le Y, McDaniel B, Leavitt C, Feinberg M. Longitudinal associations between relationship quality and coparenting across the transition to parenthood: A dyadic perspective. J Fam Psychol. 2016; 30: 918-926.
- Durtschi J, Soloski K, Kimmes J. The dyadic effects of supportive coparenting and parental stress on relationship quality across the transition to parenthood. *J Marital Fam Ther.* 2016; 43: 308-321.
- Oronoz B, Alonso-Arbiol I, Balluerka N. A Spanish adaptation of the parental stress scale. *Psicothema*. 2007; 19.
- Berry D, Blair C, Willoughby M, Garrett-Peters P, Vernon-Feagans L. Household chaos and children's cognitive and socio-emotional development in early childhood: Does childcare play a buffering role? *Early Child Res Q.* 2016; 34: 115-127.
- 21. Salomonsson B, Sleed M. The Ages & Stages Questionnaire: Social–Emotional: A validation study of a mother report questionnaire on a clinical mother–infant sample. *Infant Ment Health J.* 2010; 31: 412-431.
- 22. Parsons C, Young K, Jegindoe E, Stein A, Kringelback M. Interpreting infant emotional expressions: Parenthood as differential effects on men and women. *Q J Exp Psychol.* 2017; 70: 554-564.
- 23. Bark C, Baukhage I, Cierpka M. A mentalization-based primary intervention program for stress prevention during the transition from family care to day care. *Mental Health & Prevention.* 2016; 4: 49-55.
- 24. Kapeleris A. Children's socio-emotional development and adjustment: Role of maternal trauma, mentalization

and parenting style. Tesis para optar al grado de Doctor, Unversity of Windsor. 2014.

- 25. Lomanowska A, Boivin M, Hertzman C, Fleming A. Parenting begets parenting: A neurobiological perspective on early adversity and the transmission of parenting styles across generations. *Neuroscience*. 2017; 342: 120-139.
- Bernier A, Jarry-Boileau V, Lacharité C. Marital satisfaction and quality of father–child interactions: The moderating role of child gender. *J Genet Psychol*. 2014; 175: 105-117.
- 27. Armenta-Hurtarte C, Sánchez-Aragón R, Díaz-Loving R. De qué manera el contexto afecta la satisfacción con la pareja? *Suma Psicológica*. 2012; 19: 51-62.
- Korja R, Latva R, Lehtonen L. The effects of preterm birth on mother–infant interaction and attachment during the infant's first two years. *Acta Obstet Gynecol Scand.* 2012; 91: 164-173.
- Ainsworth M, Blehar M, Waters E, Wall S. Patterns of attachment: A Psychological study of the strange situation. New Jersey, US: Erlbaum. 1978.
- 30. John A, Sheffield A, Halliburton A. Looking beyond maternal sensitivity: Mother-child correlates of attachment security among children with intelectual diasbilities in urban india. J Autism Dev Disord. 2012; 42: 2335-2345.
- 31. Planalp E, Braungart-Rieker J. Temperamental precursors of infant attachment with mothers and fathers. *Infant Behav Dev.* 2013; 36: 796-808.
- 32. Jia R. Dynamic mother-infant and father-infant interaction: Contribution of parents' and infants' facial affect and prediction from depression, empathy and temperament. Tesis para optar al grado de Doctor, The Ohio State University. 2014.
- 33. Mi-Sung H. The role of maternal verbal sensitivity during parent-child shared book reading in socio-emotional functioning in the preschool years. Tesis para optar al grado de Doctor, University of New Jersey. 2012.
- 34. Bouvette-Turcot A, Bernier A, Leblanc E. Maternal psychosocial maladjustment and child internalizing symptoms: Investigating the modulating role of maternal sensitivity. J Abnorm Child Psychol. 2017; 45: 157-170.
- 35. Olhaberry M, Santelices M. Presencia del padre y calidad de la interacción madre-hijo: Un estudio comparativo en familias chilenas nucleares y monoparentales. *Universitas Psychologica*. 2011; 12: 833-843.
- 36. Briggs-Gowan M, Carter A, Irwin J, Wachtel K, Cicchetti D. The brief infant-toddler social and emotional assessment: Screening for social-emotional problems and delays in competence. *J Pediatr Psychol.* 2004; 29: 143-155.
- 37. Sidor A, Fischer C, Eickhorst A, Cierpa M. Influence of early regulatory problems in infants on their development at 12 months: A longitudinal study in a high-risk sample. *Child Adolesc Psychiatry Ment Health.* 2013; 35: 1-14.

- Lickenbrock D, Braungart-Rieker J. Examining antecedents of infant attachment security with mothers and fathers: An ecological systems perspective. *Infant Behav Dev.* 2015; 39: 173-187.
- McHale J, Fivaz-Depeursinge E. Understanding triadic and family group interactions during infancy and toddlerhood. *Clin Child Fam Psychol Rev.* 1999; 2: 107-127.
- 40. Leidy M, Schofield T, Parke R. Fathers' contributions to children's social development. En: Cabrera, N. & Tamis-LeMonda, C. (Eds.), Handbook of father involvement: Multidisciplinary perspectives, Nueva York: Routledge. 2013.
- 41. Raikes H, Thompson R. Family emotional climate, attachment security and young children's emotion knowledge in a high-risk sample. *Br J Dev Psychol.* 2006; 24: 89-104.
- 42. Teubert D, Pinquart M. The association between coparenting and child adjustment: A meta-analysis. *Parenting: Science and Practice.* 2010; 10: 286-307.
- Feldman R, Masalha S. Parent–child and triadic antecedents of children's social competence: Cultural specificity, shared process. *Dev Psychol.* 2010; 46: 455.
- Cummings E, Davies P. Marital conflict and children: An emotional security perspective. New York, US: Guilford. 2010.
- McHale J. When infants grow up in multiperson relationship systems. *Infant Behav Dev.* 2007; 28: 370-392.
- Fivaz-Depeursinge E, Favez N. Exploring triangulation in infancy: Two contrasted cases. *Family Process.* 2006; 45: 3-8.
- Bakermans-Kranenburg M, Van Ijzendoorn M, Juffer F. Less is more: Meta-analyses of sensitivity and attachment interventions in early childhood. *Psychological Bulletin*. 2003; 129: 195.
- 48. Cowan C, Cowan P, Pruett M, Pruett K. An approach to preventing coparenting conflict and divorce in low-income families: Strengthening couple relationships and fostering fathers' involvement. *Family Process.* 2007; 46: 109-121.
- Doherty W, Erickson M, LaRossa R. An intervention to increase father involvement and skills with infants during the transition to parenthood. *J Fam Psychol.* 2006; 20: 438-447.
- 50. Hawkins A, Lovejoy K, Holmes E, Blanchard V, Fawcett E. Increasing fathers' involvement in child care with a couplefocused intervention during the transition to parenthood. *Family Relations*. 2008; 57: 49-59.
- 51. Feldman R, Weller A, Sirota L, Eidelman A. Testing a family intervention hypothesis: The contribution of mother-infant skin-to-skin contact (kangaroo care) to family interaction, proximity, and touch. *J Fam Psychol.* 2003; 17: 94.
- 52. Shapiro A, Nahm E, Gottman J. baby home together: Examining the impact of a couple-focused intervention on

the dynamics within family play. *Am J Orthopsychiatry*. 2011; 81: 337-350.

- 53. Facchini S, Martin V, Downing G. Pediatricians, wellbaby visits, and video intervention therapy: Feasibility of a videofeedback infant mental health support intervention in a pediatric primary health care setting. *Front Psychol.* 2016; 7: 179.
- 54. Hoivik M, Lydersen S, Drugli M, Onsoien R, Hansen M, et al. Video feedback compared to treatment as usual in families with parent-child interaction problems: A randomized controlled trial. *Child Adolesc Psychiatry Ment Health.* 2015; 9.
- 55. Groeneveld M, Vermeer H, van Ijzendoorn M, Linting M. Randomized video-feedback intervention in home-based childcare: Improvement of children's wellbeing dependent on time spent with trusted caregiver. *Child Youth Care Forum.* 2016; 45: 587-606.
- 56. Rusconi-Serpa S, Sancho-Rossignol A, McDonough S. Video feedback in parent-infant treatments. *Child Adolesc Psychiatr Clin N Am.* 2009; 18: 735-751.
- 57. Steele M, Steele H, Bate J, Knafo H, Kinsey M, et al. Looking from the outside in: The use of video in attachmentbased interventions. *Attach Hum Dev.* 2014; 16: 402-415.
- Beebe B. Brief mother-infant treatment using psychoanalytically informed video microanalysis. *Infant Ment Health J.* 2003; 24: 24-52.
- 59. Beebe B. Mother-infant research informs mother-infant treatment. *Psychoanal Study Child*. 2005; 60: 7-46.
- 60. Beebe B. Mother–infant research informs mother–infant treatment. *Clin Soc Work J.* 2010; 38: 17-36.
- 61. Beebe B. My journey in infant research and psychoanalysis: Microanalysis, a social microscope. *Psychoanalytic Psychology*. 2014; 31: 4-25.
- 62. Fukkink R. Video feedback in widescreen: A meta-analysis of family programs. *Clin Psychol Rev.* 2008; 28: 904-916.
- 63. Yagmur S, Mesman J, Malda M, Bakermans-Kranenburg M, Ekmekci H. Video-feedback intervention increases sensitive parenting in ethnic minority mothers: A randomized control trial. *Attach Hum Dev.* 2014; 16: 371-386.
- 64. Doria M, Kennedy H, Strathie C, Strathie S. Explanations for the success of video interaction guidance (VIG): An emerging method in family psychotherapy. *The Family Journal: Counseling and Therapy for Couples and Families*. 2014; 22: 78-87.
- 65. Suárez N, Muñoz M, Gómez E, Santelices M. Terapia de interacción guiada: Una nueva modalidad de intervención con familias multiproblemáticas y en riesgo social. *Terapia Psicológica*. 2009; 27: 203-213.
- 66. Olhaberry M, León M, Seguel M, Mena C. Video-feedback intervention in mother-baby dyads with depressive symptomatology and relationship difficulties. *Research in*

Psychotherapy: Psychopathology, Process and Outcome. 2015; 18: 82-92.

- 67. Squires J, Bricker D, Heo K, Twombly E. Ages & Stages Questionnaires: Social-Emotional. A parent-completed, child-monitoring system for social-emotional behaviors. Baltimore: Brookes. 2002.
- 68. Crittenden P. A Dynamic-Maturational Model of Attachment. Aust N Z J Fam Ther. 2006; 27: 105-115.
- 69. Favez N, Scaiola C, Tissot H, Darwiche J, Frascarolo F. The Family Alliance Assessment Scales: Steps toward validity and reliability of an observational assessment tool for early family interactions. *J Child Fam Stud.* 2011; 20: 23-37.
- 70. Pérez F, Moessner M, Santelices M. Beyond the dyad: The relationship between preschoolers' attachment representations and family triadic interactions. *Infant Ment Health J.* 2017; 38: 198-209.
- 71. Beck A, Ward C, Mendelson M, Mock J, Erbauch J. An inventory for measuring depression. *Arch Gen Psychiatry*. 1961; 4: 561-571.
- 72. Vásquez C, Sanz J. Fiabilidad y valores normativos de la versión española del Inventario para la Depresión Beck de 1978 en pacientes con trastornos psicológicos. *Clínica y Salud.* 1999; 10: 59-81.
- 73. Valdés C, Morales-Reyes I, Pérez J, Krause M, Rojas G, et al. Propiedades Psicométricas del BDI-A en la población chilena. Manuscrito enviado para publicación. 2017.
- 74. Favez N, Frascarolo F, Keren M, Fivaz-Depeursinge E. Principles of family therapy in infancy. In Zeanah, C. (2012), Handbook of Infant Mental Health (468-484). New York, US: Guilford Press. 2009.
- INE. Síntesis de Resultados Censo 2012. Santiago: Instituto Nacional de Estadísticas de Chile. 2012.

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