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Evaluation of the effectiveness of a pilot program that promotes sensitive response in the educational staff of Chilean nursery schools

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ABSTRACT

The relationship between the sensitive response of the caregiver and the formation of secure attachments in infants has been widely studied. It is within this framework that the present investigation examined the effect of an intervention that promotes sensitive response in nursery school caregivers. The intervention took place in early education centers for children between 0 and 2 years of age, from a low socio-economic background and identified as being at psychosocial risk. Using the Care Index (Crittenden, 1985), 53 nursery school caregivers were evaluated at the beginning, middle and end of the intervention. The results indicate a significant increase in the sensitive response of the participants as much at the middle as at the end of the intervention. This study discusses the implications of the results for early childhood education, especially, in cases where the child is identified as being in psychosocial risk.

1. Attachment formation and early infancy

As a result of the theoretical contributions of John Bowlby (1969, 1980, 1995, 1997, 2003) and the empirical studies performed by some of his followers, such as Mary Ainsworth (Ainsworth, Blehar, Waters, & Wall, 1978), Mary Main (2000) and Peter Fonagy (1999a); Fonagy, Gergely, Jurist, & Target, 2002), among others, the relevance of early relationships and their influence on the quality of the bond established between the child and the caregivers (as well as between adults), has earned an important place within developmental psychology. The work of these experts confirms the theory that children's socio-emotional and mental development have their roots in early infancy and that the quality of these areas in adult life depends on the quality of this foundation.

Attachment theory refers to the tendency of human beings to establish intimate emotional bonds with specific individuals or significant figures and it is a basic component of human nature that is found to be present in a rudimentary form in the newborn and that lasts over the course of adult life through old age (Bowlby, 1995). During infancy, bonds are established between the child and the parents (or significant adults) to whom the child looks to for protection, consolation, and support (Bowlby, 1995) especially if care begin during first year of life, include a good portion of the child's day activities and the relationship is maintained over time with some consistency (Ainslie & Anderson, 1984).

Studies agree on the importance of the attachment bond formed in early relationships and its relevance to the future well-being and mental and physical health of the individual (Dozier, Stovall, & Albus, 1999; Sroufe, 2005). In the case of securely attached children, it is possible to predict healthy development in regard to their self-esteem, social competence, capacity to face stressful situations (Grossmann et al., 2002; Sroufe, 2005; Valdés, 2002), identity, and educational success, among others (Fonagy, 1999a). If the attachment relationship is characterized by anxiety and insecurity, the child is forced to develop defensive strategies that exclude painful information and surroundings, thus, affecting his future ability to establish gratifying relationships, impeding identity formation, and making him mentally and physically vulnerable to stress and to the development of various psychopathologies (Dozier et al., 1999; Fonagy, 1999a; Pearce & Pezzot-Pearce, 2001; Sroufe, 2005).

Thus, promoting secure attachments in children is an important way to prevent future problems and pathologies. At the same time, promoting secure attachments contributes to the shaping of future generations by nurturing the autonomy, emotional development, identity and self-esteem of the individual. This background draws attention to certain characteristics of early infancy caregivers and significant figures, as well as to interventions oriented to promote their sensitivity.

2. Caregiver sensitivity and children's attachment

Sensitive caregiver response refers to the behaviors the caregiver uses to respond to the demands of a child or infant. The sensitive

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response of the parents or significant caregivers involves their capacity to notice the child's signals, interpret them appropriately and respond (affectively and behaviorally) in a quick and appropriate manner (Bowlby, 1969, 1980, 1995, 1997, 2003; Marrone, 2001). Likewise it is also important to consider that at present this concept implies the importance of the adult behavior to allow the child to explore without inhibition or exaggeration of negative affect (Crittenden, 2006).

The above implies the activation of affective-cognitive processes based on the suitable internal operating models of the parent or significant adults in conjunction with the capacity of these adults to understand their own mental states, as well as those of the child (Fonagy, 1999b; Fonagy et al., 2002; Fonagy, Steele, & Steele, 1991). Nevertheless, Crittenden (2006) has emphasized the caregivers´ sensitivity with the infant as a dyadic construct where child's and adult's characteristics influence the relationship. Thus adult behavior is not adequate or inadequate per se, but depending on the temperamental features and present state of mind of the infant (Santelices, Olhaberry, Perez-Salas, & Carvacho, 2009).

The sensitive response of the significant adult and its relevance for the formation of attachments in the infant has been widely studied, primarily in familial contexts (Atkinson et al., 2000; de Wolff & van IJzendoorn, 1997; Lucassen et al., 2011; Meins, Fernyhough, Fradley, & Tuckey, 2001). Overall, research shows that appropriate sensitivity on the part of the caregiver during the child's first year of life is a significant predictor of early attachment security and healthy development. More specifically, adequate sensitive response has been associated with the child's secure attachment style (Braungart-Rieker, Garwood, Powers, & Wang, 2001; Coppola, Vaughn, Cassibba, & Costantini, 2006; Van Ijzendoorn & de Wolf, 1997; Isabella, 1993; Smith & Pederson, 1988; de Wolff & van IJzendoorn, 1997; Ward & Carlson, 1995); positive emotional and social development (Landry, Smith, Swank, & Miller-Loncar, 2000; Kivijärvi, Räihä, Kaljonen, Tamminen, & Piha, 2005); appropriate cognitive development (Landry et al., 2000); and obedience between the age of 15–31 months (Lehman, Steier, Guidash, & Wanna, 2002). On the contrary, low caregiver sensitive response has been associated with poor cognitive development and a low symbolic capacity in the baby (Feldman, Eidelman, & Rotenberg, 2004).

While most studies have focused on maternal and paternal sensitivity, it is important to also consider the dynamics of other significant caregivers' sensitivity and its impact on the attachment and development of children. For instance, research suggests that one of the best predictors of later adaptation in children is the quality of the additional care received during their first year (Anderson, 1992; Howes, 1990) and there has been a significant increase in the percentage of children attending nursery and preschool centers at early infancy especially at poorer economic sectors (CASEN, 2013; Santelices et al., 2009).

In relation to the above, and being possible to consider nursery caregivers as figures with which infants show a tendency to establish attachment relationships, in recent years the study of their potential influence on the development of infants has taken relevance (Buyse, Verschueren, & Doumen, 2009; Kontos & Wilcox-Herzog, 1997). In the United States, for example, complete daycare programs have shown significant short- and long-term effects in various areas of the child's cognitive and socio-emotional development (Beeber et al., 2007; Brookes, Summers, Thornburg, Ispa, & Lane, 2006).Further on, in high social risk families, the relationship between the child and caregivers/teachers is of special relevance, since this link can be a protective factor, reducing the probability of problematic results in their development and contributing to the development of affective and cognitive skills (Burchinal, Roberts, Nabors, & Bryant, 1996; Phillips, McCartney, Scarr, & Howes, 1987).

An analysis of the specific characteristics of attachments within the context of multiple caregivers emerges as a particularly relevant area for the improvement of services proffered in nursery schools, kindergartens and other systems of early childcare. Overall, studies on the matter suggest that children attending centers or day-cares were not necessarily more insecurely attached than children cared for at home (Burchinal, Bryant, Lee, & Ramey, 1992; Howes, Rodning, Galluzzo, & Myers, 1988) and, even, children who were insecurely attached to their mothers were able to establish secure attachment relationships with their additional caregivers (Howes et al., 1988). More recently Anhert, Pinquart, and Lamb (2006) conducted a study to analyzed how caregivers´ sensitivity can affect children's attachment, finding that group-related sensitivity was a reliable predictor of secure caregiver-child attachment at child care centers.

In general, the literature suggests that the type of care and interaction most sensitive to the characteristics, needs, and signals of the child is linked to secure attachment relations (Howes, 1999). Evidence supports the hypothesis that attachment formation in the context of child daycare would develop in a singular form, displaying qualities analogous to the child-mother relationship. In the same way that a child bonds with parental figures, he or she is also capable of bonding with non-familial caregivers. As a result, the literature emphasizes caregivers' needs in terms of support and specialized training, particularly, in areas related to the sensitivity and appropriateness of the care and the quality of the interaction (Gerber, Whitebook, & Weinstein, 2007).

3. Early attachment interventions founded on caregiver sensitivity

Early interventions are defined as multidisciplinary preventative and therapeutic measures that extend from pregnancy to the 3-year-old child. They are designed to increase the competencies and abilities of the caregiver with the goal of promoting secure attachment formation in the child. It is possible to categorize the various kinds of early interventions according to their focus. Some interventions are centered on the manifest behavior of the child, others are centered on parental representation and others focus on the bonds and interactions between the caregiver and the baby (Stern, 1997). All of these approaches agree on the importance of strengthening the sensitivity of caregivers by helping them to understand and interpret the non-verbal language of the child, thus enabling them to provide an appropriate response to the child's needs.

The programs described in the literature, overall, focus at the following areas: improving the quality of the relationship between the child and the parents or significant adults; supporting at-risk families; fostering strength and diminishing the vulnerability of the child; preventing mental and behavioral disorders; and supporting the community resources for children and families (Bakermans-Kranenburg, Van IJzendoorn, & Juffer, 2005). A meta-analysis that compared more than 70 preventative interventions on attachment formation showed that the most effective one was based on fostering a more sensitive response in the caregiver, understood as being more attentive to the needs of the child and providing an adequate response to these needs (Bakermans-Kranenburg et al., 2005). The analysis also found that the most positive changes were observed in children who displayed insecure or disorganized attachment formation. It has also been determined that the earliest interventions have significantly better effects than interventions that take place later in the child's development, especially, if psychopathology has emerged in the child (Bakermans-Kranenburg et al., 2005).

Regarding the effectiveness of specific interventions addressing child care professionals to improve the quality of child care, their interaction skills, and child social-emotional development, a meta-analysis found that interventions are, overall, effective (Werner, Linting, Vermeer, & Van IJzendoorn, 2016). More particularly, the study found that targeted interventions for child care professionals were moderately effective regarding classroom quality, caregiver interaction skills and, to a lesser degree, child behavior. The authors concluded that the implementation of targeted interventions addressing child-care professionals is a promising area that may lead to higher child care quality and, thus, better social-emotional development for children (Werner et al., 2016).

4. Sensitivity and attachment in the context of Chilean child-care centers

According to the latest National Socioeconomic Characterization Survey (CASEN, 2013), 87% of 4-year old children are placed in the pre-primary educational system. This represents a dramatic increase compared to previous decades. For children under the age of 3, however, these figures shrink. Figures show that only 28% of children aged 0 to 3 years old attend the preschool/childcare system. The numbers are lower in the quintiles with the lowest income (CASEN, 2013).

Chile is a developing country, with numerous families that still live in poverty. The care provided by additional caregivers, especially, in the case of children under 3 years of age, can help reduce inequalities in later development in comparison with children belonging to higher-income families. For instance, day-care centers guarantee coverage of low-income children's basic needs, the early detection of health problems, and timely treatment. It can also help improve the quality of life of their families by favoring the involvement of their mothers into the workforce. Recent government plans have considered opening 800 new nursery schools intended to provide services to the lowest 40% of the country's poorest families. The objective of this policy is to implement a system of infancy protection that offers equal opportunity for development for children, from gestation to the end of the first round of primary education, regardless of their social origin, gender, the characteristics of their home, or any other potential sources of inequality.

This plan, however, must be accompanied by new initiatives aimed at improving the quality of the education of children in this age range (Cárcamo, Vermeer, De la Harpe, van der Veer, & van IJzendoorn, 2014). It is, therefore, particularly relevant to create and evaluate new programs that promote, from early infancy, healthy attachments and adequate psychosocial development in the most vulnerable children, which can be used within the public educational system.

The Chilean healthcare system has begun incorporating a variety of programs that include preferential support for pregnant women and young children (e.g., OOssandón, Ilhabaca, & Gajardo, 2000; Rossel, Carreño, & Maldonado, 2002). These programs are based on the recognized importance of promoting a healthy and positive mother-baby bond from early infancy, being the period between 0 and 3 years of age the most critical. These years constitute the ideal moment for programs and initiatives aimed at early growth and prevention (Fundación Chile 21, 2004).

It is also notable the growing number of national publications on the subject of attachment (e.g., Aracena et al., 2000; Cordella, 2002; Fresno & Spencer, 2011; Lecannelier, Ascanio, Flores, & Hoffman, 2011; Mendez & González, 2002; Rosas, Gallardo, & Angulo, 2000) and of caregiver sensitivity (e.g., Santelices et al., 2012; Santelices et al., 2015). Yet, only a few have focused on other caregivers, such as educators (Santelices, 2014; Santelices & Pérez, 2013; Santelices, Olhaberry, Pérez-Salas, & Carvacho, 2010). Overall, the latter investigations highlight the importance of early interactions between children and their additional caregivers, with emphasis on the complementary role of early educators on children's development and the need to support their sensitivity as caregivers in the Chilean early educational system (Santelices, 2014; Santelices & Pérez, 2013; Santelices et al., 2010).

However, we do not know of any systematic and formal program in Chile designed to provide educators with the required knowledge and tools to promote secure attachment formation, so that they can use these tools in their interactions with the children and transmit them to the children's parents and guardians. Thus, and based on the present knowledge of the role of sensitivity on attachment formation in early infancy and its relevance to the future growth and development of the child, this study's aim was to analyze the effects of an early intervention program designed to promote sensitivity of nursery school caregivers of children between 0 and 2 years of age in educational settings in Chile. The early intervention program was developed in consideration of elements found to be effective in previous evidence-based initiatives: clear-cut behavioral focus, moderate number of sessions and direct to populations without multiple problems (Bakermans-Kranenburg, van IJzendoorn, & Juffer, 2003).

5. Method

5.1. Design

This study was conducted using a quantitative methodology and, more specifically, a longitudinal exploratory comparative design. It evaluated and followed-up the participants throughout the course of one school year (10 months), and it explored the effects that an intervention designed to increase the sensitivity of nursery school caregivers had on the experimental group, compared to the results of the control group.

5.2. Population

The sample for this study was obtained from nursery schools of the National Board of Nursery Schools (JUNJI), which is one of the two state childcare systems in Chile. These nursery schools accommodate infants from the poorest quintile of the population, that is, those who live in extreme poverty and are at great social risk. Families who attend this schools that are part of this system present with one or more factors of psychosocial vulnerability, including child abuse and/or domestic violence, the presence of high risk factors for the normal development of the child in his immediate environment, physical and/or mental disabilities in the caregiver, environmental danger to the child in the mother or guardian's workplace, absence of preschool centers in the area where the child lives, children in charge of younger siblings during the day, and unemployment or debt in the family.

JUNJI preschools (serving children 3 months to 2 years of age) offer classes with an average of 20 children, organized by age, who are attended by a preschool teacher and 2 to 3 assistants. Within JUNJI 99% of educators are women, a rate that is similar to the general percentages of the Chilean population and other Latin American countries (Castillo, 2014). The nursery schools caregivers included preschool teachers and assistants. Preschool teachers are professionals with 5 years of university training who are in charge of the classroom and the design, application, and evaluation of the programs that form the curriculum. Assistants have a technical education of 2 to 3 years and their role is to support the teacher in the implementation of activities with the children. Both, teachers and assistants, are inside the classroom the entire school day.

5.3. Participants

The schools were selected and distributed randomly and equally to the experimental and the control groups. There were 6 schools in each group (experimental and control). 5 teachers and/or assistants were invited per school. Teachers and assistants were chosen at random. 7 participants withdraw from the study, 5 of them because of medical leave and 2 of them due to personal reasons, such as not agreeing on being taped.

The included sample was composed of 53 participants (19 preschool teachers and 34 assistants). They were all women, and their ages ranged from 19 to 57 years of age (the average was 34.9 years, $SD = 10.87$). Their years of work experience ranged from 1 to 25 years with an average of 3.6 years ($SD = 5.07$). For more information about the background of the experimental and the control groups, see Table 1. There are no statistically significant differences in the composition of the experimental group and the control group in terms of age, work experience or education.

Teacher and assistants were evaluated in their relationship with 2 to 3 children in the classroom, using as criteria to evaluate them regarding the children with whom they deemed they had a significant and close relationship. To evaluate the sensitivity of each relationship, the study

Table 1
Distribution of teachers according to group, age, education and years of work experience.

		Experimental group	Control group	Total
N		8 (36.4%)	11 (35.5%)	19 (35.8%)
Age	Range	23–40	24–57	23–57
	Average	32.1	36.0	34.3
	S.D.	7.2	12.3	10.3
Work experience (years)	Range	1–8	1–20	1–20
	Average	2.3	3.4	2.8
	S.D.	2.4	6.7	4.9

used an average of the scores with different children. Regarding the above, it was indicated that the criteria for considering a "close relationship" are mentioned that there is a knowledge of more than three months with the child and that the teacher feels that there is an affective bond with the child. With the above we tried to reduce the stress that can be filmed and increase the feelings of comfort during the evaluation.

Besides, considering that teacher's sensitivity will also depend on the characteristics of the children they attend, general data were collected with the aim of characterizing the groups of children in charge of teachers included and discarding significant differences. General information can be seen in Table 2. After carrying out the necessary analyzes, it is concluded that GC and GC do not differ statistically significantly in age, gender, hours spent in the garden, cases of vulnerability and cases of disability.

5.4. Instrument

5.4.1. Care-Index

The Child-Adult Relationship Experimental Index Toddlers, CARE-Index (Crittenden, 2006), was used in this study. This instrument was mostly developed over the foundation of Ainsworth's theory and her maternal sensitivity scale, but Care-index can be used by family or non-family caregivers and has been amply used and validated in various contexts (Crittenden, 2000). It is used to evaluate child-adult interaction in non-threatening conditions from birth to 30 months and has also proved utility as a screening tool to identify appropriate interventions to support parent-infant interactions has been demonstrated (Svanberg, Mennet, & Spieker, 2010).

The procedure consists of filming 3 to 5 min of free play between the infant and the caregiver, and the interaction is recorded on video. The interactive behaviors of the adult and child are evaluated separately using a coding system that is based on the adult's sensitivity to the child's signals and the child's cooperation with the adult. The interaction is then classified by trained evaluators based on the cognitive aspects (facial expression, verbal expression, position and body contact, and affect expression) and affective aspects (contingent turn-taking, control, and activity selection). Those seven aspects are evaluated and contributed to scores on three adult scales (sensitive, controlling or unresponsive) and four infant scales (cooperative, difficult, compulsive and passive).Depending on the final scores, parent-infant dyads can be classified into sensitive (scores 11–14); adequately (scores 7–10); inept (scores 5–6) and at risk (scores 0–4).

For this study, it measures the level of sensitivity using a score of 7.0 as a threshold; it classifies as adequately sensitive those adults with a score of 7.0 or above and as not adequately sensitive (low sensitivity) those with a score of less than 7.0. Additionally, in the case of low sensitivity, the interaction style is determined to be controlling or unresponsive by considering a score equal or superior to 5.0 on one of the scales.

This instrument has been used in previous studies to evaluate the mother-child (Olhaberry, 2011; Olhaberry & Santelices, 2013) and teacher- child (Santelices et al., 2015) relationship in similar populations, obtaining adequate levels of reliability (between 0.80 and 0.85). In the present study the reliability of the scale for the sample was calculated using Cronbach's alpha, which was determined to be adequate (0.80).

Table 2
Distribution of assistants according to group, age, education and years of work experience.

		Experimental group	Control group	Total
N		14 (63.6%)	20 (64.5%)	34 (64.2%)
Age	Range	19–52	24–53	19–53
	Average	32.7	37.2	34.8
	S.D.	11.3	9.1	10.5
Work experience (years)	Range	1–25	1–13	1–25
	Average	3.7	4.1	3.9
	S.D.	5.9	3.6	4.8

5.5. Procedure and intervention

The first step in the study was to recruit the sample according to criteria previously described. Prior to the evaluation, the Ethics Committee of the Pontifical Catholic University of Chile reviewed the study. Teachers and assistant were informed about been free of refusing to participate or leave the study any moment. Likewise, to guarantee that the study complied with appropriate ethical standards, the informed consent of the family members responsible for the participating children was required, declaring their awareness of the study's objectives and consenting to voluntary participation in the study.

Prior to the design of the intervention, an exploration into the needs of the participating institution was performed through the use of focal groups and interviews with members of the educational staff and with mothers of children attending the center. The objective was to ascertain that the designed intervention would be able to address the needs of the individuals involved.

Then, initial evaluations of the regarding their sensitive response (Care-Index) were performed. Two more evaluations were then completed, one at the middle of the intervention program (3 months later) and one at the end of the intervention (9 months later).

The program was implemented in the nursery schools included in the experimental group. The intervention took place monthly, alternating workshops and field supervision, each lasting 4 h. Then, each workshop is followed by an accompaniment session that will be carried out by the same monitors and aims to share a normal day in the nursery center and support the practical application of the acquired learning, both in working with children and their families. The topics of each workshop are as follows:

The activities performed during the workshops were aimed at developing in the nursery school caregivers a more sensitive response and an improved reflective or mentalizing capacity in their relationships with children. These two skills (sensitivity and mentalization) form the basis of the early interventions most successful at improving child attachment formation, according to evidence-based studies (Allen & Fonagy, 2006; Santelices et al., 2016). The field supervision was aimed at addressing the school caregivers anxiety and supporting their work with their managers. It was hoped that through the intervention the caregivers would share activities with their managers with the goal of converting them (the caregivers) into agents of change who could promote secure attachment formation in the children.

All intervention steps were performed through couples of monitors who were either psychologists or psychology students in their final year of study. The monitors had received training in the intervention and were periodically supervised by the researchers during its implementation. The intervention was complemented with didactic written material of each session and for each of the participants.

5.6. Data analysis

First, the descriptive statistics of the sample were estimated on the three scales evaluated by the Care-Index (sensitive, controlling and unresponsive) and on the affective and cognitive items. The instrument, based on the nursery school caregivers' initial scores in these areas, could also estimate if the experimental group and the control group were homogeneous in these areas before beginning the intervention. Then, the distribution of the caregivers in terms of adequate or low sensitivity and predominant style was calculated.

The nursery school caregivers had previously been measured through an analysis of variance (ANOVA), comparing those who were taking part in the intervention to those who were not participating, in the two subsequent periods of evaluation. This was meant to detect any significant differences between the experimental and control groups during the implementation of the intervention, as well as at the end of it. The evolution of both groups during the three measuring periods was also analyzed using multiple regression analysis.

Other analyses were also performed to differentiate between the possible effects of the intervention on teachers and assistants, and to look for correlations between the initial measure of sensitivity and some of the other available variables (age, years of study, role) to determine whether some of these factors accounted for the level of sensitivity observed. The same analysis was performed at the end of the intervention. However, this time it aimed to differentiate between the effects of the intervention on the educational staff who had low sensitivity at the beginning of the study (a score below 7.0 on the sensitivity scale) and on those who showed adequate or high sensitivity. The goal was to observe if the effect of the intervention varied in each of these groups.

6. Results

6.1. Descriptive analysis of the sample

The measures for the participant caregivers showed the same average on the sensitivity scale for the experimental group (average 7.65, $SD = 2.5$) as for the control group (media 7.65, $SD = 2.2$). In this area, there were no significant statistical differences between the groups. There were also no significant differences between the controlling and the unresponsive scales; the averages for the experimental group were 2.23 ($SD = 1.9$) and 4.15 ($SD = 2.6$), respectively, while the averages for the control group were 3.31 ($SD = 2.6$) and 3.03 ($SD = 2.3$) (see Table 3).

An analysis of the sensitivity of the participating educational staff, differentiating between affective and cognitive items, shows an average of 5.0 ($SD = 1.6$) for the Experimental Group (EG) on affective items and an average for the Control Group (CG) of 4.56 ($SD = 1.6$). With respect to cognitive items, the EG had an average of 2.83 ($SD = 1.5$), while the CG had an average of 3.07 ($SD = 1.2$) (see Table 4). As there were no significant differences between the groups in this area at the beginning of the study, it can be concluded that the educational staff in the two groups were homogeneous with respect to their levels of sensitivity.

Table 3
Distribution of children's variables according to group, age, hours spending at nursery and special cases.

		Experimental group	Control group	Total
Gender	Female	38 (36.9%)	43 (44.3%)	81
	Male	65 (63.1%)	54 (55.7%)	119
Age (months)	Range	12–24	8–24	8–24
	Average	19.3	18.6	18.9
	S.D.	3.1	3.5	3.3
Hours at weekly	Range	4–10.5	7–10.5	4–10.5
	Average	8.5	8.0	8.3
	S.D	1.2	0.3	0.9
Vulneration cases		2 (1.9%)	2(2.1%)	4(2%)
Disability		2 (1.9%)	2(2.1%)	4(2%)

Table 4
General topics covered at each workshop.

	Topic
Workshop 1	Attachment and sensitivity
Workshop 2	Recognizing basic routines and care a moments of interaction with the baby
Workshop 3	Care of the bond in situations of crying and tantrums
Workshop 4	Play and attachment

A total of 64.2% of the educational staff showed adequate sensitivity (63.6% in the EG and 64.5% in the CG), while the remaining 35.8% showed low sensitivity. Of those demonstrating low sensitivity, 11.3% were controlling, 20.8% were unresponsive and 3.8% were a combination of controlling and unresponsive.

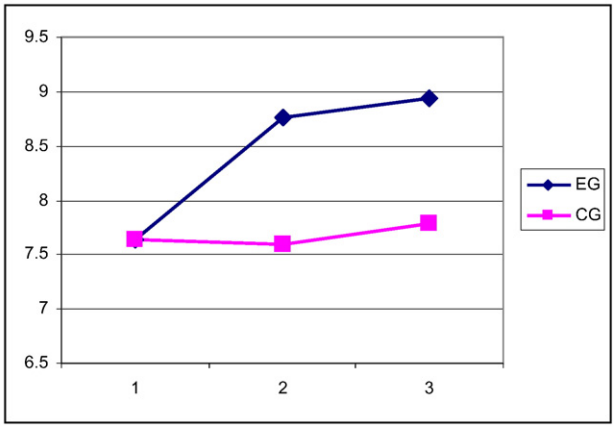
6.2. Comparative analysis of educational staff with and without intervention

A comparison of the caregivers at the middle of the intervention shows significant differences between the two groups. Specifically, the team receiving the intervention obtained a higher score than the group without intervention on the cognitive items ($F = 10.108$; $p = 0.003$) and on the sensitivity scale ($F = 5.845$; $p = 0.02$). The score for this group (the experimental group) decreased on the unresponsive scale, while the score for the control group increased ($F = 6.6$; $p = 0.013$).

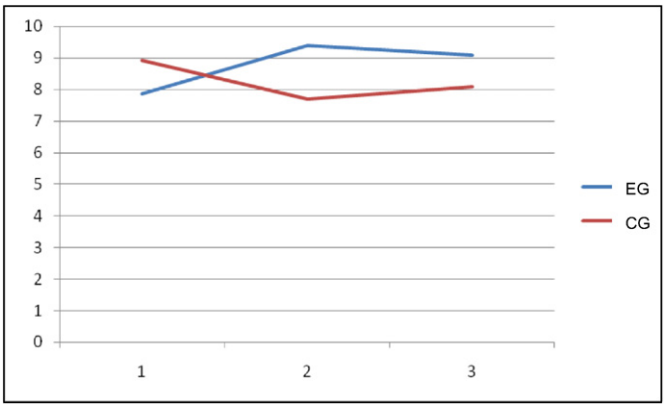
At the end of the intervention, the differences remained in favor of the EG on the sensitivity scale ($F = 8.399$; $p = 0.006$) and decreased on the controlling scale, while the control group received a higher score on the controlling scale ($F = 4.745$; $p = 0.034$). In terms of the cognitive items, the differences between the two groups disappeared. However, the caregivers who received the intervention showed a higher score than the group without intervention with respect to the affective items ($F = 21.791$; $p = 0.000$).

Graph 1 illustrates the changes on the sensitivity scale during the three measurements of the two groups.

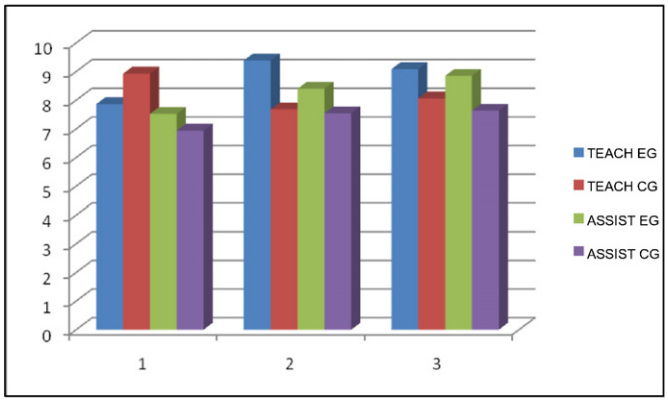
An analysis of the change over time of both groups in the three measurements shows significant differences in their evolution, with the most significant change over time for sensitivity occurring in the group that received the intervention ($F = 4.025$; $p = 0.05$). The power of this effect is 0.502.



Graph 1. Sensitivity scores of EG and CG in the three measurements.



Graph 2. Sensitive response of the teachers from the EG and CG in the three measurements.



Graph 4. Sensitive response of the teachers and the assistants from the EG and CG in the three measurements.

6.3. Other analyses

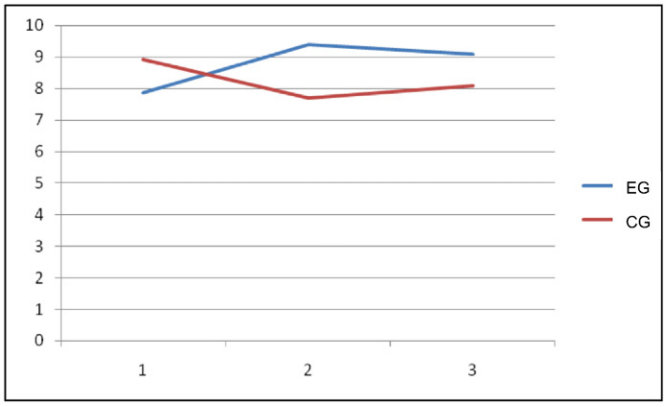
An evaluation of the sensitivity scores obtained by the participating caregivers in the initial measurement alongside the other evaluated aspects, shows a significant correlation between the higher score on the sensitivity scale for the teachers in comparison to the assistants ($r = 0.275$; $p = 0.05$) and those with less work experience demonstrating higher sensitivity on the affective items ($r = -0.528$; $p = 0.05$). When considering the age of the participants, the older members were found to be more controlling ($r = 0.425$; $p = 0.001$), while the younger members received higher scores on the unresponsive scale ($r = -0.339$; $p = 0.05$).

When separating teachers from assistants, there is a significant effect over time, with teachers in the EG receiving higher scores ($F = 5.196$; $p = 0.036$); the power of the effect is 0.2. The comparison of measurement periods shows a higher sensitivity in the teachers of the EG group in the second measurement (Mann-Whitney U test = 15.000; $p = 0.027$) and a tendency in the final measurement (Mann-Whitney U test = 23.500; $p = 0.091$) that does not reach significance (see Graph 2).

In the case of the assistants, there is a tendency toward greater sensitivity in the EG over time ($F = 2.969$; $p = 0.096$), with a power of effect of 0.385. While there are no significant differences between measurements 1 and 2, there is a significant difference in the final measurement in favor of the EG (Mann-Whitney U test = 79.500; $p = 0.033$) (see Graph 3).

Finally, observing the teachers and assistants together in the experimental and control groups in the three measurements (Graph 4) shows that in the initial measure, the teachers demonstrated a tendency toward higher sensitivity in comparison with the assistants. We also note that for the two remaining measurements, the teachers and assistants of the EG demonstrate greater sensitivity than the CG.

The proportion of the participating caregivers that showed adequate sensitivity before the interventions (with a score equal to or higher than 7) was 63.6% and 64.5% in the experimental and control groups, respectively. That is, close to one-third of the staff demonstrated low sensitivity at the beginning of the school year, which is a cause for concern. At the end of the intervention (and school year), both groups improved, with the frequency of staff showing adequate sensitivity at 90.9% for the experimental group and 83.9% for the control group, indicating that time and better knowledge of the children is an important factor in the growth of caregiver sensitivity. At the same time, the growth of the staff with adequate sensitivity in the EG was greater than that of the CG (27.3% and 19.4%, respectively). This growth could be attributed to the effect of the intervention (see Table 5). (See Tables 6 and 7.)



Graph 3. Sensitive response of the assistants in the EG and CG in the three measurements.

Table 5
Distribution of scores of the educational staff on the Care-Index scale.

Group	Type		Initial measure
Experimental		N	22
	Sensitive	Min-max	3.8–14
		M (SD)	7.65 (2.5)
	Controlling	Min-max	0–6.3
		M (SD)	2.23 (1.9)
	Unresponsive	Min-max	0–8.3
		M (SD)	4.15 (2.6)
Control		N	31
	Sensitive	Min-max	2–11
		M (SD)	7.65 (2.2)
	Controlling	Min-max	0–12
		M (SD)	3.31 (2.6)
	Unresponsive	Min-max	0–8
		M (SD)	3.03 (2.3)

Table 6
Sensitivity distribution of educational staff and affective and cognitive items.

Group		Initial measure (affective items)	Initial measure (cognitive items)
Experimental	N	6	22
	Min-max	4–8	0–6
	M (SD)	5.0 (1.6)	2.83 (1.5)
Control	N	16	31
	Min-max	2–7	0–5.5
	M (SD)	4.56 (1.6)	3.07 (1.2)

Table 7
Distribution of educational staff percentage with adequate and low sensitivity at the beginning and the end of the intervention.

	Initial intervention		Final intervention	
	EG	CG	EG	CG
Adequate sensitivity	63.6%	64.5%	90.9%	83.9%
Low sensitivity	36.4%	35.5%	9.1%	16.1%

7. Discussion

This study aimed to examine the effect of an intervention that promotes sensitive response in nursery school caregivers. Its main results indicate that the experimental and control groups demonstrated significant differences in their evolution, with the most significant change over time occurring in the group that received the intervention aiming at increasing sensitivity. Results showed too differences in sensitivity between members of the nursery caregiving team (e.g., preschool teachers vs assistants; participants with more experience vs participants with less experience), as well as that over one-third of them showed low sensitivity at the beginning of the school year.

An analysis of the effects of the intervention shows substantial improvement in the sensitive response of the group that received the program, as much during its implementation as at the end. This indicates that this early intervention program aiming at increasing sensitivity of the nursery caregiving members met its goal. Thus, it allowed these additional caregivers to potentially become significant figures in the attachment formation of the child. It is interesting to note that in the second measurement, the significant difference occurs at the level of cognitive items, while at the end, it occurs in terms of the affective items. This could reflect the evolution of the program, wherein the change was initially evident at the cognitive level (a better comprehension that increased sensitivity), which then lead to the internalization of these skills to achieve better affective resonance.

Crittenden (2010) argues that the importance of contrasting affective and cognitive scores offers information for tailoring the intervention. About this, adults with high affective scores and low cognitive scores are able to learn how to read their infant signals by watching their self on videotaped interactions. But adults with appropriately cognitive scores but who are hostile or unresponsive needs an intervention focus on the adult's feeling of being a caregiver and may need psychotherapy.

We also noted an increase in the sensitivity of the staff members toward the end of the school year, whether they had participated in the intervention or not. This increase resulted in a higher percentage of staff members demonstrating adequate sensitivity, a result expected for the staff in charge of the care and education of children. This could show that time spent together over the year strengthens the relationship between the staff members and the children, making the staff more sensitive to the children's needs. We also see that, with the passing of time, the proportion of adequate sensitivity is greater, a difference that can be attributed to the intervention.

As it was mentioned earlier, the Chilean nursery schools have a mixed preschool staff (teachers and assistants) with different education, functions and tasks. Thus, it was interesting to observe how sensitivity emerged and evolved in these two types of staff members. At the beginning, the teachers showed higher sensitivity than the assistants. However, both teachers and assistants benefitted from the intervention at the end of it, achieving greater sensitivity in comparison to those who did not receive the intervention. The learning curves of both groups (teachers and assistants), though, are different in that there is a more notable effect of the intervention on the teachers in the middle measurement. For the assistants, the growth was slower and, therefore, the effect was more noticeable at the end of the intervention. Considering the small sample size of teachers and assistants, it is important to view these results as preliminary and to conduct further research on the questions raised by these results. For example, it seems relevant to know if and how formal training may impact future nursery caregivers' sensitivity and how training programs could promote this ability among their trainees.

Another interesting result is the association between the age and the years of experience of the staff members with respect to their levels of sensitivity. Those with fewer years of experience were more sensitive on the affective items, while in comparison to the staff with more experience, there was no difference on the cognitive items (items related to practical know-how). The difference on the affective items and its decrease with the passing of time could be due to the emotional burnout of the staff, which may contribute to a distancing from the children. In addition, the youngest staff members scored higher on the controlling scale. That is, it seems that they compensated for a lack of experience with a more controlling and imposing style out of a desire to act and help the child, whereas the older staff members scored higher on the unresponsive scale. As it was mentioned, this can be due to professional burnout and less involvement with the children in their care. Consistently with previous research conducted within the Chilean context (Santelices, 2014), it is relevant that future studies focus specifically on the association between burnout of nursery caregivers of vulnerable children and their sensitivity.

An early result that is cause for concern is the high percentage of caregivers with low sensitivity in the first evaluation (35.8%). This could be explained by the fact that this evaluation was performed at the beginning of the school year and that the educational staff were just beginning to know the children. However, it is worrying that one-third of the caregivers showed less sensitivity than expected, especially, considering that they are caregivers with specialized training. This finding, together with the impact that the intervention had in the group that received it, highlights the importance of implementing targeted programs for increasing preschool caregivers' sensitivity within the Chilean preschool public system.

In a different line, it is necessary to indicate as main difficulty of this study the not to evaluate the influence that the observed changes in the teachers and assistants can have on the children in their charge. However, it is important to mention that what is reported here is part of the pilot application of the intervention with the objective of evaluating its effectiveness and making pertinent adjustments for its later implementation in larger populations and with more rigorous standards. It is planned to evaluate the effects of the intervention on the participating children indirectly in future implementations of the intervention.

Findings of this study support recent literature (Werner et al., 2016) that suggests that specific intervention and promotion programs in early infant care must be implemented, as the benefits for the child could be significant. It also aligns with the notion that child daycare centers, such as nursery school and kindergartens, can be a valuable social resource for raising young children (Bromer & Henly, 2004; Gerber et al., 2007), especially, in vulnerable contexts. Particularly, it supports the findings of previous studies conducted in Chile (Santelices, 2014; Santelices & Pérez, 2013; Santelices et al., 2010). It reaffirms the idea that early interactions between children and their additional caregivers within this context are crucial, with emphasis on the complementary role of preschool educators on children's development and the need to support their sensitivity through targeted interventions. This study addressed the sensitivity of additional caregivers, in this case, of school caregivers who attend children in state nursery schools in Santiago, Chile. Taking into account that these children are at high psychosocial risk, these institutions and, particularly, school caregivers, can provide opportunities for these children to receive sensitive care and attention, and to have healthier development.

Considering the requirements of the implemented program (four group sessions or workshops during the year interspersed with four field supervision sessions), we can infer that this program is low-cost and easy to implement and replicate, creating direct and concrete changes in the preschool caregivers. However, it has yet to be

determined if the sensitivity will generate long-term changes in the children and if this change will last after the end of the intervention, benefiting future groups of children. The methodological complexities involved in evaluating the follow-up of this type of study are another of the challenges that future research should address. For example, future studies should define whether follow-up evaluations should be conducted with the same educational staff members and the children they presently have under their care or if it is necessary to evaluate the staff with the same children originally participating in the study, even if they are no longer in their care. These questions should be addressed in future studies.

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References

Ainslie, R., & Anderson, C. (1984). Day care children's relationships to their mothers and caregivers. In R. Ainslie (Ed.), *The child and the day care setting* (pp. 98–133). New York: Praeger.

Ainsworth, M., Blehar, M., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation.* New Jersey: Erlbaum.

Allen, J., & Fonagy, P. (2006). *Handbook of mentalization-based treatment.* England: John Wiley & Sons, Ltd.

Anderson, B. (1992). Effects of day-care on cognitive and socioemotional competence of thirteen-year-old Swedish school children. *Child Development*, *63*, 20–36. http://dx.doi.org/10.2307/1130898.

Anhert, L., Pinquart, M., & Lamb, M. (2006). Security of children's relationships with nonparental care providers: A meta-analysis. *Child Development*, *74*(3), 664–679.

Aracena, M., Castillo, R., Haz, A., Cumsille, P., Muñoz, S., Bustos, M., & Román, F. (2000). Resiliencia al maltrato físico infantil. Comparación y modelaje de las variables que diferencian a los sujetos que maltratan y no maltratan físicamente a sus hijos en el presente y que tienen historia de maltrato físico en la infancia: un estudio en la ciudad de Temuco. *Revista de Psicología de la Universidad de Chile*, *9*(1), 11–28.

Atkinson, L., Niccols, A., Paglia, A., Coolbear, J., Parker, K., Poulton, L., & Sitarenios, G. (2000). A meta-analysis of time between maternal sensitivity and attachment assessments: Implications for internal working models in infancy/toddlerhood. *Journal of Social and Personal Relationships*, *17*(6), 791–810. http://dx.doi.org/10.1177/0265407500176005.

Bakermans-Kranenburg, M., van IJzendoorn, M., & Juffer, F. (2003). Less is more: Meta-analyses of sensitivity and attachment interventions in early childhood. *Psychological Bulletin*, *129*(2), 195–215. http://dx.doi.org/10.1037/0033-2909.129.2.195.

Bakermans-Kranenburg, M., Van IJzendoorn, M., & Juffer, F. (2005). Disorganized infant attachment and preventive interventions: A review and meta-analysis. *Infant Mental Health Journal*, *26*(3), 191–216. http://dx.doi.org/10.1002/imhj.20046.

Beeber, L., Chazan-Cohen, R., Squires, J., Jones, B., Boris, N., Heller, S., & Malik, N. (2007). The early promotion and intervention research consortium (E-PIRC): Five approaches to improving infant/toddler mental health in early head start. *Infant Mental Health Journal*, *28*(2), 130–150. http://dx.doi.org/10.1002/imhj.20126.

Bowlby, J. (1969). *El vínculo afectivo [attachment].* Buenos Aires: Paidós.

Bowlby, J. (1980). *La pérdida afectiva [loss, sadness, and depression].* Buenos Aires: Paidós.

Bowlby, J. (1995). *Una base segura [a secure base].* España: Paidós.

Bowlby, J. (1997). *El vínculo afectivo [attachment].* España: Paidós.

Bowlby, J. (2003). *Vínculos afectivos: Formación, desarrollo y pérdida [attachment: Formation, development and loss].* Madrid: Morata.

Braungart-Rieker, J., Garwood, M., Powers, B., & Wang, X. (2001). Parental sensitivity, infant affect, and affect regulation: Predictors of later attachment. *Child Development*, *72*(1), 252–270. http://dx.doi.org/10.1111/1467-8624.00277.

Bromer, J., & Henly, J. (2004). Child care as family support: Caregiving practices across child care providers. *Children and Youth Services Review*, *26*(10), 941–964. http://dx.doi.org/10.1016/j.childyouth.2004.04.003.

Brookes, S., Summers, J., Thornburg, K., Ispa, J., & Lane, V. (2006). Building successful home visitor–mother relationships and reaching program goals in two early head start programs: A qualitative look at contributing factors. *Early Childhood Research Quarterly*, *21*(1), 25–45. http://dx.doi.org/10.1016/j.ecresq.2006.01.005.

Burchinal, M., Bryant, D., Lee, M., & Ramey, C. (1992). Early day care, infant-mother attachment, and maternal responsiveness in the infant's first year. *Early Childhood Research Quarterly*, *7*(3), 383–396. http://dx.doi.org/10.1016/0885-2006(92)90028-W.

Burchinal, M., Roberts, J., Nabors, L., & Bryant, D. (1996). Quality of center child care and infant cognitive and language development. *Child Development*, *67*(2), 606–620.

Buyse, E., Verschueren, K., & Doumen, S. (2009). Preeschooler's attachment to mother and risk for adjustment problems in kindergarten: Can teachers make the difference? *Social Development*, *20*(1), 33–50.

Cárcamo, R., Vermeer, H., De la Harpe, C., van der Veer, R., & van IJzendoorn, M. (2014). The quality of childcare in Chile: Its stability and international ranking. *Child & Youth Care Forum*, *43*(6), 747–761. http://dx.doi.org/10.1007/s10566-014-9264-z.

CASEN (2013). Encuesta de caracterización socioeconómica nacional [national socioeconomic survey]. Ministry of Planification of Chile. Retrieved from http://observatorio.ministeriodesarrollosocial.gob.cl/documentos/Casen2013_Educacion.pdf

Castillo, S. (2014). *Varones en el Jardín: Un estudio sobre la inclusión de hombres en la Educación Parvularia, desde la perspectiva de género. (Tesis inédita de Licenciatura).* Santiago: Universidad de Chile.

Coppola, G., Vaughn, B., Cassibba, R., & Costantini, A. (2006). The attachment script representation procedure in an Italian sample: Associations with adult attachment interview scales and with maternal sensitivity. *Attachment & Human Development*, *8*(3), 209–219. http://dx.doi.org/10.1080/14616730600856065.

Cordella, P. (2002). Proposición de un modelo para comprender la configuración anoréctica. *Revista Chilena de Pediatría*, *73*(6), 566–575. http://dx.doi.org/10.4067/S0370-41062002000600002.

Crittenden, P. (1985). Social networks, quality of child-rearing, and child development. *Child Development*, *56*, 1299–1313.

Crittenden, P. (2000). A dynamic-maturational exploration of the meaning of security and adaptation: Empirical, cultural and theoretical considerations. In P. Crittenden, & A. Claussen (Eds.), *The organization of attachment relationships: Maturation, culture and context* (pp. 358–383). Cambridge: Cambridge University Press.

Crittenden, P. (2006). *CARE-index para infantes (nacimiento-15 meses) manual de codificación.* Miami USA: Family Relations Institute.

Crittenden, P. (2010). *CARE-index infants: Coding manual.* (Unpublished manuscript. Miami, FL, USA).

Dozier, M., Stovall, K., & Albus, K. (1999). Attachment and psychopathology in adulthood. In J. Cassidy, & P. Shaver (Eds.), *Handbook of attachment: Theory, research and clinical applications* (pp. 497–519). New York: Guilford Press.

Feldman, R., Eidelman, A., & Rotenberg, N. (2004). Parenting stress, infant emotion regulation, maternal sensitivity, and the cognitive development of triplets: A model for parent and child influences in a unique ecology. *Child Development*, *75*(6), 1774–1791. http://dx.doi.org/10.1111/j.1467-8624.2004.00816.x.

Fonagy, P. (1999a). *Persistencias transgeneracionales del apego: Una nueva teoría [Transgenerational repetitions of attachment. A new theory]. Revista de Psicoanálisis. 3.* Retrieved from http://www.aperturas.org/articulos.php?id=86&amp%3Ba=Persistencias

Fonagy, P. (1999b). Psychoanalytic theory from the viewpoint of attachment theory and research. In J. Cassidy, & P. Shaver (Eds.), *Handbook of attachment: Theory, research and clinical applications* (pp. 595–624). New York: Guilford Press.

Fonagy, P., Steele, H., & Steele, M. (1991). Maternal representations of attachment during pregnancy predict the organization of infant-mother attachment at one year of age. *Child Development*, *62*(5), 891–905. http://dx.doi.org/10.1111/j.1467-8624.1991.tb01578.x.

Fonagy, P., Gergely, G., Jurist, E., & Target, M. (2002). *Affect regulation, mentalization, and the development of the self.* New York: Other Press.

Fresno, A., & Spencer, R. (2011). Efecto del maltrato físico en la calidad de las representaciones de apego infantil en Chile: Resultados preliminaries. *Terapia Psicológica*, *29*(2), 191–196.

Fundación Chile 21 (2004). Hacia una mayor igualdad social: Atención integral de la infancia [towards a larger social equality: Integral attention of infancy]. *Foro*, *5*(48), 17–19 Retrieved from https://issuu.com/fundacionchile21/docs/col48/1?e=1109428/5437301

Gerber, E., Whitebook, M., & Weinstein, R. (2007). At the heart of child care: Predictors of teacher sensitivity in center-based child care. *Early Childhood Research Quarterly*, *22*(3), 327–346. http://dx.doi.org/10.1016/j.ecresq.2006.12.003.

Grossmann, K., Grossmann, K., Fremmer-Bombik, E., Kindler, H., Scheuerer-Englisch, H., & Zimmermann, P. (2002). The uniqueness of the child-father attachment relationship: Father's sensitive and challenging play as a pivotal variable in a 16-year longitudinal study. *Social Development*, *11*(3), 307–331.

Howes, C. (1990). Can the age of entry into child care and the quality of child care predict adjustment in kindergarten? *Developmental Psychology*, *26*(2), 292–303. http://dx.doi.org/10.1037/0012-1649.26.2.292.

Howes, C. (1999). Attachment relationships in the contexts of multiple caregivers. In J. Cassidy, & P. Shaver (Eds.), *Handbook of attachment: Theory, research and clinical applications* (pp. 671–687). New York: The Guilford Press.

Howes, C., Rodning, C., Galluzzo, D., & Myers, L. (1988). Attachment and child care: Relationships with mother and caregiver. *Early Childhood Research Quarterly*, *3*(4), 403–416. http://dx.doi.org/10.1016/0885-2006(88)90037-3.

Isabella, R. (1993). Origins of attachment: Maternal interactive behavior across the first year. *Child Development*, *64*(2), 605. http://dx.doi.org/10.2307/1131272.

Kivijärvi, M., Räihä, H., Kaljonen, A., Tamminen, T., & Piha, J. (2005). Infant temperament and maternal sensitivity behavior in the first year of life. *Scandinavian Journal of Psychology*, *46*(5), 421. http://dx.doi.org/10.1111/j.1467-9450.2005.00473.x.

Kontos, S., & Wilcox-Herzog, A. (1997). Influences on children's competence in early childhood classrooms. *Early Childhood Research Quarterly*, *12*(3), 247–262.

Landry, S., Smith, K., Swank, P., & Miller-Loncar, C. (2000). Early maternal and child influences on children's later independent cognitive and social functioning. *Child Development*, *71*, 358–375. http://dx.doi.org/10.1111/1467-8624.00150.

Lecannelier, F., Ascanio, L., Flores, F., & Hoffman, M. (2011). Apego y psicopatología: Una revisión actualizada sobre los modelos etiológicos parentales del apego desorganizado. *Terapia Psicológica*, *29*(1), 107–116.

Lehman, E., Steier, A., Guidash, K., & Wanna, S. (2002). Predictors of compliance in toddlers: Child temperament, maternal personality, and emotional availability. *Early Child Development and Care*, *173*, 301–310.

Lucassen, N., Tharner, A., Van Ijzendoorn, M., Bakermans-Kranenburg, M., Volling, B., Verhulst, F., & Tiemeier, H. (2011). The association between paternal sensitivity and

infant-father attachment security: A meta-analysis of three decades of research. *Journal of Family Psychology. Journal of the Division of Family Psychology of the American Psychological Association (Division 43)*, *25*(6), 986–992. http://dx.doi.org/10.1037/a0025855.

Main, M. (2000). The organized categories of infant, child, and adult attachment: Flexible vs. inflexible attention under attachment-related stress. *Journal of the American Psychoanalytic Association*, *48*(4), 1055–1096. http://dx.doi.org/10.1177/00030651000480041801.

Marrone, M. (2001). *La teoría del apego. Un enfoque actual.* Madrid: Psimática.

Meins, E., Fernyhough, C., Fradley, E., & Tuckey, M. (2001). Rethinking maternal sensitivity: Mothers' comments on infants' mental processes predict security of attachment at 12 months. *The Journal of Child Psychology and Psychiatry and Allied Disciplines*, *42*(5), 637–648. http://dx.doi.org/10.1017/S0021963001007302.

Mendez, L., & González, L. (2002). Descripción de patrones de apego en niños institucionalizados. *Revista de Psicología Universidad de Chile*, *XI*(2), 75–92. http://dx.doi.org/10.5354/0719–0581.2002.17288.

Olhaberry, M., & Santelices, M. (2013). Presencia del padre y calidad de la interacción madre-hijo: un estudio comparativo en familias chilenas nucleares y monoparentales. *Universitas Psychologica*, *12*(3), 833–843.

Olhaberry, M. (2011). Calidad de la Interacción Madre-Hijo(a), Asistencia a Salas Cuna y la Importancia de la edad de Ingreso: Estudio comparativo en familias monoparentales chilenas. *Revista Argentina de Clínica Psicólogica*, *XX*(2), 161–173.

Ossandón, M., Ilhabaca, J., & Gajardo, C. (2000). Fomento de la lactancia materna, programa iniciativa Hospital Amigo del niño y de la madre, en Hospital Barros Luco Trudeau. *Revista Chilena de Pediatría*, *71*(2), 98–106.

Pearce, J., & Pezzot-Pearce, T. (2001). Psychotherapeutic approaches to children in Foster care: Guidance from attachment theory. *Child Psychiatry and Human Development*, *32*(1), 19–44.

Phillips, D., McCartney, K., Scarr, S., & Howes, C. (1987). Selective review of infant day care research: A cause for concern. *Zero to three. 7.* (pp. 18–21).

Rosas, M., Gallardo, I., & Angulo, P. (2000). Factores que influyen en el apego y la adaptación de los niños adoptados. *Revista de Psicología Universidad de Chile, IX*, *1*, 1–16.

Rossel, C., Carreño, T., & Maldonado, M. (2002). Afectividad en madres de niños prematuros hospitalizado: un mundo desconocido. *Revista Chilena de Pediatría*, *73*(1), 15–21.

Santelices, M. (2014). Stress and caregiver sensitivity among childcare staff in Santiago, Chile. *European Early Childhood Education Research Journal*, *22*(2), 271–285. http://dx.doi.org/10.1080/1350293X.2014.883723.

Santelices, M., & Pérez, F. (2013). Evolución del vínculo que establece el niño con el personal educativo en salas cuna chilenas. Children's attachment evolution with the educational staff in Chilean child care centers. *Universitas Psychologica*, *12*(3), 821–832. http://dx.doi.org/10.11144/Javeriana.UPSY12-3.even.

Santelices, M., Olhaberry, M., Perez-Salas, C., & Carvacho, C. (2009). Comparative study of early interactions in mother-child dyads and care center staff-child within the context of Chilean créches. *Child: Care, Health and Development*, *36*(2), 255–264.

Santelices, M., Olhaberry, M., Pérez-Salas, C., & Carvacho, C. (2010). Comparative study of early interactions in mother-child dyads and care centre staff-child within the context of Chilean crèches. *Child: Care, Health and Development*, *36*(2), 255. http://dx.doi.org/10.1111/j.1365-2214.2009.01032.x.

Santelices, M., Carvacho, C., Farkas, C., León, F., Galleguillos, F., & Himmel, E. (2012). Medición de la sensibilidad del adulto con niños de 6 a 36 meses de edad: Construcción y análisis preliminares de la Escala de Sensibilidad del Adulto, E.S.A. *Terapia Psicológica*, *30*(3), 19–29.

Santelices, M., Farkas, C., Montoya, M., Galleguillos, F., Carvacho, C., Fernández, A., ... Himmel, E. (2015). Factores predictivos de sensibilidad materna en infancia temprana. *Psicoperspectivas*, *14*(1), 66–76.

Santelices, P., Zapata, J., Fischersworring, M., Pérez, F., Mata, C., Barco, B., ... Farkas, C. (2016). Intervenciones basadas en Mentalización y/o función reflexiva para padres y educadores: Una revisión sistemática. *Terapia Psicológica*, *34*(1), 71–80.

Smith, P., & Pederson, D. (1988). Maternal sensitivity and patterns of infant-mother attachment. *Child Development*, *59*, 1097–1101. http://dx.doi.org/10.1111/j.1467-8624.1988.tb03262.x.

Sroufe, L. (2005). Attachment and development: A prospective, longitudinal study from birth to adulthood. *Attachment & Human Development*, *7*(4), 349–367. http://dx.doi.org/10.1080/14616730500365928.

Stern, D. (1997). *La constelación maternal. Un enfoque unificado de la psicoterapia con padres e hijos.* Madrid: Paidós.

Svanberg, P., Mennet, L., & Spieker, S. (2010). Promoting a secure attachment: A primary prevention practice model. *Clinical Child Psychology and Psychiatry*, *15*, 363–378.

Valdés, N. (2002). Consideraciones acerca de los estilos de apego y su repercusión en la práctica clínica. *Revista Terapia Psicológica*, *20*, 139–149.

Van Ijzendoorn, M., & de Wolf, M. (1997). In search of the absent father: Meta-analyses of infant-father attachment: A rejoinder to our discussants. *Child Development*, *68*, 604–609. http://dx.doi.org/10.2307/1132112.

Ward, M., & Carlson, E. (1995). Associations among adult attachment representations, maternal sensitivity and infant-mother attachment in a sample of adolescent mothers. *Child Development*, *66*, 69–79. http://dx.doi.org/10.1111/j.1467-8624.1995.tb00856.x.

Werner, C., Linting, M., Vermeer, H., & Van IJzendoorn, M. (2016). Do intervention programs in child care promote the quality of caregiver-child interactions? A meta-analysis of randomized controlled trials. *Prevention Science*, *17*(2), 259–273. http://dx.doi.org/10.1007/s11121-015-0602-7.

de Wolff, M., & van IJzendoorn, M. (1997). Sensitivity and attachment: A meta-analysis on parental antecedents of infant attachment. *Child Development*, *68*(4), 571–591. http://dx.doi.org/10.1111/j.1467-8624.1997.tb04218.x.