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Preschooler's attachment representations from a triadic perspective:
A cross cultural study with Chilean and German families

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Francisca S. Pérez Cortés

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Dean: Prof. Dr. Klaus Fiedler (Heidelberg University)
Prof. Dr. Pedro Morandé (Pontificia Universidad Católica de Chile)
Prof. Dr. Manuel Kukuljan (Universidad de Chile)
Advisors: Prof. Dr. Manfred Cierpka (Heidelberg University)
Prof. Dr. Pía Santelices (Pontificia Universidad Católica de Chile)
Prof. Dr. Graciela Rojas (Universidad de Chile)

To Hayo and Pablo.

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INTRODUCTION

During the preschool period the child developmental advances and the growing complexity of his environment generates a qualitative change in his or her affective relations (Bowlby, 1969; Crittenden, 2004; Thompson, 2000). The development of language, the capacity of self-comprehension and the emergence of the theory of mind (capacity of representing the world, the surrounding people and the self), allows the child to increasingly relate with others from an emotional and representational perspective (Ontai & Thompson, 2002), which helps the child gaining autonomy. The child is now able to come out of its familiar environment and can withstand prolonged separations.

The entry to the educational system implies an important change in the daily routine and an extension from the social network. The child faces a new relational context outside the family, which proves his adaption capacity and therefore, the mental health of the whole family system. These extra-familial influences place new demands on caregivers, so adjustments in parenting skills to provide children with psychological tools to explore and negotiate with the social environment are required (Barnett, Kidwell, & leung, 1998).

Most studies examining family influences on children's socio-emotional development have focused almost exclusively on the mother infant dyad (G. Goodman, Lawrence, Berlin, & Brooks-Gunn, 1998; Greig & Howe, 2001; Hoffman, Marvin, Cooper, & Powell, 2006; Lyons-Ruth, Alpern, & Repacholi, 1993; Miljkovitch et al., 2013), and less is known regarding whether familial interactional patterns are associated with child outcomes. However, most children are born in multiple adult families, usually mother-father families. So, to overcome this barrier developmental and systemic family theorist went beyond the "mother-child" dyad to the "mother-father-child" triad, postulating that the infant is from the moment of its birth exposed and embedded in larger contexts and interactions than strictly dyadic, so triangular interactions become important for development (Dunn, 1991; Fivaz-Depeursinge, Corboz-Warnery, & Keren, 2004; Frascarolo, Favez, Carneiro, & Fivaz-Depeursinge, 2004). Moreover, the infant is able to distribute its attention between its two parents as early as 3 or 4 months old, showing an early aptitude to manage a multi-person context (Fivaz-Depeursinge, Favez, Lavanchy, Noni, & Frascarolo, 2005; McHale, Fivaz-Depeursinge, Dickstein, Robertson, & Daley, 2008). It thus stands to reason that family interactional patterns may be reflected in children's socio-emotional development, so examining family episodes that include the child and both parents serves as a logical starting point for the exploration of this hypothesis.

According to attachment theory, children are thought to internalize their early relationship patterns with their caregiver figures in representational models of attachment or Internal Working Models (IWM), which allow the prediction of the own and the others behavior (Bowlby, 1969; Bretherton & Munholland, 1999). The IWM's are defined as a cognitive and affective construct that includes memories, perceptions and expectations in relation to significant others (Besser & Priel, 2005). These IWMs are believed to influence how children adapt emotionally and socially to situations beyond their early attachments to parental figures (Barnett, Kidwell, & Leung, 1998).

The development of secure attachment representations or IWMs is most likely to occur in a context where parents are perceived as sensitive, emotionally available, attentive to exploration and where an interaction characterized by warmth, acceptance and consistency predominates. Care-receiving experiences characterized by intense shared affect between parent and child in which the child feels understood, accepted, and loved—provide him or her with a core sense of security and self-worth (Liebermann, Padrón, Horn, & Harris, 2005). Some empirical findings showed a positive association between the influence of the parents' relationship quality and the security of child attachment (Byng-Hall, 2002; Frosch, Mangelsdorf, & McHale, 2000; McHale, Neugebauer, Radin, & Schwartz, 1999).

The influences on the family interactions, the parent–child relationship and children's attachment security do not operate in isolation; multiple factors must be considered simultaneously to understand how parents' psychological and social contexts influence care giving relationships. That is how parental mental health becomes a relevant factor to be considered in the evaluation of family interactions (Pérez, Lorence, & Menéndez, 2010), given that stress and depressive symptoms have shown to impact both dyadic and triadic interactions (Bronte-Tinkew, Moore, Matthews, & Carrano, 2007; Cierpka, Scholtes, Frey, & Köhler, 2011; Cummings, Davies, & Campbell, 2000; Feldman, 2007; Fivaz-Depeursinge & Favez, 2006; Rodrigo, Martín, Cabrera, & Máiquez, 2009).

Taking into account that families are constantly exposed to different psychosocial and cultural influences, it's necessary to consider that interactional processes will be disrupted to a certain degree by adverse conditions, whether individual, relational or environmental (Cierpka, 2005). There are multiple risk factors (psychopathology, poverty, low parental education, limited social support, machismo, etc.) that can have negative consequences in the family capacity to maintain good quality interactions and in the socio-emotional child growth (Gómez, Muñoz, & Haz, 2007; Schwarzwald, Koslowsky, & Izhak-Nir, 2008; VickWhittaker, JonesHarden, See, Meisch, & Westbrook, 2011).

Considering this background the following dissertation is a contribution to the understanding of preschooler's attachment representations, from a systemic and ecological framework. From a systemic perspective, the aim of this research is to understand the relation between preschooler's attachment representations and triadic family interactions, emphasizing that the involvement of each individual and the reciprocal relationships between them are central for the emergence of a cohesive and harmonious family style that supports optimal development (Belsky, 1981; Cowan & Cowan, 2002; Finchman, 1998; McHale & Cowan, 1996). From an ecological perspective, the aim is to consider psychosocial and cultural aspects that can have an impact in the family interactions and in turn, in the preschooler's attachment representations.

This research goes also beyond a dyadic comprehension in the development of attachment representations and also beyond the early infancy period, where most attachment studies have focused. A new approach in the understanding of preschooler's attachment representations is presented, moving from the concept of the children's use of attachment figures as a 'secure base' (M. Ainsworth, M. Blehar, E. Waters, & S. Wall, 1978; Bowlby, 1969) to the concept of a 'secure family

base'(Byng-Hall, 2002). It's not about questioning the importance of dyadic attachment relationships, but considering also the new perspectives that the triadic form may give to the socio emotional developmental processes (DeWolff & vanIjzendoorn, 1997). So, we hypothesized that family triadic interactional patterns may be reflected in children's socio-emotional development and in their constructions of mental representation of attachment relationships. We also suggest that families with less parental stress symptoms, lower levels of psychosocial risk and more egalitarian sex role ideologies will show more functional triadic interactions.

The structure of the following project consists of a general background, aims and hypothesis, then five articles developed, and finally, the general conclusions and discussion with the aim to integrate and reflect on the findings.

1. Depressive symptoms, parental stress and family functioning¹

The following research examines the relationship between depressive symptoms, parental stress and family functioning characteristics. Fifty mothers and fathers were assessed in their homes using questionnaires. The results reveal different trends for mothers and fathers. The former tend to have higher levels of depressive symptoms and stress related to intra-familial and interactional aspects whereas fathers tend to be more affected by instability in maternal mental health and by the presence of environmental risks. A career is a protective factor for mothers whereas for fathers, an older age and a higher level of education are protective factors.

Keywords: depressive symptoms, parental stress, family functioning.

1.1. Introduction

Family functioning must be understood as a set of intra- and extra-family interactions that occur within a given context. Appropriate family functioning promotes the integral development of the family's members whereas a dysfunctional family should be considered a risk factor because it enables symptoms and illnesses to appear in its members (Herrera Santi, 1997). There are many factors that can affect the equilibrium of family functioning. However, the contexts most immediate to the individual seem to exert a more direct influence (Pérez, Lorence & Menéndez, 2010).

Thus, in the presence of depressive symptoms or parental stress, different aspects of family functioning and family interactions, parenting skills and child welfare are affected, even in samples from the general population (Cummings, Keller, & Davies, 2005). This fact is important considering that depression and subclinical levels of depression, which are represented by stress levels, are increasing in the general population and are particularly prevalent among women and the parents of infants and preschool children (McLennan & Offord, 2001).

Furthermore, the accumulation of contextual risk factors, such as poverty, low levels of parental education and poor social support, increase the likelihood of family members developing psychopathology (Gómez, Muñoz & Haz, 2007; Vick Whittaker, Jones Harden, See, Meisch & Westbrook, 2011; Farkas & Valdés, 2010) and thus affect family functioning.

1.2. Background

1.2.1 Parental mental health and its relationship to family functioning

Most studies emphasize the relationship between maternal characteristics and family functioning (Seifer, Dickstein, Sameroff, Magee & Hayden, 2001), specifically the impact of maternal depressive symptoms on the mother-child relationship (Weinberg & Tronick, 1998), cohesion, family harmony (Feldman, 2007) and levels of negative emotional expression in different family subsystems (Rogosch, Cicchetti & Toth, 2004). In addition, it has been observed that maternal stress negatively affects parenting skills. Mothers with high stress levels feel overwhelmed when meeting the

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demands of their children because they are less able to meet their needs (Rodrigo, Martin, Cabrea & Máiquez, 2009).

The father has been significantly less studied than the mother. However, over the last three decades, numerous studies have examined his role (Amato & Rivera, 1999; Cabrera, Tamis-LeMonda, Bradley, Hofferth & Lamb, 2000; Lamb, 2004; etc.). Several of these studies have demonstrated that the father's presence affects the behavior of each member of the mother-child dyad and the quality of emotional exchange. Other studies indicate that paternal depressive symptoms vary depending on marital status and occupation and are negatively associated with father-child and father-mother relationships as well as co-parenting and are positively associated with parental stress (Bronte-Tinkew, Moore, Matthews, & Carrano, 2007). A study on 45 mothers and fathers demonstrated that fathers with depressive symptoms were less sensitive in play and food interactions (Gueron-Sela, Atzaba-Poria, Barak-Levy, Meiri & Yerushalmi, 2011). Meanwhile, paternal stress negatively affects the mother-child relationship (Pelchat, Lefebvre & Perreault, 2003).

Given the close relationship between the mental health of both parents and family functioning, it is important to investigate the role of context in this relationship, in which problems occur and endure.

1.2.2. Family functioning and contextual factors

For optimal family functioning, it is necessary that the different characteristics of overall family functioning, such as the "environment", "parenting skills", "family interactions", "family security" and "child welfare", facilitate the maintenance of a flexible equilibrium, which enables the family to face various contextual challenges. However, when a broad range of contextual risk factors exists, general family functioning is affected.

Families with young children (infants and preschoolers), with three or more members, low socioeconomic status and high levels of contextual stress are at greater risk of developing negative family interactions and can tend to the habitual use of hostile and authoritarian disciplinary strategies and the development of depressive symptoms in adults of both sexes (Lyons-Ruth, Wolfe & Lyubchik, 2000; Coyl, Roggman & Newland, 2002).

Additionally, lower levels of education and income are associated with a larger number of affective disorders in women (Rojas, Araya & Lewis, 2005) and with low parenting skills in parents of both sexes (Tamis-LeMonda, Shannon, Cabrera & Lamb, 2004). However, in families in which there is a larger number of children, a higher intensity of stress response is observed in mothers and fathers (Pérez et al., 2010).

Nevertheless, the presence of risk factors for family functioning may be affected by the presence of protective factors, such as family and extended family support (Crnic, Friedrich & Greenberg, 1983; Barth & Schinke, 1984; Tinsley & Parke, 1987; Su & Hynie, 2010), maternal employment (Cleary & Mechanic, 1983; Stewart & Malloy, 1987) and the number of hours dedicated to employment (Pérez et al., 2010) as well as the presence of a support network in caring for the children (Goldberg & Easterbrooks, 1988). Regarding this last point, preschools represent an important

support network for families with preschool-age children, particularly for those families in which both parents work.

This study aims to analyze the relationship between depressive symptoms, stress and the characteristics of family functioning in mothers and fathers with preschool-aged children. First, because these families are in the development phase, the functionality of the family system is tested. Then, the study seeks to explain various intra- and extra-family factors related to parental mental health and to the functionality or dysfunctionality of the family system. Finally, the study aims to contribute to the body of knowledge on the prevention and treatment of families at the development stage in the field of clinical psychology.

We expect to find an association between the variables of mental health of both parents and the various characteristics of family functioning. Regarding sociodemographic variables, we expect that families with lower levels of parental education, lower female participation in the workforce and more children will present more depressive symptoms and stress in both parents and increased risk in the various characteristics of family functioning.

1.3. Method

Design

The design of this study is descriptive-correlational, non-experimental and cross-cutting. The method is quantitative.

Participants

The study involved 100 adults, specifically couples that consisted of mothers and fathers residing in different districts of the city of Santiago. The mothers had an average age of 32.2 years (standard deviation (SD) = 6.2) and fathers, an average of 33.4 (SD = 6.7). The educational levels and the occupations of the couples are shown in Table 1.

Table 1 Description of the sociodemographic variables

Variable	Frequency	Percentage	Frequency	Percentage
	Mothers	Mothers	Fathers	Fathers
Schooling:				
- Incomplete primary school	2	4%	2	4%
- Completed primary school	5	10%	4	8%
-Incomplete high school	9	18%	16	32%
-Completed high school/ incomplete technical	25	50%	21	42%
-Completed technical/ incomplete university	8	16%	7	14%
-Completed university degree	1	2%		
Occupation:				
-Housewife/ unemployed	28	56%	5	10%
-Minor and informal jobs	1	2%	1	2%
-Retail office, unskilled laborer, domestic service contract	7	14%	15	30%
	9	18%	23	46%

-Skilled worker, day laborer, micro entrepreneur	5	10%	6	12%
-Administrative employee, clerk, secretary, technical specialist				

The participant-inclusion criteria were that the couple was cohabitating and had at least one child permanently attending preschool. The exclusion criteria included suffering from a disabling physical illness or having a diagnosed psychiatric disorder.

Procedure

Through an intentional sampling, 24 free and public preschools located in the city of Santiago were randomly selected. Once contact was established with the preschools, we proceeded to select families that fit the inclusion criteria. The selected families were contacted by telephone, at which point the project was described, the family invited to participate, and a home visit scheduled to conduct the evaluation. Two evaluators with prior training in the instruments visited the households and performed a 1.5-hour full assessment. This assessment consisted of both parents signing an informed consent and completing questionnaires as well as a family functioning interview, which was performed on both parents simultaneously.

Instruments

Sociodemographic characteristics of the family

A questionnaire to assess child development and family sociodemographic characteristics (e.g., family framework, educational level, occupation) was created.

Beck Depression Inventory (BDI-I)

This instrument was developed by Beck, Ward, Mendelson, Mock and Erlbaugh (1961) to assess the presence of depressive symptoms in adults. It is a self-applied questionnaire that consists of 21 closed questions describing various symptoms of depression. These questions are responded to using a Likert scale of four categories, each receiving a score between 0 and 3 points. The maximum possible score is 63 points, and a higher score indicates greater symptomatology. The instrument has been widely used in various studies and exhibits favorable levels of reliability and validity.

Parental Stress Index-Short Form (PSI-SF)

This instrument was developed by Abidin (1995) and consists of 36 items derived from the original PSI instrument. It uses three scaled categories: parental stress, difficult child characteristics and dysfunctional parent-child interactions. The score ranges for the overall scale are as follows: 0-20 (mild levels of stress), 21-84 (moderate levels of stress) and 85+ points (high levels of stress) (Abidin, 1995).

The abbreviated form was chosen because of time constraints and because the internal consistency of the subscales of the general instrument and by subscale resembles that of the original instrument (Roggman, Moe, Hart & Forthun, 1994), with coefficients between 0.78 and 0.90 in a sample of 103 parents. Reliability studies conducted by Abidin (1995) on a sample of 800 cases exhibit good test-retest coefficients (0.68-0.85) and reliability (0.80-0.90). A Chilean study conducted on 137 mothers of low socioeconomic status established a Cronbach's alpha of 0.94

(Farkas, 2011). External validity was established at full scale, yielding correlation coefficients between 0.73 and 0.95 (Abidin, 1995).

North Carolina Family Assessment Scale (NCFAS)

This instrument was developed by Kirk in cooperation with the National Family Preservation Network (2007) to assess family functioning. In the Spanish 2.0 version, the scale consists of 36 items distributed across five characteristics: environment, parental capabilities, family interactions, family safety and child welfare. The current level of family functioning is assessed using these characteristics and sub-characteristics with a six-point scale and distributed as follows: +2 = clear strength, +1 = mild strength, 0 = baseline/adequate, -1 = mild problem, -2 = moderate problem, -3 = serious problem. Each item has its own operational definition, in which the extreme scores (-3, +2) and the baseline (0) are described. To perform the analysis, we converted these scores into positive numbers while maintaining the scale's order (0 = clear strength, 1 = mild strength, 2 = baseline, 3 = mild problem, 4 = moderate problem, 5 = serious problem). That is, the higher the score is, the greater the risk.

This scale has been validated in Chile with 591 families of low socioeconomic status, displaying an internal consistency similar to the original version (0.78-0.87). Exploratory factor analysis indicated that the scale's characteristics support the original structure of 5 factors (Valencia & Gómez, 2010).

Data analysis

Descriptive and correlational analyses were conducted using the variables of parental mental health, family functioning characteristics and sociodemographic variables. Finally, successive iterations of regression analyses were performed to explain the variance in parental psychological variables and family functioning characteristics. To this end, variables that had displayed significant correlations with the variables in question were incorporated.

1.4. Results

Descriptive analysis

According to the BDI-I results (Table 2), the scores for mothers and fathers indicate minimum levels of depressive symptoms and no significant differences between groups ($t = 1.29, p = 0.20$).

Table 2. Means and standard deviations from mothers and fathers in the BDI-I and PSI-SF

Scale	Mean	S.D	Mean	S.D
	Mothers	Mothers	Fathers	Fathers
BDI-I	7.12	6.29	5.96	5.44
PSI-SF	80.5	17.52	76.51	14.04
PSI-SF (PS)	30.60	8.04	27.18	5.60
PSI-SF (PCHI)	21.16	7.34	20.43	5.44
PSI-SF (DCh)	29.28	8.44	28.90	6.30

Regarding PSI-SF scores (see Table 2), 60% of mothers had moderate levels of stress and 40% had high levels whereas 69.4% of fathers had moderate levels and 30.6% had high stress levels. All of the sub-scales were in the moderate range of stress, and the only significant differences were observed in the parental stress

subscale ($t = 2.32, p = 0.03$) between mothers and fathers, whereby mothers exhibited higher levels.

Finally, regarding the NCFAS-G scale, we found that the five characteristics displayed averages that border the baseline (range = 1.86-2.17), which indicated that mothers and fathers tend not to refer to risk factors in relation to family functioning (Table 3).

Table 3. Means and standard deviations from the NCFAS-G dimensions

Dimension/Item	Mean	S.D
Environment	2.22	0.50
Parental capabilities	2.04	0.42
Family interactions	1.86	.50
Family safety	2.12	0.23
Child well being	2.17	0.60

Correlational analysis

Regard maternal psychological variables, we found that depressive symptoms correlated significantly with maternal parenting stress ($r = 0.73, p = 0.00$), paternal parenting stress ($r = 0.40, p = 0.00$) and the "Family safety" characteristic ($r = 0.52, p = 0.00$) subscales (Table 3). The relationship with the maternal occupation and workday sociodemographic variables was negative ($r = -0.34, p = 0.02, r = -0.32, p = 0.02$). That is, with a better employment situation and increased working hours, fewer symptoms are observed. Based on this correlation, we compare means (M) between mothers who work and who do not work outside the home ($M = 4.50, SD = 4.73; M = 9.18, SD = 6.67$, respectively) and find that the former score significantly lower than the latter ($t = 2.78, p = 0.01$).

Meanwhile, overall maternal stress significantly correlated with paternal stress and the "family interaction" characteristic (Table 4), specifically with "child attachment" ($r = 0.39, p = 0.01$). Subscale analysis found that maternal parenting stress was negatively correlated with maternal occupation ($r = -0.35, p = 0.01$).

Table 4. Significant correlations between BDI-I, PSI-Sf and NCFAS-G in mothers and fathers

Scales	BDI m	BDI f	PSI-SF m	PSI-SF f	E	F.I	F.S
BDI-I mother	1.00	0.49**	0.49**	0.49**	-	-	0.52**
BDI-I fathers	0.49**	1.00	-	-	-	-	-
PSI-SF mother	0.49**	-	1.00	0.32*	-	0.30*	-
PSI-SF father	0.49**	-	0.32*	1.00	0.37**	-	-
Environment	-	-	-	0.37**	1.00	-	-
Family interactions	-	-	0.30*	-	-	1.00	-
Family safety	0.52**	-	-	-	-	-	1.00

** significant correlation at 0.01 level (two-tailored); *significant correlation at 0.05 level (two-tailored)

Regard paternal psychological variables, we found correlations with the previously mentioned maternal variables. Additionally, paternal depressive symptoms were negatively correlated with the educational level of the father ($r = -0.38, p = 0.01$)

whereas paternal stress was negatively correlated with paternal age ($r = -0.33$, $p = 0.02$) and positively correlated with the “environment” characteristic (Table 4).

When the five characteristics of the family functioning scale are analyzed with parental psychological and sociodemographic variables (Table 3), it is important to note that higher characteristics scores indicate poorer family functioning. Note that "environment" is negatively correlated with the educational level of the father ($r = -0.32$, $p = 0.02$) and "family security" correlates with maternal occupation ($r = -0.30$, $p = 0.04$), and with the number of individuals living in the home ($r = 0.30$, $p = 0.03$). Last, "child welfare" is negatively correlated with maternal age ($r = -0.33$, $p = 0.02$).

Regression analysis

To predict the variance of maternal depressive symptoms, three models were constructed that were successively based on the significant correlations detected. The first model included family security, which explained 25.1% of the variance ($F = 17.12$, $p = 0.00$). The second model added the variables of depressive symptoms and general paternal stress and explained 36.2% of the variance ($F = 10.07$, $p = 0.00$), and the third model added maternal occupation and explained 37.7% of the variance ($F = 8.27$, $p = 0.00$).

To predict maternal stress, three models were developed. The first model considered general paternal stress and explained 8.2% of the variance ($F = 5.29$, $p = 0.03$). The second model incorporated the child attachment item and explained 19.3% of the variance ($F = 6.74$, $p = 0.00$), and the third model incorporated maternal occupation, which increased the percentage of variance explained to 23.2% ($F = 5.82$, $p = 0.00$).

Paternal depressive symptoms were explained on the basis of two models. The first model included the educational level of the father and explained 12.8% of the variance ($F = 8.04$, $p = 0.01$). The second model added maternal depressive symptoms and explained 26.6% of the variance ($F = 9.71$, $p = 0.00$). Last, four models explained the paternal stress variable. The first model included general maternal stress and explained 8.2% of the variance ($F = 5.29$, $p = 0.03$). The second model added the father's age and explained 19.1% of the variance ($F = 6.68$, $p = 0.00$). The third model added maternal depressive symptomatology and explained 21.8% of the variance ($F = 5.47$, $p = 0.00$). The fourth model incorporated environment and explained 29.8% of the variance ($F = 6.08$, $p = 0.00$).

The variance explained by the NCFAS characteristics fluctuated between 24 and 64% (Table 5). No analysis was performed on “environment” because this characteristic is a structural variable and not necessarily explained by intra-family variables.

Table 5. Step-wise regression analysis for NCFAS-G dimensions

DV: Parental Capabilities	B	F	△ R2
Model 1:			
-Environment	0.43	16.78**	0.24
Model 2:			
-Environment	0.29	42.14**	0.63
-Family interactions	0.55		

DV: Family interactions			
Model 1:			
-Child well-being	0.34	9.47**	0.15
Model 2:			
-Child well being	0.20	33.32**	0.57
-Parental capabilities	0.79		
DV: Family safety			
Model 1:			
-Number of people at home	0.38	4.84*	0.07
Model 2:			
-Number of people at home	0.38	5.41**	0.22
-PSI- SF father (DCh)	0.12		
-PSI- SF mother (PS)	0.01		
Model 3:			
-Number of people at home	0.34	6.00**	0.29
-PSI- SF father (DCh)	0.01		
-PSI- mother (PS)	-0.00		
-BDI- I mother	0.02		
DV: Child well being			
Model 1:			
-Maternal age	-0.03	5.70*	0.09
Model 2:			
-Maternal age	-0.03	8.71**	0.24
- Family interactions	0.49		

** significant correlation at 0.01 level (two-tailed); *significant correlation at 0.05 level (two-tailed)

1.5. Discussion

The previously described results confirm an association between the variables of parental mental health and family functioning characteristics, with different trends for the mothers and the fathers.

For the mothers, family security and paternal mental health strongly explain the emergence of depressive symptoms. That is, violent family environments and conflicts increase the presence of depressive symptoms in the mother and vice versa. Paternal stress is also part of this dynamic, which is associated with both family security and maternal depressive symptoms. However (and according to the hypothesis), having an occupation outside the home is associated with lower levels of depressive symptoms in the mother and most likely acts as a protective factor.

Meanwhile, the variables that are associated with paternal depressive symptoms are the educational level of the father and maternal depressive symptoms, which is consistent with the hypothesis. One explanation is that for this group of parents, higher levels of education are protective because they are likely associated with greater cognitive resources to face different situations and conflicts in addition to, e.g., better job opportunities. Furthermore, the relationship between depressive symptoms of both parents is confirmed, which demonstrates the interrelationships and mutual influence among family members.

In relation to stress, we found that 40% of the mothers and 30.6% of the fathers present high levels of general stress and that the mothers exhibit significantly higher

levels on the parental stress subscale. This result is consistent given that 80% of the mothers were defined as the primary caregivers. Among the variables that were strongly related to maternal stress, the most notable are paternal stress, and family interactions, specifically with child attachment and maternal occupation. That is, for the mothers, the quality of their emotional ties, specifically with their children and partners, was a relevant factor with respect to mental health. Again, participation in the labor force would be protective because working mothers have lower levels of stress than those who do not work.

The variables that are associated with paternal stress are the levels of depressive symptoms and maternal stress and, as already mentioned, the environment and the father's age. Unlike the mothers, for whom intra-family relationships play an important role in the presence of stress, for the fathers, factors related to the security and stability of the environment, i.e., contextual factors, affected the level of stress.

Therefore, it can be concluded that mothers tend to have higher levels of depressive symptoms and stress associated with intra-familial and relational aspects whereas fathers tend to be more affected by instability in maternal mental health and environmental risks. As formulated in the hypothesis, having an occupation outside the home for mothers and higher education levels for fathers would be protective factors, not the number of children. In addition, the protective role of age is emphasized for fathers because older fathers have lower levels of stress than younger fathers, which suggests that fathers with more experience are more secure in their roles.

In relation to family functioning, in cases in which increased risk is observed in the overall environment, lower parenting skills are observed, which suggests that there are basic contextual conditions (e.g., housing, community safety, environmental risk) that are necessary if parents are to deploy adequate parenting skills. However, not only contextual factors are associated with parenting skills but also intra-familial factors, such as family interactions, which are critical if parents are to exercise positive parenting. Finally, to the extent that the bonds between family members are adequate, there is higher child welfare. Clearly, there is a reciprocity among the different characteristics of family functioning and among these characteristics with parental psychological variables, which corroborates that systemic analysis is a suitable comprehensive model of family mental health.

Based on these results, it is suggested that systemic approaches that consider the factors that affect family functioning and the mental health of family members be used to design family mental health prevention and intervention programs. Additionally, it is critical to promote different parental stress coping strategies for mothers and fathers, strategies that are more focused on relational aspects for mothers and on the relationship with the mother and environmental aspects for fathers. Last, to apply this approach to strengthening family functioning, it is essential to promote the active participation of the father, who often becomes a minor actor either by self- or other exclusion.

Limitations of the study

Certain limitations of our study could have interfered with the results presented, such as the use of the BDI-I to assess depressive symptoms in the general population

because the instrument is not precise in discerning symptoms in non-clinical populations.

Moreover, the scores obtained for the five characteristics of the family functioning scale may have been affected by social desirability and conflict avoidance because the scale was administered to the mothers and fathers simultaneously. To test this hypothesis, in the future, parents should be interviewed separately to contrast their perspectives.

It is suggested that future research on family functioning also assess children to more directly understand the relationship between parental variables and child welfare. It would also be advisable to include other members of the extended family who participate in daily family routines and who play an important role in childcare. Finally, it is key to conduct longitudinal studies because chronic stressors may have more substantial consequences for and be determinants of family mental health.

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2. Triadic Family Alliance and Parental Mental Health²

The Lausanne Trilogue Play (LTP) is an instrument that allows for the standardized assessment of the family alliance, highlighting the importance of the father in studies of family processes and interactions as well as the existence of a triadic family effect from the early stages of life. The present study aims to contribute to the scholarship on family alliances in families with preschool-aged children, analyzing the relationship between family alliances and parental mental health variables. Fifty parental couples and their children were evaluated at their homes with the following instruments: LTP, BDI-I, PSI-SF, and a sociodemographic questionnaire. The results show that most of the families had dysfunctional alliances that did not show a statistically significant relationship with the parental variables studied. Nevertheless, families with conflicting alliances tend to show higher levels of depressive symptoms and parental stress, especially fathers.

Key words: family alliance, depressive symptoms, parental stress.

2.1. Introduction

2.1.1. *Beyond the dyad*

The family nucleus is the most influential system that defines and configures the development of the individual from conception (Bronfenbrenner, 1987). Thus, the reciprocal relations among family members are central to the emergence of a harmonious and cohesive family style that supports the optimum development of its members (Belsky, 1981; Cowan & Cowan, 2002; Fincham, 1998; McHale & Cowan, 1996).

While research has historically focused on the family processes and interactions of the mother-child dyad (Flykt, Kanninen, Sinkkone, & Punama²ki, 2010; Teti, Gelfand, Messinger, & Isabella, 1995; Weinberg & Tronick, 1998), the first studies to investigate the father demonstrated that his presence has an impact on the conduct of the mother and child and on the quality of the emotional exchange between them, an influence that suggests a triadic family effect (Clarke-Stewart 1978; Yogman 1981).

The family systems theory and developmental psychology have joined together to go beyond the “mother-child” dyad to the triadic “mother-father-child”, proposing that the child, from the time of birth, is exposed to and inserted into broader relational contexts than strictly dyadic associations, and from three or four months of age, the child is capable of dividing its attention between both parents in such a manner that the triangular relations become an important part of its development (Dunn, 1991; Fivaz-Depeursinge, Corboz-Warnery, Keren, 2004).

The Lausanne Trilogue Play (LTP), a tool developed by Fivaz-Depeursinge, Frascarolo and Corboz-Warnery (1996), analyzes the distinct subsystems of the triad and how they are organized into an adaptive whole (Cox & Paley, 1997), allowing us to examine family interactions and broadening the partiality of dyadic assessments.

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The present study aims to explain the family alliance through an LTP analysis in families with preschool-aged children because it is during this period that games constitute a natural way of relating. At this age, the development of a child's motor, sensory, and verbal abilities enables the growth of the theory of mind, that is, the ability to represent the world, the people who surround him/her as well as himself/herself, and the child is already capable of relating to others in an emotional and representational discourse (Ontai, & Thompson, 2002) that is expressed through games. Additionally, at this age, entry into kindergarten tests the adaptability of the child and consequently of the entire family system in such a manner that many times at this stage, disturbances or problems in family functioning are detected for the first time.

There are multiple psychosocial risk factors that can have negative consequences for a family's ability to maintain quality interactions (Gómez, Muñoz, & Haz, 2007; Vick Whittaker, Jones Harden, See, Meisch, Westbrook, 2011), including the mental health of the parents. Thus, the present study aims to contribute to the scholarship on the relationship between triadic "mother-father-child" interactions and parental mental health.

2.1.2. Triadic alliances

While in a dyad there is only one possible form of interaction, study of triadic play is more complex because four types of configurations (three dyads, one triad) must be explored, given that each member can assume an active role or take a passive position. This difficulty may be eased by distinguishing between four functions that occur in interactions, which overlap and follow a hierarchical order: 1) participation that considers the inclusion of all participants; 2) organization that implies that the members are maintaining their roles; 3) targeting, that is, sharing a common focus; and 4) affective contact, where all of the members are connected. An analysis of these functions through play in family settings can identify the functionality or dysfunctionality of the "mother-father-child" family interactions, which can be categorized as "triadic alliances" or "family alliances" according to the degree of coordination achieved by its members (Fivaz-Depeursinge, & Corboz-Warnery, 1999).

Because the natural objective of the triad is to create playful feelings and cooperation among participants, achieving a successful interaction implies both family coordination as well as the ability to reorganize the interaction after a pause or variation in the theme of the exchange and to repair a lack of coordination without interrupting the ongoing exchange (Fivaz-Depeursinge & Corboz-Warnery, 1999; Frascarolo, Favez, Carneiro, Fivaz-Depeursinge, 2004; Stern, 1977).

When the triad achieves a quality interaction, researchers postulate that the triad has a "cooperative alliance", which describes families whose members participate, coordinate "well enough" on a joint task, respect their roles, and exchange positive effects. The evaluator has the impression that the interactions are consistent and cohesive. Meanwhile, a "conflicting alliance" describes families whose members compete, and this competition is expressed through a conflict that can be open or concealed. The parents are not capable of coordinating "well enough" to carry out the task, interrupting each other, causing breakdowns in the interaction, and competing with each other to obtain the attention of the child. The family can perform dyadic

games, but it is more difficult for them to play triadic games. Finally, a “disorganized alliance” describes families who demonstrate interactions characterized by the exclusion of one of the members and who, despite their efforts, do not achieve coordination, cohesion, and emotional contact with each other.

While multiple factors can influence the functionality or dysfunctionality of the family alliance, the aspects that are closest to the individual seem to have the most direct influence, such that the mental health of the parents becomes a relevant factor to be considered in the evaluation of family interactions (Pérez, Lorence & Menéndez, 2010).

2.1.3. Parental mental health and family interactions

It has been widely reported in the literature that the presence of depressive symptoms in mothers decreases their levels of reciprocity, synchrony, and coordination with their child, compromising the dyadic and triadic capacity that allows for effective regulation (Feldman, 2007). Likewise, mothers who show high levels of stress refer to feeling overwhelmed by the demands of their children and being less available to meet their needs (Rodrigo, Martín, Cabrera & Máiquez, 2009).

While fathers are less studied than mothers, studies that incorporate fathers have multiplied during the last three decades (Amato & Rivera, 1999; Cabrera, Tamis-LeMonda, Bradley, Hofferth & Lamb, 2000; Lamb, 2004; Tenorio, Santelices & Pérez, 2009). Some of these studies have shown that the father’s presence has an impact on the behavior of each member of the dyadic mother-child paradigm and on the quality of emotional exchanges.

Some studies have suggested that the presence and involvement of the father varies according to the biological relationship the father has with the child, his human capital, his psychological wellbeing, and his sources of social support and stress (Belsky, 1984; Hossain & Roopnarine, 1994; Pleck & Masciadrelli, 2004). For example, fathers with a higher educational level are more capable of providing for their children and engaging with them (McLanahan, 2009), whereas fathers with more depressive symptoms and stress demonstrate greater levels of hostility, rejection, and inadequate stimulation (Cummings et al., 2000; Parke et al., 2004). Other studies indicate that paternal depressive symptoms vary according to marital status and occupation and are negatively associated with the father-child, father-mother relationship and positively associated with parental stress (Bronte-Tinkew, Moore, Matthews, & Carrano, 2007).

Studies in child and family mental health show that the participation of the child in the triad integrating both the mother and father can help to resolve dysfunctional dyadic interactions with one of them. Dickstein et al. (1998) propose that a significant mediator of development in preschool-aged children exposed to maternal psychopathology is a healthy functioning family. In families where one of the parents has a mental illness, child development depends more on the level of family functioning than on the dyadic interaction maintained by the father (or the mother) who presents such a condition (Seifer & Dickstein, 2000). This experience favors the emotional regulation of the child during the interaction, contributing to a reduction of tension and stress (Fivaz-Depeursinge & Favez, 2006). There is some evidence that indicates that fathers are sensitive to maternal risks, including depressive symptoms

(Cummings, Goeke-Morey, & Raymond, 2004), and a father's adequate mental health acts as a protective factor for the child in relation to a mother or a child's depressive symptoms (Gere, Hagen, Villabo, Arnberg, Neumer & Torgersen, 2013).

The use of LTP in non-clinical contexts has identified that babies make relational offers to both parents, typically by exchanging pleasure or displeasure signals with the eyes at both parents equally (Lavanchy, 2002). In families with functional alliances, these exchanges are more frequent than in families with dysfunctional alliances. Likewise, the exchange of pleasant affection over unpleasant affection is generally more frequent in families with functional alliances than in those with dysfunctional alliances (Koller, 2004). In other words, the emotional exchanges between a baby or child and his/her parents are generally more negative in families with problematic alliances. For its part, the use of LTP in clinical contexts has shown that the triadic capacity is significantly lower in families with a clinical history (Gertsch Bettens, Favez, Corboz-Warnery & Fivaz-Depeursinge, 1992).

Based on the evidence presented, the present study aims to support the examination of the relationship between the triadic alliance and parental mental health. We expect that the triads composed of parents who present increased clinical symptoms will demonstrate more dysfunctional family alliances, while in families where both parents present low levels of depressive symptoms and stress, cooperative alliances will be observed. Likewise, we will also investigate this relationship in couples where the mothers and fathers present different levels of depressive symptoms and parental stress. Additionally, we will analyze the relationship between mental health and the cultural capital (educational level, occupation) of the parents.

2.2. Methods

Design

The present study is transversal and exploratory because this is the first time the family alliance has been studied through an LTP in families with preschool-aged children in the national context. To respond to the hypotheses, a descriptive-correlational quantitative analysis will be conducted.

Participants

Fifty triads participated (power and reliability: 95%), specifically mothers, fathers, and their children; all were residents of different districts of the city of Santiago. The mothers had an average age of 32.2 years (SD= 6.2), the fathers had an average age of 33.4 years (SD= 6.7), and the children had an average age of 4.5 years (SD= 2.7). The educational levels and occupations of the parents are shown in Table 1. It is worth noting that in 80% of the families, the mothers were defined as the primary caregivers, and the corresponding percentage for fathers was 4%, grandparents 4%, aunts and uncles 2%, and others 10%.

Table 1 Description of the sociodemographic variables

Variable	Frequency	Percentage	Frequency	Percentage
	Mothers	Mothers	Fathers	Fathers
Schooling:				
- Incomplete primary school	2	4%	2	4%
- Completed primary school	5	10%	4	8%
-Incomplete high school	9	18%	16	32%

-Completed high school/ incomplete technical	25 8	50% 16%	21 7	42% 14%
-Completed technical/ incomplete university	1	2%		
-Completed university degree				
Occupation:				
-Housewife/ unemployed	28	56%	5	10%
-Minor and informal jobs	1	2%	1	2%
-Retail office, unskilled laborer, domestic service contract	7 9	14% 18%	15 23	30% 46%
-Skilled worker, day laborer, micro entrepreneur	5	10%	6	12%
-Administrative employee, clerk, secretary, technical specialist				

The inclusion criteria for the participating families were that they were living together and had at least one child of preschool age who attended preschool. Exclusion criteria included having some physically debilitating illness or a diagnosed psychiatric disorder.

Procedure

Free public preschools that were located in the city of Santiago were selected, of which 24 were randomly chosen. Once contact was established with the preschools, families were selected who met the inclusion criteria. The selected families were contacted by telephone and invited to freely participate; if they agreed, a home visit was scheduled and the assessment was performed there. Two evaluators with prior training in the instruments attended the home visits, and each complete evaluation was performed in 1.5 hours, which consisted of informed consent by both parents, application of the questionnaires, and recording of the triadic play.

Instruments

Family sociodemographic characteristics

A specific questionnaire was created that evaluated the history of the child's development as well as the sociodemographic history of the family (family constitution, education level, occupation, etc.).

Beck Depression Inventory (BDI-I)

The BDI-I is an instrument developed by Beck, Ward, Mendelson, Mock & Erbaugh (1961) with the aim of evaluating the presence of depressive symptoms in an adult. The BDI-I is a self-applied questionnaire that consists of 21 closed questions describing various symptoms of depression. These symptoms are evaluated according to a Likert scale with four categories, each scored from 0 to 3 points. The maximum possible score is 63 points, and a higher score indicates a greater presence of symptoms. The instrument has been widely used in various studies, demonstrating good rates of reliability and validity (0.92) (Beck et al., 1996, cited in Melipillán, Cova, Rincón & Valdivia, 2008).

Parenting Stress Index Short Form (PSI-SF)

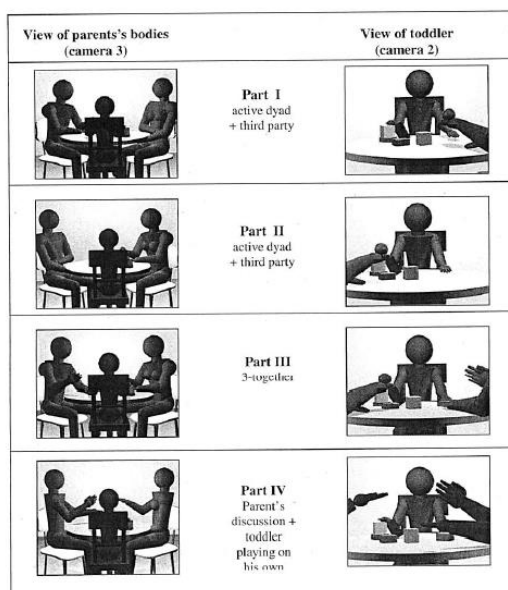
The PSI-SF is an instrument developed by Abidin (1995) that consists of 36 items derived from the original PSI instrument and is composed of three scales: parental stress, characteristics of the difficult child, and dysfunctional parent-child interactions. The cutoff scores for the general scale are as follows: 0-20 indicates mild levels of stress; 21-84 indicates moderate levels of stress; and 85 or more points indicate high levels of stress (Abidin, 1995).

The use of the short form was chosen in consideration of time restraints because the levels of internal consistency of the general instrument and the subscales are similar to the original instrument (Roggman, Moe, Hart & Forthun, 1994), with coefficients between .78 and .90 in a sample with 103 parents. Reliability studies performed by Abidin (1995) in a sample of 800 cases demonstrated good test-retest coefficients (.68-.85) and internal consistency (.80-.90). In a Chilean study carried out with 137 mothers of low socioeconomic status, a Cronbach's alpha of .94 was established (Farkas, 2011). External validity was established with the complete scale obtaining correlation coefficients between .73 and .95 (Abidin, 1995).

Lausanne Trilogue Play (LTP) preschool version

The LTP is an observational instrument developed by Fivaz-Depeursinge, Frascarolo, and Corboz-Warner (1996) with the aim of evaluating the interactions between mother-father and child in standardized form. The family is seated around a table in such a manner that all three members have visual contact. By means of a statement, the family is encouraged to play in four phases: 1) father or mother play actively with the child while the other adult is only present; 2) then these roles are reversed between the parents; 3) next, the father, mother, and child actively play together; and 4) finally, the father and mother interact and the child is simply present. The interactions are filmed with two synchronized cameras, one focused on the parents and the other on the child (Figure 1).

Figure 1: View of the four positions of the LTP (toddler version)



Note. Source. Centre d'Etude de la Famille (2007). Figure 2: Views according to the 4 parts of the LTP. *Indications for the LTP Setting for Toddlers*. VB/ 15.02.98; translation: CLS & FF/2007

The procedure can determine three types of family alliances with two options for each: 1) cooperative alliance, which can be a) fluid or b) tense; 2) conflicting alliance, which can be a) closed or b) open; and 3) disorganized alliance, which can be a) with exclusion or b) chaotic. The type of family alliance is determined through evaluation of the structural and dynamic functions of the interaction, which are classified as *adequate, moderate, or inadequate* levels.

It is worth noting that the videos in the study were coded by two expert judges who obtained good inter-rater reliability ($\kappa = 0.7, p < 0.05$).

Data analysis

A descriptive analysis was performed of the family alliances, the mental health variables of the parents, and the families' sociodemographic variables. Additionally, the inter-rater reliability of the alliances was calculated through the kappa index. With the objective of comparing the averages of the depressive symptoms and stress in the parents according to the type of family alliance, an analysis of Student's t-tests and the variance was performed. For each of the analyses, the Cohen's effect size was calculated, considering that less than 0.2 corresponds to a small effect size, 0.5 is a medium effect size, and 0.8 represents a large effect size. Finally, to establish the relationship between parental mental health and the sociodemographic characteristics of the families, a bivariate correlation analysis was conducted.

2.4. Results

Descriptive analysis

Of the families evaluated, 10% presented cooperative alliances, with only one family showing the fluid subtype and four families (8%) showing the tense subtype. Seventy percent of the families presented conflicting alliances, with 66% closed and 4% open. Finally, 20% of the families presented disorganized alliances, 12% were with exclusion, and 8% were chaotic.

According to the results obtained from the BDI-I (see Table 2), the mothers and fathers showed minimal levels of depressive symptoms on average, and there were no significant differences between the groups ($t = 1.6, p > 0.05$). Of the mothers, 74% presented minimal symptoms, 18% showed mild symptoms, and 8% presented moderate symptoms, while 78% of the fathers presented minimal symptoms, 16% mild symptoms, 2% moderate symptoms, and 4% severe symptoms.

Regarding the scores obtained from the PSI-SF, all of the subscales displayed average levels of stress, and significant differences between the mothers and the fathers were only observed in the parental stress subscale ($t = 2.49, p < 0.05$), where the mothers demonstrated higher levels. Sixty percent of the mothers presented average levels of stress, and 40% showed high levels, while 69.4% of the fathers presented average levels and 30.6% high stress levels.

Table 2. Averages and deviations of mothers and fathers obtained from the BDI and PSI-SF

Scale	Average	and	Average	and	T-test			Cohen
	SD		SD		t	gl	p	d
	Mothers		Fathers					
BDI	6.85 (6.09)		5.42 (3.94)		1,6		47	0.28

PSI-SF	80.82 (17.56)	76.51(14.04)	0.12 1.6	48	0.27
PSI-SF (EP)	30.06 (8.04)	27.00 (6.56)	0.11 2.5	49	0.42
PSI-SF (IDPF)	21.3 (7.36)	20.43 (5.44)	0.02 0.7	48	0.5 0.13
PSI-SF (ND)	29.47 (8.43)	28.90 (6.30)	0.5	48	0.6 0.08

Comparative analysis by type of family alliance

For comparison, the variation of the averages of the parental mental health variables was analyzed by type of family alliance (cooperative, conflicting, disorganized) through the one-factor ANOVA test. While there was a tendency for both parents in families in cooperative alliances to present lower levels of depressive symptoms and parental stress, a statistically significant effect was only observed in levels of paternal depressive symptoms at a confidence level of 95% for the three alliance types [$F(2,45)=3.3, p<0.05$].

When repeating this analysis but this time dichotomizing the types of alliances as adequate (cooperative) and inadequate (conflicting and disorganized), the same tendency was observed, where cooperative families showed lower averages in depressive symptoms and parental stress; however, this difference was also not significant (see Table 3). However, this result once again highlights the difference in the fathers' levels of depressive symptoms ($t=1.72, p= 0.091$), almost reaching a level of statistical significance and a medium effect size.

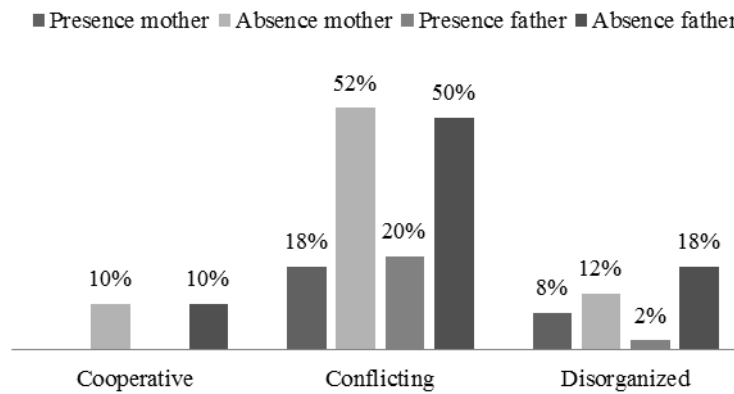
Table 3. Averages and standard deviations of mothers and fathers for depressive symptoms and parental stress according to the type of family alliance

Scale/ Type of Alliance	Adequate Alliance (N= 5)	Inadequate Alliance (N= 45)	T-test			Cohen d
			t	gl	p	
BDI Mother	5.6 (1.14)	7.29 (6.61)	0.57 0.58	48	0.16	
BDI Father	2.6 (1.52)	5.74 (4.01)	1.72 0.09	46	0.51	
PSI Mother	80.2 (13.08)	80.53 (18.07)	.04 0.97	48	0.01	
PSI Father	68.0 (10.8)	77.2 (14.08)	1.41 0.17	48	0.41	

Additionally, the presence or absence of depressive symptoms was analyzed in mothers and fathers according to the type of family alliance. According to Beck, Steer, and Garbin (1988), minimal symptoms refer to subclinical symptoms; therefore, the scores that indicated minimal symptoms were considered as an absence of symptoms, and the scores that indicated mild, moderate, or severe symptoms were considered as the presence of depressive symptoms. The results

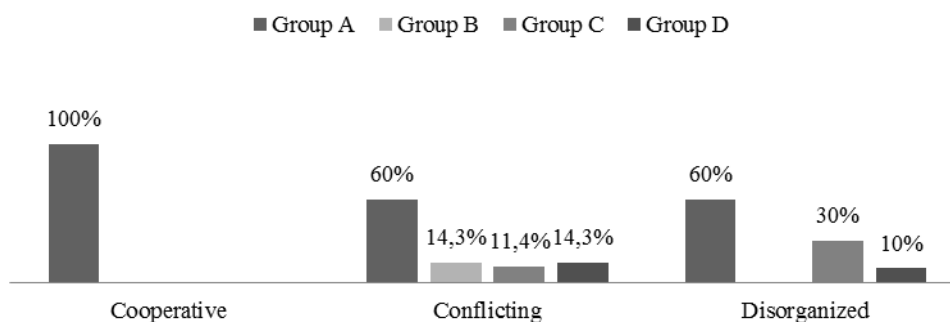
reflect a complete absence of symptoms in mothers and fathers with cooperative alliances, while in conflicting alliances, a greater percentage of depressive symptoms was observed both in mothers (18%) and fathers (20%).

Figure 2. Presence or absence of depressive symptoms in mothers and fathers according to the type of family alliance



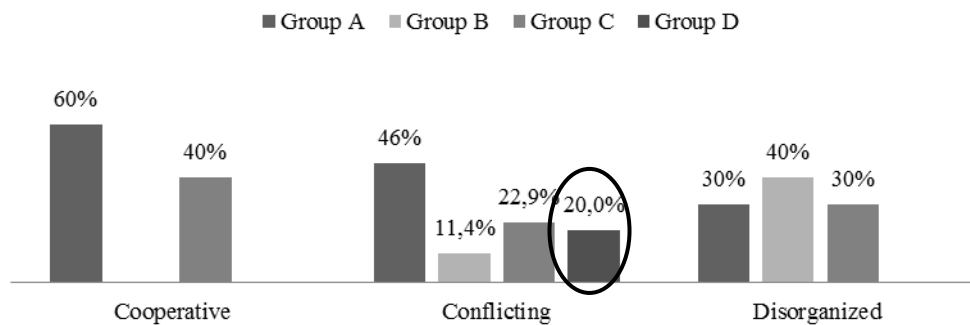
When analyzing the “parental couple”, four groups were formed according to the absence or presence of symptoms: (A) an absence of depressive symptoms in both parents (N=32); (B) the presence of depressive symptoms in the father and an absence in the mother (N=5); (C) the presence of depressive symptoms in the mother and an absence in the father (N=7); and (D) the presence of depressive symptoms in both parents (N=6). Figure 3 shows the distribution of these groups according to the type of family alliance. It is noteworthy that in families with cooperative alliances, a total absence of depressive symptoms in the parental couple was observed; however, an absence of symptoms was also observed in both parents in other types of alliances, i.e., belonging to group A was not an excluding condition for cooperative alliances.

Figure 3. Presence or absence of depressive symptoms in the couple according to the type of family alliance



In relation to parental stress, the following groups were formed: (A) moderate stress in both parents (N=21); (B) moderate stress in the mother and severe stress in the father (N=8); (C) moderate stress in the father and severe stress in the mother (N=14); and (D) severe stress in both parents (N=7). The results show that all of the couples where both parents presented high stress levels (Group D) showed conflicting alliances.

Figure 4. Parental stress in the couple according to the type of family alliance.



Correlational analysis

To understand the relationship between family alliances and the parents' variables of mental health, a biserial correlational analysis was conducted, but no statistically significant correlations were found. Pearson correlations were also performed to analyze the relationship between the parental mental health variables. While significant correlations were found between maternal and paternal depressive symptoms ($r=0.29$, $p<0.05$), between maternal depressive symptoms and paternal parental stress ($r=0.37$, $p<0.01$), as well as between the parental stress of mothers and fathers ($r=0.33$, $p<0.05$), these correlations were low.

In regard to parental mental health and sociodemographic characteristics, a negative relationship was found between maternal depressive symptoms and occupational status and working hours ($r=-.34$, $p<0.05$; $r=-.32$, $p<0.05$, respectively), as well as between the scale of parental stress and occupational stress and working hours ($r=-.35$, $p<0.05$; $r=-.29$, $p<0.05$, respectively). Regarding paternal depressive symptoms, a negative correlation was observed for the educational level of the parent ($r=-.32$, $p<0.05$) and between parental stress and paternal age ($r=-.35$, $p<0.05$).

2.5. Discussion

This study examines the relationship between family alliances and depressive symptoms and stress in both parents based on the assumption that mental health has an impact on the quality of interactions.

The results demonstrate that the majority of families showed conflicting family alliances, which would account for the existence of tension in the parental unit and would directly affect family interactions. Competition among family members, difficulties in coordination, interferences, breaks, repair problems, and difficulties in participating in the triadic game were evident. Despite the obvious tension, the parents demonstrated a "pseudo" positive effect that was observed, for example, in the discordance between facial gestures (smile) and the tone of voice used (critical). It is important to relate this result to the characteristics of the families studied. These families have a high degree of psychosocial vulnerability, low educational levels, and high parental stress. It is possible that psychosocial stress significantly affects the dynamics within a family, which is then reflected in conflicting alliances.

Meanwhile, while the majority of mothers and fathers presented minimal levels of depressive symptoms, which could be expected because the sample did not constitute a clinical sample, the same did not occur with levels of parental stress, where the total sample showed moderate or severe stress levels. Mothers presented

significantly higher levels of parental stress than fathers, which is understandable given that 80% of the mothers were designated as the primary caretakers. Studies have found (McLennan & Offord, 2001) that raising young children is a stage of life when high levels of stress arise due to the emotional, social, and economic demands of the maternal and paternal roles.

Regarding the proposed hypotheses, the results are not conclusive. While a slight tendency was observed for families with dysfunctional alliances to present higher levels of depressive symptoms and parental stress, no statistically significant differences from functional alliances were found. Neither the presence of depressive symptoms nor parental stress in one of the members of the parental couple is a necessary condition for the existence of a dysfunctional family alliance. It is worth noting that the presence of depressive symptoms and stress in the father is more discriminant, especially between cooperative and conflicting alliances. These findings allow for the hypothesis that other relevant variables influence the family alliance in addition to the mental health of the parents. It is possible that if this study were replicated, including variables of the parents (attachment, for example), variables of the couple (co-parenting, satisfaction), and variables of the child (temperament), a comprehensive model for establishing causal relationships between the variables and family alliances could be established.

When considering the parental couple as a unit of analysis, it can be observed that in families with functional alliances, both members present subclinical depressive symptoms, but again, this condition is not exclusive of families with this type of alliance. It is also worth noting that all of the couples where both parents presented high levels of stress also showed conflicting alliances. In general, those families where the father presented higher rates of depressive symptoms and parental stress had a higher probability of showing dysfunctionality in the family alliance.

When considering the relationship between the sociodemographic variables and mental health, we found that an occupation in mothers and higher education levels in fathers were protective factors. It could be hypothesized that participation in the workforce for mothers is protective because it broadens the role of the mother and housewife, allowing her to be in contact with the external world, broadening her network, and improving her financial situation, among other benefits. For fathers, higher education levels are protective because they are most likely associated with greater cognitive resources for managing different situations and conflicts, as well as better work opportunities, among other benefits. Additionally, the study highlights the protective role of age in parents, which suggests that parents with more experience are more secure in their roles.

Considering that the evaluated families were in the middle of raising their children and that the families are similar to the general population, the results allow us to conclude that the design and implementation of programs for the prevention of mental health problems are important because the majority of the studied families showed dysfunctionality in their family interactions as well as high levels of parental stress. Likewise, it is important to continue investigating other factors that may intervene in the quality of family alliances, both within and outside the family.

It is also worth noting that while the LTP has been primarily used in research, it constitutes a clinical tool that can be used in the diagnosis and planning of family interventions, both from a structural and from a dynamic perspective. The type of family alliance can indicate whether there is a need for psychotherapeutic intervention, generating thematic foci to work on and allowing for preventive mental health interventions for small children.

Because the quality and diversity of relationships are fundamental to the formation of the self, the triadic family unit offers a broader framework of relationships, and their assessment can address more dimensions of the family context, development, and children's mental health than that allowed by dyadic assessment. The LTP favors the evaluation of family interactions from multiple perspectives and at different levels, both through the evaluation of the family alliance as well as by identifying possible imbalances in the interactions that can have consequences on the psychological development of its members. In addition, the LTP supports the incorporation of the father in the therapeutic context, enabling reflections on family interactions from different perspectives.

By incorporating the father when addressing early infancy, a field of research is opened beyond future intervention that considers the entire family system in all of its complexity. The presence of the father constitutes an emerging field in the psychology of small children, infants, and preschoolers because the majority of the research has focused on the mother-child dyad, as noted previously. It is a future challenge for researchers to respond to the question of how paternal characteristics influence the bond between children and the couple, and how those variables affect the family alliance. Additionally, it is essential to incorporate the characteristics of the child into future studies to obtain a history for all of the members of the triad.

Regarding the limitations of the study, it is important to consider that this study constitutes a first approach in the examination of the triad for families with children of preschool age in the national context. Without a doubt, more studies and new perspectives are necessary to broaden and complement the results shown here.

Furthermore, the use of the BDI-I for evaluating depressive symptoms in the general population could have interfered with the results because the instrument is not precise in discerning symptoms in non-clinical populations. This weakness could have an impact as far as depressive symptoms being distributed homogeneously in the population, which limits comparative analysis. Additionally, the homogeneity and low rates of paternal depressive symptoms suggest that the BDI-I does not account for typically masculine depressive manifestations such as substance abuse or psychosomatic manifestations (Kessler, et al., 2005).

It is also worth noting that only a qualitative analysis was performed with the LTP because the family alliance was analyzed. The LTP provides a family score that is the sum of different structural and dynamic indicators that enrich the analysis of family interactions. Future studies should incorporate this methodology.

Finally, it should be noted that additional studies are needed to obtain more conclusive results. We suggest incorporating a mental health assessment of the children to more directly learn about the relationship between a family alliance and the mental health status of all of its members. It would be interesting to study family

interactions in different social and clinical groups as well as to incorporate other psychosocial variables that could be part of a broader comprehensive model.

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3. Paternal Involvement in Child Rearing: A Triadic View of Early Family Interactions

Considering the benefits that active parenthood has on child development and generally on family dynamics, health professionals should actively promote maternal and paternal participation in child rearing. The following paper introduces an instrument that contributes to broadening our perspective on child development and family relationships from the dyad to the triad and incorporating the national context. The Lausanne Trilogue Play (LTP) is an observational tool developed by Fivaz-Depeursinge, Frascarolo and Corboz-Warnery (1996) that enables a standardized evaluation of the family alliance, corroborates the importance of incorporating the father into the family process and interaction studies and supports the existence of a triadic family effect from the early stages of family interactions.

Keywords: active paternity, child development, coparentality, family alliance

3.1. Introduction

The family is the basic relational unit through which certain routines and practices are maintained and transmitted. These routines and practices include the functions and roles observed in men and women that are not the result of their sex but of a gender system (DeBarbieri, 1992). The predominant model assumed by men in modern Western culture has been linked to provider and protective functions, and the man's primary role has concerned work, public life and the provision of goods for the home in addition to representing family authority. Meanwhile, the role of women has been linked to private life, caring for the home, child rearing and delivering emotional support (Valdés & Olavarría, 1998).

The complex cultural and economic changes that have occurred since birth control methods became widely available and increased female participation in the workforce have generated a change in the family framework and in the distribution of traditional gender roles. This new scenario has promoted equal rights for men and women, transforming child rearing into a shared task between partners. Currently, many couples are members of nuclear families in which women are employed outside the home, which has resulted in social expectations regarding the participation of fathers in raising their children (E. Pleck & Pleck, 1997).

In developed Western countries, fathers have become more involved in child rearing over the past few decades. However, they spend less time on this activity than mothers, even if the mothers work outside the home (Coltrane & Adams, 2001; Hofferth, Pleck, Stueve, Bianchi, & Sayer, 2002; J. Pleck & Masciadrelli, 2004). Pleck (1985) demonstrated that maternal employment outside the home did not significantly increase the level of paternal involvement in child rearing. Similarly, Lamb, Pleck, Charnov and Levine (1987) demonstrated that maternal employment increases the commitment and availability of fathers toward their children but has little impact on the degree of paternal responsibility in raising them. In couples in which both members work outside the home, the difference in the time that mothers and fathers spend with their children is significant: during a workday, mothers spend approximately 2.5 hours more with their children than fathers (Feldman, 2000).

Despite the advances and changes in the configurations of family roles, the greatest burden in terms of time and responsibility for household tasks, care and child rearing

remains in the hands of women. In Chile, while men are increasingly interested in participating in parenting, their efforts remain focused on roles such as play, walks and supporting homework (Aguayo, Correa, & Cristi, 2011). Thus, we are far from achieving co-responsibility in parenting and housework tasks between men and women (Valdés & Olavarría, 1998).

Often, public and private institutions responsible for health and education reinforce dominant gender stereotypes, while considering men to be secondary actors or irrelevant in parenting tasks. For example, by not including fathers in health visits (e.g., prenatal care or well-child health checkups) and not including them in instructions and childcare, health professionals limit the possibility of moving towards co-responsibility in child rearing, which reinforces the idea that childcare is primarily a maternal role. However, International Men and Equality Survey (IMAGES) results (Aguayo, Correa, & Cristi, 2011) report that nine out of ten men like to share interactions with the health and education systems with their children. Additionally, the survey indicates that there are cultural and material barriers to increased participation by men, such as work schedules, allowances for time off from work and traditional beliefs that consider women to be responsible for health issues, care or education.

Based on the evidence in support of the active presence of fathers having a positive impact on the psychosocial development of their children (S. Allen & Daly, 2007; Sarkadi, Kristiansson, Oberklaid, & Bremberg, 2008) and of co-parenting as providing vital psychological and emotional support for the growth and development of all family members, a change is necessary in perspectives and practices relating to traditional gender roles in family life. Thus, it is essential to stop considering the father to be a secondary actor in rearing his children and to facilitate his inclusion and active participation.

The following paper seeks to increase national awareness of a family interaction assessment and intervention tool. The tool involves both parents as active participants in the socialization process of their children and considers the participation of each individual and the interrelationships between participants to be central elements in the emergence of a harmonious and cohesive family style that supports optimal development in the child (Belsky, 1981; Cowan & Cowan, 2002; McHale & Cowan, 1996). The Lausanne Trilogue Play (LTP) (Fivaz-Depeursinge et al., 1996) facilitates the evaluation of "mother, father and child" triadic family relationships and considers the father as a protagonist within the family dynamics.

3.2. Incorporating the father: contributions to understanding child development and mental health

Historically, research in developmental psychology, family interactions and family processes has focused on the mother-child dyad (Flykt, Kanninen, Sinkkonen, & Punamäki, 2010; Teti, Gelfland, Messinger, & Isabella, 1995; Weinberg & Tronick, 1998). It is well known that the presence of depressive symptoms and stress in mothers decreases their levels of reciprocity, synchrony and coordination with their children, compromising the dyadic and triadic capacity that enables affective control (Feldman, 2007; Rodrigo et al., 2009).

Most early childhood research has focused on the link between baby and mother. However, an increasing number of studies examine the importance of the father. The first studies that considered the father demonstrated that his presence affects the behavior of the mother and child and the quality of emotional exchange between the two. This influence suggests a triadic family effect (Clarke-Stewart, 1978; Yogman, 1981). The evidence indicates that children develop attachment bonds to both parents and that fathers are able to provide sensitive care for their children (Keller, 2007; M Lamb, 1977; ME Lamb, 1982). Several research studies demonstrate that the active presence of the father positively affects child development in various areas. These areas include an appropriate parent-child bonding that is associated with the absence of behavioral problems in children (Verschueren & Marcoen, 1999) as well as high sociability and adequate cognitive development (Fagan & Iglesias, 1999). Other studies indicate that the presence of the father increases the likelihood that children will have better mental health in adolescence, decreases the burden of housework and care on the mother and increases the children's and the mother's physical and mental health. Additionally, the father's presence tends to increase family income, which positively affects the quality of life and the child's development potential (S. Allen & Daly, 2007; Nock & Einolf, 2008; Sarkadi et al., 2008).

In a review of 16 longitudinal studies in which the *impact of the presence of the father* variable was considered, it was found that children who had an involved father during childhood had on average fewer behavior problems, fewer conflicts with the law, less economic vulnerability, better cognitive development, better school performance and less stress during adulthood (Sarkadi et al., 2008).

Meanwhile, the absence of the father has been demonstrated to negatively affect child development, particularly the development of boys (Dornes, 2006; Fthenakis, 1992). Additionally, the absence of the father negatively affects the therapeutic success of an attachment-type intervention focused on treating behavioral and control disorders and generates high direct and indirect economic and social costs (Nock & Einolf, 2008).

Research on child and family mental health reveals that the participation of the child in the triad that the child forms with his or her mother and father can help resolve dysfunctional dyadic interactions with one of the parents as a result of the involvement of a third person who displays appropriate behavior and does not collude with or exclude any participant. In addition, this experience promotes emotional control in children during the interaction, which contributes to the reduction of tension and stress (Fivaz-Depeursinge & Favez, 2006). Other authors have described other benefits for the child and have associated the participation of children in triadic interactions with the father and mother with adequate social competence at four years of age (Hedenbro, 2006). Similarly, recent studies describe good mental health of the father as a protective factor for the child in the relationship between maternal and child depressive symptoms (Gere et al., 2013).

Given the substantial amount of research that emphasizes the contributions of the father to child development and mental health, it is critical for clinicians and researchers to expand their perspectives from the dyad to the triad while incorporating both the mother and the father into diagnostics and into the design of interventions when seeking to understand childhood difficulties or to promote mental

health. This new perspective also implies considering the ability of both parents to work together on the tasks and challenges of parenting.

3.3. Co-parenting

The birth of a baby causes change in the family structure. Parents must create conditions that respond to the needs of the new family member. This experience also changes the couple's relationship such that when faced with the difficulties and demands that this change generates, expressions of affection and complicity act as protective factors in appropriately exercising parenthood (Shapiro, Gottman, & Carrere, 2000). Additionally, the father's emotional support of the mother has been associated with adequate maternal sensitivity to infant cues, positively affecting the dyadic interaction (Hyunjeong, Young-Joo, & MiJa, 2006; Olhaberry & Santelices, 2013; Valenzuela, 1997). Similarly, longitudinal studies demonstrate that in young families, infants reared by parents who support one another in their parental roles have a greater ability to engage in successful interactions and respond appropriately than infants in families with parents in conflict (Fivaz-Depeursinge & Corboz-Warnery, 1999).

In this context, Minuchin (1995) emphasizes the importance of the parents' ability to coordinate and perform appropriate co-parenting to facilitate the socialization and the rearing of the baby. Co-parenting refers to the ability to share leadership, commitment and mutual support in child rearing (McHale, 1995). Co-parenting is considered to be positive if both parents support and mutually reinforce their efforts to meet the communication needs of their children (McHale & Kuersten-Hogan, 2004). Family harmony enables children to develop a sense of well-being and adaptive tools to assist assimilation without the need for internalized or externalized defenses. Thus, on a triadic level, the co-parenting quality predicts social adjustment in preschool settings (McHale & Rasmussen, 1998), openness to negative feelings related to separation (Favez, Frascarolo, Carneiro, et al., 2006) and attachment models that are more consistent between both parents (Caldera & Lindsey, 2006). In contrast, hostile and competitive co-parenting, as well as significant discrepancies between the involvement of the parents in parenting or rejection during early childhood, can result in feelings of emptiness and sadness in the child. Such feelings are expressed in internalized or externalized symptoms during preschool (Elliston, McHale, Talbot, Parmley, & Kuersten-Hogan, 2008). Antagonism in co-parenting and a lack of family cohesion observed during early childhood or preschool years have been associated in cross-sectional and longitudinal studies with significant clinical symptoms on the Child Behavior Checklist (Fivaz-Depeursinge et al., 1996), where parents, caregivers and educational staff report aggressive behavior and internalized problems in children (Frosch & Mangelsdorf, 2001; McHale & Rasmussen, 1998), an increased likelihood of insecure (Frosch et al., 2000) or inconsistent (Caldera & Lindsey, 2006) attachments between parents and increased aggression in imagery play with dolls that represent family members (McHale et al., 1999).

Thus, competitive co-parenting can generate alliance problems in the family, whereas supportive co-parenting generates cooperative partnerships, which can be evaluated using LTP.

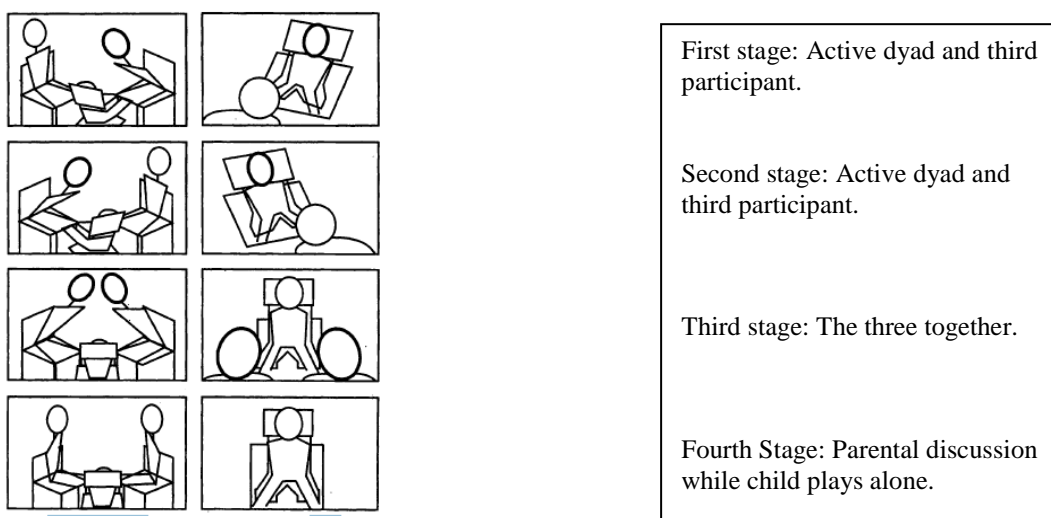
Lausanne Trilogy Play as a method for assessing family alliances

Games are a natural way of relating to children, and through them, children express affections, desires and motivations. Games between parents and children provide an opportunity to share these feelings and develop reciprocity. In addition, during games, children can learn to control their own emotional states (Stern, 1985; Tronick, 1979).

In Western society, most children are born into two-parent families, and interactions from birth are more strictly multi-personal than dyadic (Dunn, 1991). Therefore, it is essential to study games on a family level. However, few researchers have studied the "mother-father-child" triadic relationship, primarily because of the lack of appropriate methods but also because of the relationship's complexity. Whereas in a dyad, there is only one possible form of interaction, research on a triadic game is more complex. It requires the investigation of four types of configuration (three dyads and a triad) because each member can play an active role or assume a passive position.

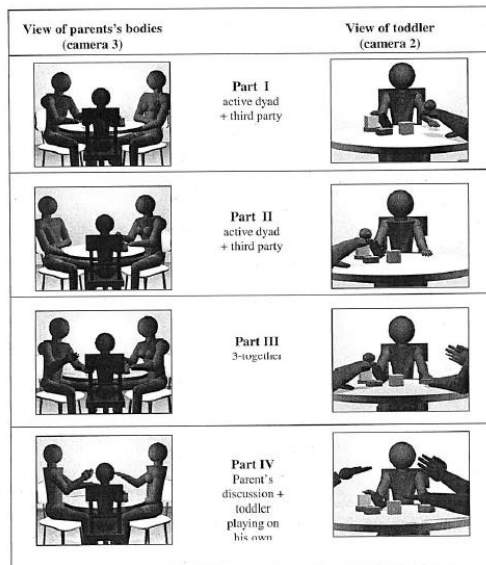
LTP is an observational instrument developed by Fivaz-Depeursinge, Frascarolo and Corboz-Warner (1996) that standardizes the assessment of the interaction between mother, father and child. Currently, there are three versions: prenatal LTP (Corboz-Warner & Fivaz-Depeursinge, 2001), postnatal LTP (Corboz-Warner & Fivaz-Depeursinge, 2001) and toddler LTP. The procedure is as follows: the family members are seated in a triangle, which facilitates eye contact. Then, following a prompt, the family is encouraged to play in four phases: 1) the father or mother actively plays with the child while the other adult is simply present; 2) then, the roles of the parents are reversed; 3) the father, mother and child play actively; 4) finally, the father and mother interact and the child plays alone. In the prenatal procedure, interactions are performed with a doll. The postnatal activity proceeds without toys. Toddler LTP is performed around a table with a set of simple toys. The interactions are filmed with two synchronized cameras, one focused on the parents and the other on the child. Then, both recordings are edited so that one frame includes the three members together.

Figure 1: The four LTP positions (postnatal version)



Fivaz-Depeursinge, Frascarolo, Corboz-Warner (1996).

Figure 2: The four LTP positions (toddler version)



Through microanalysis, four types of configuration (three dyads, a triad) are analyzed. In these different configurations, four functions are identified, which overlap and follow a hierarchical order: 1) involvement (inclusion of participants), 2) organization (members remain in their roles), 3) targeting (the participants share a common focus of attention) and 4) affective contact (the participants are connected). The first function is the necessary initial condition because in the configuration of the triad, all parties must be included. If a party is excluded or self-excluded, the game becomes dyadic or nonexistent. The second function refers to the parties maintaining their roles, either as active participants or active observers, without interference. The third function refers to the ability to share a common focus and co-construct a game. Finally, the fourth function indicates the ability to share feelings. Analyzing these functions through the game in a family setting enables the identification of the functionality (or dysfunctionality) of triadic family interactions, which can be categorized into family alliances according to the degree of coordination achieved by the family's members (Fivaz-Depeursinge & Corboz-Warnery, 1999).

The phrase *cooperative alliance* describes families whose members participate, manage to coordinate themselves "well enough" with respect to a joint task, respect their roles, share a focus and exchange positive affects. The evaluator notes that interactions are consistent and cohesive. In contrast, *conflictive alliance* describes families whose members compete, as expressed through an overt or covert conflict. Parents are unable to coordinate "well enough" to perform the task, interrupt one another, cause breaks in the interaction and compete for the child's attention. Although such families can play dyadic games, they find it more difficult to play triadic games. Finally, *disorganized partnership* describes families whose interactions are characterized by the exclusion of one of their members and whose member, despite their efforts, fail to coordinate or achieve cohesion and emotional contact with one another.

Families who tend to have cooperative partnerships foster the emotional and independent development of their children and maintain clear and flexible limits

between the parental dyad and the child. In contrast, dysfunctional family patterns are associated with pathologic findings in children, such as psychosomatic symptoms (Fivaz-Depeursinge, Lopes, Python, & Favez, 2009).

Lauretti and McHale (1997) observed parental responsiveness during dyadic and triadic interactions and found that in contexts in which there is marital stress, the sensitivity of the fathers toward their children significantly declines. It is likely that in contexts in which marital tension exists, parental attention is more directed toward the partner conflict, and thus, parental sensitivity to the needs of the children decreases. This phenomenon makes clear that the quality of co-parenting will affect child development (Belsky, Putnam, & Crnic, 1996).

When LTP is used in non-clinical contexts, it has been found that infants offer to relate to both parents, typically exchanging looks of pleasure or displeasure with both parents equally (Lavanchy, 2002). In families with functional partnerships, such exchanges occur more frequently than in families with dysfunctional alliances. Additionally, the exchange of pleasant as opposed to unpleasant affections is usually more common in families with functional rather than dysfunctional alliances (Koller, 2004). That is, in families with problematic alliances, emotional exchanges between the infant or child and his or her parents are typically negative. McHale, Fivaz-Depeursinge, Dickstein, Robertson and Daley (2008) replicated these results with a sample of 110 three-month-old infants and found a clear relationship between the ability to share feelings and co-parenting functionality.

Meanwhile, the use of LTP in clinical settings has demonstrated that triadic capacity is significantly lower in families with clinical histories than in nonclinical families (GertschBettens, Favez, Corboz-Warnery, & Fivaz-Depeursinge, 1992). LTP has also been used as a tool for therapeutic intervention with favorable results, whereby video feedback has been used in families with children with personality disorders (FavaViziello & Nosadi, 2010).

3.4. Discussion

Recent societal trends have brought new challenges to families while demanding greater participation in parenting from both the father and the mother. Because this increased responsibility implies assuming roles that complicate relationships and tasks, these changes suggest the importance of balancing skillsets and mutual collaboration, to the benefit of child development and mental health. The presence of a father and a mother who are satisfied with their relationship and who adequately co-parent enriches their interactions with their children and simultaneously acts as a protective factor against the risk of childhood psychopathology by adjusting and correcting dysfunctional interactions with the child. The described interaction offers the child a different experience of self and significant others as well as relationships that benefit the conduct of the children and favor their adaptation to reality.

In this paper, a new observational tool that assesses triadic mother-father-child family relationships through a game is presented. LTP has been used in research and clinical settings and has demonstrated favorable levels of validity and reliability. Through a hierarchical assessment system, LTP establishes several functions that define successful versus problematic interactions. The assessment of these four functions enables the detection of individual differences, which can be addressed in

therapeutic interventions. For example, if the participation function is not achieved, e.g., because one parent constantly shifts his or her gaze during the interaction, the child is unable to experience the triadic connection. Thus, the experience of understanding him- or herself in relation to his or her parents will be handicapped, with the experience of the parent's unavailability taking precedence. In another example, in families in which all of the members participate but fail to organize their roles (e.g., the parents compete for the attention of their children), children experience a conflict of loyalty because they are caught between their parents. When the first two functions are achieved but joint focus fails, the child does not have the experience of maintaining attention in co-constructed games. Finally, if the four functions are fulfilled, the child not only has the opportunity to share attention in a co-constructed game but also the opportunity to experience intersubjectivity, which is the game's fundamental objective (Stern, 1985), in this case, intersubjectivity within a triadic context (Fivaz-Depeursinge & Corboz-Warnery, 1999).

Thus, the evaluation of which functions are fulfilled and which are not does not take into account the resources and potential risks of child development within the family. Therefore, evaluating the functions provides a useful model of family interactions for both research and in clinical settings while helping clinicians to objectify the intuitive assessment of family functioning.

As previously discussed, based on the analysis of triadic interactions and the coordination level achieved during the activity, it is possible to distinguish three types of family alliance, which range from functional to more problematic. The type of alliance indicates whether psychotherapeutic intervention for the family is required while generating thematic foci for the intervention. Additionally, the identification of the alliance type facilitates preventive mental health interventions with young children or with expectant parents who exhibit difficulties. This last point is critical. Longitudinal studies demonstrate that these family alliances tend to remain stable during the first two years of the child's life (Favez, Frascarolo, Carneiro, et al., 2006), which emphasizes the importance and value of early diagnosis and intervention.

Because the quality and diversity of relationships are critical in the formation of self, the family triadic unit offers a broad relationship framework, and an evaluation of this triadic unit can address more aspects of family background, child development and mental health than dyadic evaluations. LTP promotes the assessment of family interactions from multiple perspectives and at different levels, both the evaluation of the family alliance and the potential interaction mismatches that may have consequences for the psychological development of a family's members.

Additionally, LTP promotes the incorporation of the father into the therapeutic context, which facilitates the observation of family interaction from different perspectives. Considering the importance of paternal involvement in the emotional, cognitive and social development of their children, it is necessary for health professionals to incorporate active fatherhood roles into their standard procedures for assessment and intervention. In Chile, according to IMAGES results, the majority of parents are interested in participating in different opportunities for interaction with the health system and education with their children. Thus, it is necessary to promote a cultural change in which parenting is a shared responsibility using empirical evidence

to confront traditional beliefs that consider health issues, care or education as belonging to the female sphere.

Another important contribution of LTP to clinicians and researchers working in the field of family and children is the contribution that it may make to families with divorced parents. Although in such families, the parents are no longer the core, they continue to form a parenting team with regard to the development of their children. In these cases, using LTP as a clinical tool can help the parents improve their skills because it can reveal their difficulties in coordinating their efforts to adequately exercise parenting skills and reduce the negative impact of their separation on their children.

It is also important to note that the material generated from implementing LTP with families is a clinical tool in itself. It can be used to provide feedback to parents on specific aspects of the interaction one wishes to promote, improve or change.

Finally, it can be concluded that from birth, human beings are immersed in relational family contexts, which represent a wide range of resources and problems with respect to a child's socialization. Consequently, it is essential to develop further research in this area and clinically evaluate the different levels of family functioning so that interventions can be conducted as necessary.

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4. What shapes “mother-father-child” interactions? A study with Chilean and German families

This study aims to contribute to the understanding of “mother-father-child” interactions considering individual, environmental and sociocultural variables. A model composed by parental stress, psychosocial risk and parental sex role ideologies is proposed to explain family interactional processes. 50 Chilean and 20 German families were evaluated at their homes with a battery of instruments, composed by the Lausanne Trilogue Play, the Parental Stress Index, the North Carolina Family Assessment Scales, the Sex Role Ideology Scale and a sociodemographic questionnaire. Results showed that lower levels of family psychosocial risk and more egalitarian sex role ideologies predicted more functional triadic interactions. More than the national belonging, the sociocultural belonging explained the family interactions, which emphasizes the need of not confounding nation with culture.

Key words: triadic interactions, parental stress, family risk, sex role ideology.

4.1. Introduction

Family is the basic relational system and the central instance of socialization which defines and configures a person’s development from the point of conception (Bronfenbrenner, 1979). Developmental research has mainly focused on the mother-infant relationship (Flykt et al., 2010; Teti et al., 1995; Weinberg & Tronick, 1998) and has rarely considered both parents and the child together in their triadic interaction. Nevertheless studies that have included the father showed that his presence has an impact on the behaviors of each member of the dyad and on the quality of the emotional exchanges, which suggests a triadic or family effect (Clarke-Stewart, 1978; Yogman, 1981).

Parents tend to have a different interaction styles whether they are in triadic or dyadic constellations (Fivaz-Depeursinge & Corboz-Warnery, 1999; Frascarolo et al., 2004; McHale et al., 2000). While in a dyad there is only one possible way of interaction, triadic research results are more complex, given that it’s necessary to explore four configurations (three dyads, one triad), considering that each member can take either an active or a passive role. Fivaz-Depeursinge and Corboz-Warnery (1999) faced this challenge, and developed the Lausanne Trilogue Play (LTP), an observational tool that assesses the triadic family interaction through a play situation. They distinguished four functions that are present in the triadic interactions, which overlap and follow a hierarchical order: 1) participation, which considers the inclusion of all members 2) organization, which implies that the members respect their roles 3) focalization, considers the sharing of a common attention focus and 4) affective contact, which considers affective connection between all members.

The analysis of these functions in the family configuration allows the identification of the “family alliance”, which can be understood as an outlasting pattern that constitutes a characteristic family atmosphere and identity. The family alliance indicates the functionality of the interaction achieved by the triad. Cooperative alliances characterized by warmth, acceptance and consistency promote a healthy socio-emotional development, whereas conflictive or disorganized interactional patterns, where negative affect predominates, are predictive of maladaptive or even

psychopathological socio-emotional development (McHale, 2007). Longitudinal studies show that these family alliances tend to remain stable during a child's first two years of life (Favez, Frascarolo, Carneiro, et al., 2006), but less is known about preschool age children.

During the preschool years the children advance developmentally and the growing complexity of his environment generates a qualitative change in the affective relations (Bowlby, 1969; Crittenden, 2004; Thompson, 2000), which generates new demands on caregivers. Therefore adjustments in parenting skills to provide children with psychological tools to explore and negotiate with the social environment are required (barnett et al., 1998).

Considering that interactional processes will be disrupted to a certain degree by adverse conditions, whether individual, relational or environmental (Cierpka, 2005), this study seeks to identify how parental stress, family psychosocial risk and parental sex role ideology affect the family capacity to maintain triadic quality interactions.

4.2. Individual variables: parental stress

There are multiple factors that can affect the quality of the family interactions and parental stress and depressive symptoms have shown to impact both dyadic and triadic interactions. While depression is a prevalent and increasing disorder in the general population, it is important to consider that subclinical levels of this probably represented by levels of stress (S. Goodman & Gotlib, 1999; Lyons-Ruth et al., 2002) are far more prevalent than clinical depression (Cummings et al., 2005), and particularly among parents of young children.

Stress in the family context has detrimental effects on the well-being of parents, children, and parent-child relationships. Parenting stress has been defined as the difficulty that arises from the demands of being a parent. In general, parenting and its concurrent responsibilities lead to high levels of stress (Koeske & Koeske, 1990), particularly in the preschool period (Kuczynski & Kochanska, 1990).

Dyadic studies have shown that mothers who feel high levels of stress are perceived not to have the internal capability necessary to respond to their children's demands, feeling unprepared to handle behaviors that result from their children's needs (Forehand et al., 1986), feel usually overwhelmed, so their reciprocity in the mother-child subsystem and their capacity to support and co-regulate their child affects tend to decrease (Feldman, 2007). Fathers with high levels of parental stress, on their side, showed higher hostility, rejection and inadequate stimulation levels (Cummings et al., 2000; Parke, 2004), as well as a worse father-child and father-mother relationship (Bronte-Tinkew et al., 2007). Infants that grow up in such conditions are prone to develop a regulation disorder (Sidor et al., 2013; Sidor et al., 2012) and preschool children show more negativity (Crnic et al., 2005), less social competence and high scores in teacher ratings of internalizing and externalizing behaviours (Gutermuth-Anthony et al., 2005).

Triadic research has shown that in families in which one of the parents has a mental disorder, the development of the child depends more on the triadic functioning level, than from the dyadic interaction the child has with the parent who presents psychopathology (Seifer & Dickstein, 2000). The affected parent is often unable to

maintain contact with the child and seems absent in spite of physical presence (Papousek & Papousek, 1992) . In this situation it's very relevant if the other parent is capable to compensate the lack of sensitivity. But there are also many cases where the symptomatology of one parent cause often a withdrawal of the healthy parent, meaning that not only the experience of threesome in the family, but also the dyadic relationship of healthy parent is disturbed with the child, which implies a higher level of risk for the child's socio-emotional development (Cierpka et al., 2011).

There are some contextual factors that affect parent's psychological well-being and increase parenting stress, which are important to take into account.

4.3. Sociocultural context

Families are constantly exposed to different sociocultural influences, such as the environment in which they are embedded, the economic status, health conditions, their social network, educational level, gender roles, etc. (Carter et al., 2004). When these factors are at risk, the probability of parental stress increases and the family capacity to achieve and maintain functional relations decreases (Coyle et al., 2010; D Coyle, L Roggman, & L Newland, 2002b; Lyons-Ruth et al., 2000; VickWhittaker et al., 2011).

There are some configurational and social aspects, which can have negative consequences in the family dynamics. Families with infants or preschoolers, three or more members, low socioeconomic level and high levels of contextual stress are at risk to develop negative family interactions, tending even to use more hostile and authoritarian disciplinary strategies, and to develop depressive symptoms in adults of both sexes (Coyle et al., 2002b; Lyons-Ruth et al., 2000). Also low levels of education and income are associated with low parenting skills in parents of both sexes (Tamis-LeMonda et al., 2004) and with lower quality in the triadic interaction (Schwinn, 2011).

Besides, family is the basic relational unit through which the routines and households practices are maintained, such as the way to communicate emotions, values and motivations, and the parental ethnotheories, which are organized and shared ideas about adequate child care, that directly affect the child's development (Keller, 2007).

For modern couples living in a nuclear family arrangement with women increasingly working outside the home, societal expectations for fathers' involvement with their young children have emerged (E. Pleck & Pleck, 1997). The way in which home and child raising duties are distributed between men and women are not the product of the natural results of their sex, but respond to a gender system (DeBarbieri, 1992) and are influenced by gender or sex role ideology (Davis & Greenstein, 2009). There are two prototypical gender ideologies a traditional model and an egalitarian model. The first model assumed that the male role in modern western cultures is linked to their image as provider and their protective function, while the role of women is linked to family life, home, care and delivering emotional support (Valdés & Olavarría, 1998). The egalitarian model considers that the psychological gender differences are a social construction, so there is no predominance of one above the other and there is no a clear role distribution (Kalin & Tilby, 1978). Empirical evidence showed that traditional couples are often more rigid and view conflicts as more damaging to their

marital relationships (Schwarzwald et al., 2008) and more egalitarian couples are more flexible and achieved higher family functioning (Schwinn, 2011).

4.4. The current study

The present study analyzes triadic family interactions through the LTP in light of parental stress, psychosocial and cultural family characteristics in a non-clinical population with at least one preschool child. In order to assure the absence of depression the BDI-I was used as a screening tool. Besides, to count with a high sociocultural variability Chilean and German families were analyzed together to avoid confusing nationality with cultural belonging.

Considering the background above we hypothesize to find more functional triadic interactions in families with less parental stress symptoms, lower levels of psychosocial risk as well as more egalitarian sex role ideologies.

4.5. Method

A cross sectional and quantitative study was performed with the approval of the Ethics Committee of Human Research from the Medicine Faculty of the University of Chile. Data were collected in Chile and Germany. 50 Chilean and 20 German families were recruited at kindergartens located in Santiago de Chile and Heidelberg.

The inclusion criteria for both groups were that the parents live together, have at least one four year old child that attended a kindergarten regularly and have sufficient language skills. The exclusion criteria were the presence of any severe physical disease or impairment, a diagnosed psychiatric disorder as well as moderate or severe depressive symptoms in any evaluated family member.

Regarding sociodemographic characteristics, the sex distribution between the children were the same in Chile and Germany (42% female). Chilean parents were significantly younger than Germans, were less educated considering that most of them achieved high school degrees (50% mothers, 41% fathers), while most Germans reached university degrees (63% mothers, 74% fathers) as their highest educational level. The majority of Chilean mothers were unemployed (52%) and most of the fathers were qualified workers or clerk (57%), while German parents had mid-level executive jobs (37% mothers, 68% fathers). In both of the groups the predominant primary caregiver was the mother (80% Chile, 75% Germany). The rest of the German families (25%) mentioned the father as the primary caregiver, while in 20% of the Chilean families the caregiving responsibility was distributed between the father, grandparents and other relatives.

Table 1. *Description of the socio-demographic sample characteristics*

		Chile (n=46)	Germany (n=19)	Difference score	
				T	df p
Mean age	Child (months)	54.26 (2.74)	52.53		24.1 n.s.
	Mother (years)	31.93 (5.84)	(4.56)	1.54	55.8 <
	Father (years)	33.15 (6.49)	36.26 (3.38)	-3.73	53.6 .001
			38.42 (3.96)	-3.99	< .001

Household size		5.15 (1.85)	4.05 (.85)	3.28	62.2	< .01
Workday (in hours)	Mother	7.39 (1.69)	5.04 (2.86)	3.07	33	< .01
	Father	8.80 (1.72)	8.50 (2.28)	0.57	57	n.s

In both countries the assessments were carried out in the families' homes by two trained psychologists.

Measures

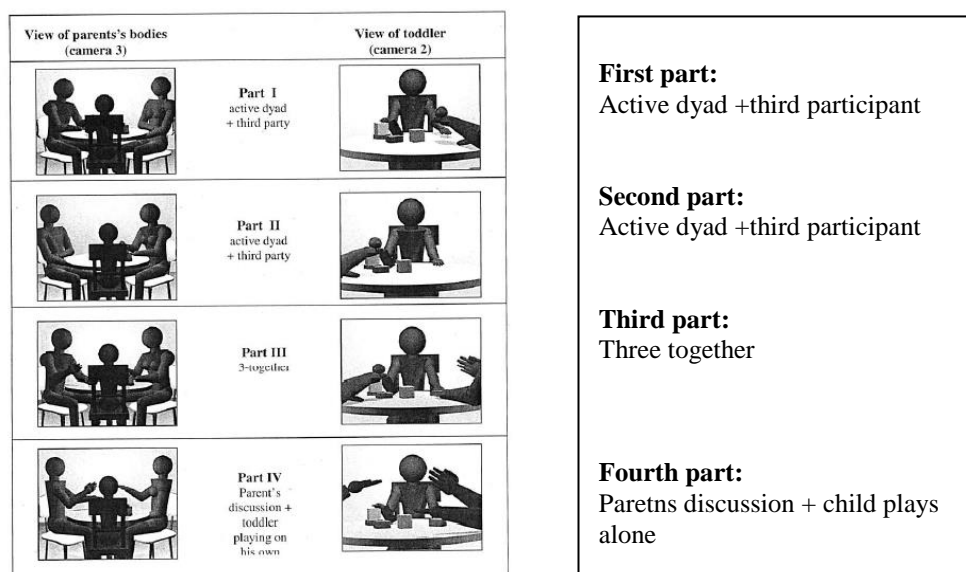
Family socio-demographic characteristics

A specific questionnaire was created to assess family demographic data (including family constitution, parental age, educational level and occupation).

Family alliance and family score

The Lausanne Trilogue Play (LTP, Fivaz-Depeursinge & Corboz Warnery, 1999) measures the mother-father-child interaction in a standardized way. The family sits, forming a triangle, so that all members can have eye contact. Through an instruction the family is encouraged to play in four phases: 1) one parent plays actively with the child, while the other is present, 2) parent's reverse roles, 3) mother, father and child play all actively together and 4) finally mother and father interact and the child is present. The interactions are videotaped with two synchronized cameras, one filming the parents and the other the child (see figure 1).

Figure 1. View of the four positions of the LTP (toddler version)



Note. Source. Centre d'Etude de la Famille (2007). Figure 2: Views according to the 4 parts of the LTP. *Indications for the LTP Setting for Toddlers*. VB/ 15.02.98 ; translation : CLS & FF/2007

The videotapes are analyzed using the Family Alliance Assessment Scales (Favez, Scaiola, Tissot, Darwiche, & Frascarolo, 2011), which is the coding system used allows the assessment of the family alliance (cooperative, conflictive, disorganized), as well of structural and dynamic aspects of the interaction, which are coded in five different dimensions: 1) participation, 2) role organization, 3) focalization, 4) warmth and affective contact and 5) error in the communication + reparation. This dimension

and their subcategories are scored (2= adequate, 1= moderate, 0= inadequate) and the addition of this score constitutes the “family score”, which represents the functionality level of the family interaction.

The FAAS has shown good interrater reliability (Kappa= 0.61 - 0.90; $p < 0.05$) and proved to be valid (Favez et al., 2011).

For this study, the preschooler’s version was used, whose only difference with the original LTP setting is that between the family triangle there is a table with standardized toys, which can be used during the different phases from the procedure. Kappa and intraclass correlation coefficients (ICC) analyses were carried out to calculate the inter rater reliability for the family alliances and family scores and both showed good scores (Kappa = 0.7; $p < 0.05$; ICC= 0.97).

Parental depressive symptoms

For screening purposes the presence of depressive symptoms was evaluated with the Beck Depression Inventory (BDI-I, Beck, Steer, & Brown, 1961). BDI-I is a Likert scale consisting of 21 self-reported items, each scored from 0 to 3 points. Higher scores indicate the presence of more symptoms.

This questionnaire has been widely used, and shows good reliability and validity levels, with an alpha coefficient of .92 (Beck, Ward, Meldelson, Mock, & Erlbaugh, 1961).

Parental distress

Parental distress is evaluated through the Parenting Stress Index Short Form (PSI-SF) developed by Abidin (1995). This questionnaire consists of 36 items derived from the PSI, which is comprised of three scales: Parental Distress, Difficult Child Characteristics, and Dysfunctional Parent-Child Interactions.

Reliability studies in a sample of 800 cases showed good test-retest coefficients (0.68-0.85) and internal consistency (0.80-0.90). External validity was established with the full scale, obtaining correlation coefficients of 0.73 to 0.95 (Abidin, 1995). A Chilean study showed a Cronbach alpha of 0.94

Family risk factors

In order to evaluate family risks factors related to family functioning the North Carolina Family Assessment Scale-General (Reed, 1998) was used.

In its Spanish version 2.0, the scale consists of 36 items, which are distributed into 5 dimensions: environment, parental capabilities, family interactions, family safety and child well-being. The current level of family functioning is assessed using these dimensions and sub-dimensions on a 6 point continuum: +2 = Clear strength, +1 = Mild Strength, 0 = Baseline/ Adequate, -1 = Mild Problem, -2 = Moderate Problem and -3 = Serious Problem. Each item has its own operational definition, describing the item’s extreme scores (-3, +2) and its baseline (0). For our analysis, we converted these scores into positive numbers while maintaining the scale (from 0 = clear strength to 5 = serious problems). Here higher scores indicate higher risk in family functioning.

The NCFAS-G has been field tested with over 100 families and 250 children participating in a differential response program. Test results are encouraging and the psychometric properties indicate a high degree of reliability (Valencia & Gómez, 2010).

Sex role ideology

The Sex Role Ideology Scale (Kalin & Tilby, 1978) measures roles of men and women. It has demonstrate internal consistency (0.79) and good test-retest reliability (0.87).

In this research the abbreviated version of the SRIS was used, which contained 9 items (Freund et al., 2012). In each item, the subjects indicate their degree of agreement or disagreement with the proposed statement using a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree). The scores of the items written in a traditional direction were reversed before obtaining the total scale score. Possible scores range between 9 and 63, and lower scores correspond to traditional ideologies, while higher scores mean more egalitarian ideologies regarding gender roles.

Data analysis

Preliminary analyses were carried out in order to control outliers and to calculate the inter rater reliability for the family alliances and family scores. Then, descriptive analyses and mean comparisons were carried out via SPSS version 21.0 to describe the sample and national differences between the German and Chilean families. LTP-scores and family risk were compared using Hotelling's T^2 followed by univariate t tests with Bonferroni corrected α -levels since the mean comparisons included multiple indicators of similar constructs. The mean comparisons regarding parental distress (PSI), and sex-role ideology (SRIS) were carried out with univariate t tests. Dependent sample t tests were conducted for intra-national comparison of mothers and fathers regarding sex-role ideologies.

To identify important predictors for the quality of triadic family interactions assessed by the LTP a stepwise multiple regression analysis was carried out. The family score was used as the criterion. In step one sociocultural variables were entered as predictors, including the combined parental education score as well as mothers' and fathers' sex-role ideology. Nationality was also entered in step one to indicate additional cross-national variance that is not being accounted for. Step two included mothers' and fathers' paternal distress scores and the NCFAS-G child well-being scale as possible risk factors.

Requirements for the multivariate regression analysis were assessed with various procedures outlined in Stevens (2009). The absence of (multivariate) outliers was verified using Mahlanobis and Cook's distances as well as leverage scores. To insure the absence of multicollinearity variance inflation factors (VIF) were reviewed. Normal distribution of residuals was assessed using a histogram of studentized residuals. Homogeneity of variance and linearity of the model were assessed plotting standardized residuals vs. standardized predicted values. All procedures used indicated no significant deviation from the requirements of multiple regression analysis (Stevens, 2009)

4.6. Results

Preliminary analysis

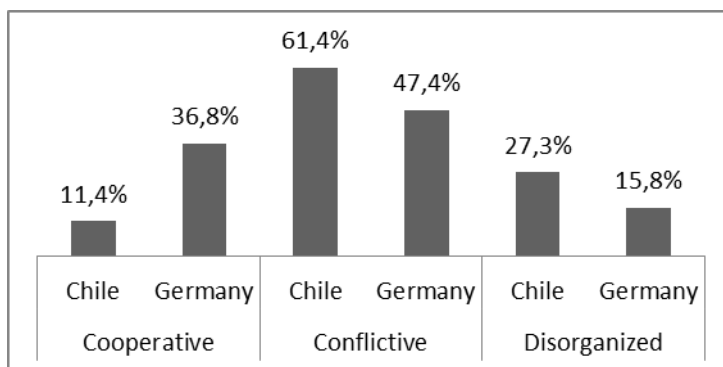
Two Chilean families with moderate to severe parental levels of depression in the BDI-I were excluded to preserve the non-clinical composition of the sample. Two additional Chilean families were excluded because of non-participation in the LTP or the non-completion of relevant questionnaires. One German family was excluded because the mother presented severe levels of depressive symptoms. The final analysis included 46 families in the Chilean sample and 19 families in the German sample.

Both, *family alliances* and *family scores* showed good inter rater reliability (Kappa = 0.7; $p \leq 0.05$; ICC= 0.97).

Descriptive analysis

In both countries, most of the families showed conflictive alliances of the covert type (57% Chile, 42% Germany). Chilean families showed more dysfunctional alliances, having more disorganized and less cooperative alliances than German families (see figure N°2).

Figure 2. Percentage of family alliance types according to nationality



Regarding the LTP Scores, Hotelling's T^2 shows a multivariate effect of nationality at the $\alpha \leq 0.1$ level ($F = 1.90$, $df_1 = 11$, $df_2 = 51$, $p < 0.01$). Univariate analysis revealed a significant difference between Chilean and German on various subscales. German families scored higher on the general scale Family Score ($T = -2.40$, $df = 63$, $p < 0.05$) as well as on the subscales structure and time ($T = -3.72$, $df = 63$, $p < 0.001$) validation ($T = -2.31$, $df = 63$, $p < 0.05$) and errors in the activities ($T = -2.40$, $df = 63$, $p < 0.05$). That means that German families tend to structure and schedule better their interaction, validate more their children and make fewer errors during the play, which can be reflected as a better family interaction. The best achieved aspect in both groups was authenticity and the worse achieved aspect was role taking and co-construction in Chilean as well as in German families (see table 2).

Table 2. Means of the Lausanne Trilogue Play subscales and family score

		Chile (n=46)	Germany (n=19)
Participation	Posture + gazes	0.96 (0.56)	1.05 (0.62)
	Involvement	0.91 (0.76)	1.26 (0.73)

	partners		
Role Organization	Role-taking	0.70 (0.59)	0.95 (0.71)
	Structure and time	0.76 (0.74)	1.47 (0.61)
Focalization	Co-Construction	0.67 (0.76)	1.00 (0.75)
	Framing / parental care	0.91 (0.72)	1.26 (0.56)
Warmth and affective contact	Family warmth	0.78 (0.63)	1.05 (0.62)
	Validation	1.04 (0.63)	1.42 (0.51)
	Authenticity	1.65 (0.57)	1.68 (0.48)
Communication errors & repair	Errors in the activities	0.83 (0.57)	1.21 (0.63)
	Errors in the transitions	0.91 (0.52)	1.05 (0.71)
Family score		10.09 (4.94)	13.42 (5.15)

The multivariate analyses controlling for education and sex role ideology as cultural variables resulted in no significant multivariate difference between the German and the Chilean sample concerning the LTP scores ($F = 0.76$, $df_1 = 11$, $df_2 = 48$, n.s.).

The mean score on the PSI-SF was 75.32 (SD= 16.73) for mothers and 74.66 (SD= 14.42) for fathers and the differences between them were statistically insignificant. When analyzing the distribution of the general *parental stress* levels a 30.8 percent of the mothers and a 27.7 percent of the fathers showed high levels of parental stress. In the cross-national comparison Hotelling's T^2 revealed a significant multivariate difference between Chilean and German mothers ($F = 3.54$, $df_1 = 3$, $df_2 = 61$, $p < 0.05$). When educational level and sex-role ideology were being entered as covariates neither multivariate ($F = 0.58$, $df_1 = 3$, $df_2 = 58$, n.s.) nor univariate differences between German and Chilean mothers remained significant. Chilean and German fathers did not differ in any parental distress levels ($F = 0.42$, $df_1 = 4$, $df_2 = 60$, n.s.).

Regarding *family risk factors* it is important to take into account that 2 points is the cut off score for risk in the NCFAS-G. On two subscales the sample mean lies above the risk threshold, namely the scales environment ($M=2.1$, $SD=0.52$) and child well-being ($M=2.05$, $SD=0.62$). Comparing mean scores obtained by German and Chilean families on the NCFAS-G Hotelling's T^2 indicated a multivariate difference ($F = 7.59$, $df_1 = 4$, $df_2 = 60$, $p < 0.001$), but after controlling for education and sex-role ideology those differences do not remain significant ($F = 1.09$, $df_1 = 4$, $df_2 = 57$, n.s.).

The mean score in the SRIS for mothers was 46.06 (SD= 9.66) and for fathers 41.45 (SD= 11.38) and there is a significant difference between them ($T= 3.42$, $df= 64$, $p < 0.001$), which means that mothers tend to have more egalitarian orientation than fathers. When comparing both samples, Chilean mothers indicate a more traditional *sex-role ideology* than responses from German mothers ($T = -6.4$, $df = 63$, $p < 0.001$). Chilean fathers tend to have a more traditional orientation than German fathers ($T = -7.15$, $df = 63$, $p < 0.001$).

Correlational analysis

Table 3 shows highly significant positive Pearson correlations between LTP family score, with maternal and paternal scores in the SRIS ($r = 0.31$, $p < 0.05$; $r = .49$, $p < 0.01$) and inverse correlations with risk in child well-being ($r = -0.27$, $p < 0.05$). The correlations between family scores in the LTP and parental stress were not significant.

Table 3. Pearson's correlation

	LTP	PSI (m)	Psi (f)	E	ChW B	SRIS (m)	SRIS (f)
PSI (mother)	n.s.	1	.25*	n.s.	.27*	-.35**	n.s.
PSI (father)	n.s.	.25*	1	.27	n.s.	n.s.	-.26*
Environment	n.s.	n.s.	n.s.	1	n.s.	n.s.	-.26*
Child well-being	-.27*	n.s.	n.s.	n.s.	1	n.s.	n.s.
SRIS (mother)	.31	-.35**	n.s.	n.s.	n.s.	1	.47**
SRIS (father)	.49**	n.s.	-.26*	.26*	n.s.	.47**	1

Note. LTP= Lausanne Trilogue Play; PSI= Parental Stress Index; (m)= mother; (f)= father; E= environment, ChWB= Child Well-Being; SRIS= Sex Role Ideology Scale; * $p < .05$, ** $p < .01$

The examination of maternal stress yielded a significant direct correlation to paternal stress ($r = 0.25$, $p < 0.05$) and child well-being ($r = 0.27$, $p < 0.05$), while an inverse correlation to maternal sex role ideology ($r = -0.35$, $p < 0.01$). Paternal stress also related in an inverse way to paternal sex role ideology ($r = -0.26$, $p < 0.05$). Paternal sex role ideology on its side related also negatively to environment ($r = -0.26$, $p < 0.05$) and positive to maternal sex role ideology ($r = 0.47$, $p < 0.01$).

Regression analysis

Table 4 shows the results of the multiple regression analysis. Both the model including the proposed cultural variables and the model adding paternal risk factors explain a significant amount of variance. The cultural model (Step 1) explains 29% of the variance in the family score ($F = 6.13$, $df_1 = 4$, $df_2 = 60$, $p < 0.001$). The model adding parental risk factors as predictors explains 41% of the variance in the family score ($F_{\text{change}} = 3.89$, $df_1 = 3$, $df_2 = 57$, $p < 0.01$).

Table 4. Multiple Regression analysis predicting the family score in triadic interaction with cultural and family risk variables

Predictors and step of entry	β	p	R	R^2 increase	F change	p (F change)
Step 1						
Education	.28	.10				
SRI father	.46	.004				
SRI mother	.12	.41				
Nationality	-	.13	.54	.29	6.13	< .001
	.29					

Step 2						
PSI father	.19	.09				
PSI mother	.16	.18				
Child well-being	-	.02	.64	.12	3.89	.01
	.26					

Note. Criterion is family score. Variables at steps 1 and 2 entered as a block. β = standardized regression coefficient. Significant regression coefficients in bold. SRI = Sex-role ideology, PSI = Parenting Stress Index sum score. N = 65.

Significant predictors of the family score were parental educational levels (combined score), fathers' sex-role ideology, paternal stress, and risk in child well-being. Hence, higher levels of parental education, a more egalitarian paternal sex-role ideology and fewer risk factors for the child's well-being predict more functional triadic family interactions (family score). A high level of paternal stress seems to be a significant predictor for a high family score. Yet a non-significant zero-order correlation between family score and the fathers' PSI ($r = 0.08$, n.s.) indicates that the significant beta weight might result from suppression effects. A second regression excluding the fathers' PSI scores did not change the model results significantly.

4.7. Discussion

According to a systemic and ecological framework the current study analyzes the impact of parental individual and family psychosocial and cultural characteristics in the family triadic interaction. The results showed that the child's well-being, parental educational levels and the fathers' sex-role ideology turned out to be significant predictors of the "mother-father-child" interaction. The child's well-being implies a strong bonding between parents and children, as also the parental perception of an adequate child adjustment, so less risk in this dimension is reflected in the triad. Besides, higher parental educational levels may be a protective factor because they are associated with greater cognitive resources to deal with different situations and conflicts, which may also be reflected in the achievement of the triadic play. More egalitarian paternal sex role ideologies, on their side, are also protective for family functioning, which matched with previous findings (Schwinn, 2011). More egalitarian fathers are probably more flexible and more involved in parenting, which also manifests in the family interaction. Surprisingly, although around a third of the parents presented high levels of parental stress, no significant association with family functioning was found. So, our results corroborated partially the posed hypothesis given that parental stress didn't predicted the triadic interaction, but family psychosocial risk, especially child risk and paternal sex role ideologies predicted the functionality of the triadic play. One could hypothesize that the parents at risk do not perceive their stress as a dysfunctional burden.

Although Chilean and German families had different sociocultural characteristics, the results showed that both groups had mostly conflictive family alliances, which would point to the existence of tension in the parental unit, competition among their members, coordination difficulties, interferences, breaks, repair problems, and difficulties in achieving the triadic play. A possible explanation of the predominance of conflictive alliances could be that after the assessment some Chilean and German families reported spontaneously that it was the first time that they played as a triad.

Both Chilean and German fathers work on average eight hours a day, which probably means that there is not much time for family life.

Considering that Chilean parents were younger, less educated, had lower occupational status, lived in higher families households and had more traditional sex role ideologies than German parents, it could be expected that they showed more dysfunctional interactional patterns. Nevertheless it's interesting that after controlling for education and sex role ideology as sociocultural variables there were no significant inter-national differences between them. So, more than the national belonging, it's the sociocultural belonging which explains the differences found, which emphasizes the need of not confounding nation with culture (Matsumoto & Yoo, 2006).

Taking into account that family alliances tend to remain stable (Favez, Frascarolo, Carneiro, et al., 2006), it's relevant to design diagnostic programs that allow an early detection of the families interactional difficulties and resources, to intervene in case of need. It's worth to note that although the LTP has been primarily used in research with families with infants, it can be also used as a clinical tool and also with families with older children. Eventually, if there is a need of psychotherapy it could be used both as a diagnostic and as psychotherapeutic tool, specifically through video-feedback.

Along with this, the LTP promotes the incorporation of the father to the therapeutic context, which opens an emerging field in early child psychology, considering that most of the researches have focused on the mother-child dyad. This study evidenced that his presence, gender role flexibility and educational level are important predictors of the family interaction.

It is a future challenge to continue answering how paternal characteristics influence child and family characteristics and development.

Regarding study limitations, it is important to note that this research constitutes an explorative approach in the study of family triads with preschool aged children, so the results of the current study should be interpreted with caution due to relatively small sample sizes and partially ambiguous regression results concerning paternal stress. No doubt more studies and new perspectives are needed to expand and complement the present results.

Furthermore, the use of the BDI-I to screen for depressive symptoms in non-clinical samples may have interfered with the results presented, since the instrument is not the ideal to discern symptoms in non-clinical populations (Kessler et al., 2005).

Even though these findings support the hypothesis that sociocultural variables impact family interactions, further studies are needed to obtain more conclusive results. It's important to continue investigating other individual, interactional or sociocultural factors involved in the quality of family interactions like transgenerational variables (e.g. parental attachment), variables concerning the parental dyad (co-parenting, marital satisfaction), and child variables (temperament, attachment) that could be part of a broader comprehensive model.

4.8. References

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5. Beyond the dyad: preschoolers' attachment from a triadic perspective

The following study searches if triadic family interactions predict preschooler's attachment representations. A systemic and ecological model was tested in two different samples. 50 Chilean and 20 German families were evaluated at their homes with a battery of instruments, which evaluated individual, relational and sociocultural variables. Results showed that triadic family interaction and parental stress predicted preschooler's attachment security levels in both groups, which would indicate the reliability of the proposed model.

Key words: preschooler's attachment representations, triadic interactions, parental stress.

5.1. Introduction

During the preschool period the child developmental advances and the growing complexity of his environment generates a qualitative change in the affective relations (Bowlby, 1969; Crittenden, 2004; Thompson, 2000), so adjustments in parenting skills to provide children with psychological tools to explore and negotiate with the social environment are required (Barnett et al., 1998). According to attachment theory, children become more independent from the physical presence of the attachment figure, because they are thought to internalize their early relationship patterns in representational models of attachment or Internal Working Models (IWM). The IWMs allow the cognitively representation of the attachment figure and the prediction of the own and the others behavior, influencing how children adapt emotionally and socially to situations beyond their early attachments to parental figures (barnett et al., 1998; Bowlby, 1969; Bretherton & Munholland, 1999).

Regarding the development of the IWM, most research have focused on the mother infant dyad (G. Goodman et al., 1998; Greig & Howe, 2001; Hoffman et al., 2006; Lyons-Ruth et al., 1993; Miljkovitch et al., 2013), and less is known whether familial interactional patterns are associated with child outcomes during the preschool years.

Meanwhile, developmental and systemic family theory went beyond the "mother-child" dyad to the "mother-father-child" triad, postulating that the infant is from the moment of birth exposed and embedded in larger contexts and interactions than strictly dyadic, so triangular interactions become important for development (Dunn, 1991; Fivaz-Depeursinge et al., 2004; Frascarolo et al., 2004). Moreover, the infant is able to distribute its attention between its two parents as early as 3 or 4 months old, showing an early aptitude to manage a multi-person context (Fivaz-Depeursinge et al., 2005; McHale et al., 2008). It thus stands to reason that family interactional patterns may be reflected in children's socio-emotional development and in their constructions of mental representation of attachment relationships. Examining family episodes that include the child and both parents serves as a logical starting point for the exploration of this hypothesis.

Considering that the social and cultural context in which the family is embedded affects their interactions, when describing family relations, it's meaningful to consider different psychosocial and cultural aspects that may have an impact in the family capacity to maintain good quality interactions (Gómez et al., 2007; VickWhittaker et al., 2011). Taking this into account, the current study proposes a systemic and

ecological model (Bronfenbrenner, 1979; P. Minuchin, 1985) to understand preschoolers attachment representations.

5.2. Attachment representations during the preschool years

Most of the attachment studies have focused on infants, but less is known about attachment during the preschool years. During this stage the development of motor, cognitive, and linguistic capacities expands, which allows the use of symbolic forms of mental representations (Bretherton et al., 1990) and the capacity to construct narratives (Emde et al., 2003). Bowlby describes this phase as "goal-corrected partnership" (see Grossmann & Grossmann, 2009), which means that the child is now able to verbalize its plans, discuss discrepancies and negotiate. This new developing skills help the child gaining autonomy, becoming more independent from the physical presence of the attachment figure, whose availability may thus be represented cognitively. In order to engage in goal-corrected behavior, the child develops an especially complex, dynamic, internal representation of relevant aspects of self, his or her behavior, the others and the environment (Marvin & Britner, 2008). Bowlby used the term "internal working model" (IWM) for these representations, which were defined as a cognitive and affective construct that includes memories, perceptions and expectancies in relation to significant others (Besser & Priel, 2005).

The evaluation of this construct can be assessed through symbolic media and play narratives, where children are able to evaluate the situation through his or her own IWM's (Bretherton & Munholland, 1999; Bretherton et al., 1990). Some studies that use narrative methods showed similar attachment distributions, where the secure classification predominates, to that found in younger children in meta-analyses of Strange Situation data (Green, Stanley, Smith, & Goldwyn, 2000; Verschueren & Marcoen, 1999; Verschueren, Marcoen, & Schoefs, 1996). Nevertheless, studies carried out in Germany with infants in the Strange Situation and young school children with narrative procedures showed a prevalence of avoidant attachment classifications (Gloger-Tippelt & König, 2007; Immelmann et al., 1981).

Research has showed that the security levels the IWM's has a direct relation with social, cognitive and self-regulation capacities in the child (Greig & Howe, 2001; Kerns & Barth, 1995; Meins et al., 1998; Solomon et al., 1995; Sroufe et al., 1993). Also higher levels of insecurity or disorganization would relate strongly to internalizing and externalizing behavior problems (Green & Goldwyn, 2002; Lyons-Ruth et al., 1997; vanIjzendoorn et al., 1999), reduced ability to self-regulation and increased vulnerability to anxiety disorders (Brumariu & Kerns, 2010; Stams et al., 2002; Verschueren et al., 1996).

The development of the IWMs is the result of many factors, including physiological state, the presence or absence of an alarming event in the environment, the child temperament, the dyad's history of relatively stable patterns of attachment-caregiving interactions, among others (Marvin & Britner, 2008). Less is known how triadic interactional patterns are related to the IWM's, although infants show an early aptitude to manage a multi-person context (Fivaz-Depeursinge, Favez, Lavanchy, Noni, & Frascarolo, 2005; McHale, Fivaz-Depeursinge, Dickstein, Robertson, & Daley, 2008) and are thought to form more than one attachment (Bowlby, 1969).

5.3. 'Secure family base'

Although empirical observations have revealed that most of the children become attached to more than one familiar person during their first year of life (Ainsworth, 1967; Schaffer & Emerson, 1964), most research has focused on the mother infant dyad (Goodman, Lawrence, Berlin, & Brooks-Gunn, 1998; Greig & Howe, 2001; Hoffman, Marvin, Cooper, & Powell, 2006; Lyons-Ruth, Alpern, & Repacholi, 1993; Miljkovitch et al., 2013).

Similar to Bowlby's and Ainsworth's concept of children's use of attachment figures as a 'secure base' (Ainsworth, Blehar, Waters, & Wall, 1978; Bowlby, 1969), Byng-Hall proposed the concept of a 'secure family base' as a network of sufficiently reliable attachment relationships that provide all family members with a sense of security. A secure family base requires collaboration on the part of the adults to ensure that the needs of the children are given appropriate priority. Care-receiving experiences characterized by intense shared affect between parents and child in which the child feels understood, accepted, and loved, provide the child with a core sense of security and self-worth (Liebermann, Padrón, Horn, & Harris, 2005).

It seems to make sense to think that triadic family interactions shape children's attachment representations, considering that they begin to develop before the child birth, as the Prenatal LTP shows (Carneiro, Corboz-Warnery, & Fivaz-Depeuringe, 2006), and that mother-father-infant interactions during infancy are predictive of emotional and cognitive outcomes in the child (Favez, Frascarolo, Carneiro, et al., 2006; Wyl et al., 2008). Besides, the co-parental quality is consistently related to the parent-child relationship (Caldera & Lindsey, 2006) and to the security attachment in infants and young children (Belsky, Putnam, et al., 1996; Byng-Hall, 2002; Coyl et al., 2010; Frosch et al., 2000).

Although family alliances tend to remain stable over time (Favez, Frascarolo, Carneiro, et al., 2006), in their complexity and dynamic character, the security levels in the IWM's are not necessarily stable over time, being influenced by changes in the ecology of parenting (Belsky, Campbell, Cohn, & Moore, 1996; Egeland & Farber, 1984).

The family receives influences from individual, relational, environmental and cultural factors and, it is constantly exposed to different transformations that can have an impact on their members. When these dimensions are at risk, the probability that the family achieves and maintains functional relations decreases (Coyle et al., 2010; Coyle et al., 2002a; Lyons-Ruth et al., 2000; VickWhittaker et al., 2011).

5.4. Individual, social and cultural influences

There are multiple factors that can affect the quality of the family interactions and parental stress and depressive symptoms have shown to impact both dyadic and triadic interactions. Parenting stress has been defined as the difficulty that arises from the demands of being a parent, having detrimental effects on the well-being of parents, children, and parent-child relationships. In general, parenting and its concurrent responsibilities lead to high levels of stress (Koeske & Koeske, 1990), particularly in the preschool period (Kuczynski & Kochanska, 1990).

Dyadic studies have shown that mothers who feel high levels of stress feel unprepared and overwhelmed so their reciprocity in the mother-child subsystem and

their capacity to support and co-regulate their child affects tend to decrease (Feldman, 2007; Forehand et al., 1986). Fathers presenting high levels of parental stress, on their side, showed higher hostility, rejection and inadequate stimulation levels (Cummings et al., 2000; Parke, 2004), as well as a worse father-child and father-mother relationship (Bronte-Tinkew et al., 2007). Infants that grow up in such conditions are prone to develop a regulation disorder (Sidor et al., 2013; Sidor et al., 2012) and preschool children show more negativity (Crnic et al., 2005), less social competence and high scores in teacher ratings of internalizing and externalizing behaviors (Gutermuth-Anthony et al., 2005).

In clinical samples, some authors proposed that in families in which one of the parents has a mental disorder, the development of the child depends more on the triadic functioning level, than from the dyadic (Seifer & Dickstein, 2000), but others authors stand out that there are also many cases where the depressive symptoms of one parent cause often a withdrawal of the healthy parent, meaning that not only the experience of threesome in the family, but also the dyadic relationship of healthy parent is disturbed with the child, which implies high level of risk for the child socio-emotional development (Cierpka et al., 2011).

Regarding configurational and social aspects, families with infants or preschoolers, three or more members, low socioeconomic level and high levels of contextual stress are at risk to develop negative family interactions, tending even to use more hostile and authoritarian disciplinary strategies, and to develop depressive symptoms in adults of both sexes (Coyle et al., 2002a; Lyons-Ruth et al., 2000). Also low levels of education and income are associated with low parenting skills in parents of both sexes (Tamis-LeMonda et al., 2004) and with lower quality in the triadic interaction (Schwinn, 2011).

Poverty contexts have frequently been associated to a low-quality mother-child interaction (Figueredo et al., 2009; Murray et al., 1999; Rodríguez, 2006; Stern, 1997) and to a low sensitive response of mothers with their children (Coppola et al., 2006; Guillén, 2007; Pelchat et al., 2003; Valenzuela, 1997). Nevertheless, the findings are not conclusive, since there are low-income families with an adequate bonding quality with their children (Crittenden, 1985; Egeland & Sroufe, 1981; Guillén, 2007).

Besides, the cultural setting in which a family is immerse and the parental ethnotheories, can directly affect the family interactions and child's development (Keller, 2007). An expression of a cultural manifestation is the sex role ideology, which responds to the question of the roles and tasks in men and women inside the family. The way in which home and child raising duties are distributed between men and women are not the product of the natural results of their sex, but respond to a gender system (DeBarbieri, 1992) and are influenced by gender or sex role ideology (Davis & Greenstein, 2009).

For modern couples living in a nuclear family arrangement with women increasingly working outside the home, societal expectations for fathers' involvement with their young children have emerged (E. Pleck & Pleck, 1997). Empirical evidence showed that traditional couples, are often more rigid and view conflicts as more damaging to

their marital relationships (Schwarzwald et al., 2008) and more egalitarian couples are more flexible and achieved higher family triadic functioning (Schwinn, 2011).

Considering the background above, the purpose of this research is to propose a systemic and ecological model to understand preschooler's attachment representations, specifically to test if relational, individual, social and cultural factors predict preschoolers IWM's. We hypothesize that attachment security levels will be explained by triadic family interactions and parental individual, social and cultural characteristics, specifically by parental depressive and stress symptoms, sociodemographical aspects and sex role ideology.

5.5. Methods

A cross sectional and quantitative study was performed with the approval of the Ethics Committee of Human Research from the Medicine Faculty of the University of Chile. 50 Chilean and 20 German families were recruited at kindergardens located in Santiago de Chile and Heidelberg, Germany.

The inclusion criteria for both groups were that the parents live together, have at least one four year old child that attended a kindergarden regularly, and have sufficient language skills. The exclusion criteria were the presence of any severe physical disease or impairment, a diagnosed psychiatric disorder, as well as moderate or severe depressive symptoms in any evaluated family member.

Four Chilean families were excluded, three of them because of depression and, one because of non completion of the assessment. One German family was excluded because the mother presented severe levels of depressive symptoms. The final analysis included 46 families in the Chilean sample and 19 families in the German sample.

Regarding sociodemographic characteristics, the sex distribution between the children were the same in Chile and Germany (42% female). Chilean parents were significantly younger than Germans, were less educated considering that most of them achieved high school degrees (50% mothers, 41% fathers), while most Germans reached university degrees (63% mothers, 74 % fathers) as their highest educational level. The majority of Chilean mothers were unemployed (52%) and most of the fathers were qualified workers or clerk (57%), while most of the German parents had executive jobs (37% mothers, 68% fathers). In both groups the predominant primary caregiver was the mother (80% Chile, 75% Germany). The rest of the German families (25%) mentioned the father as the primary caregiver, while in 20% of the Chilean families the caregiving responsibility was distributed between the father, grandparents and other relatives.

Table 2. Description of the socio-demographic sample characteristics

		Chile (n=46)	Germany (n=19)	Difference score		
				T	df	p
Mean age	Child (months)	54.26 (2.74)	52.53 (4.56)	1.54	24.1	n.s.
	Mother (years)	31.93 (5.84)	36.26 (3.38)	-3.73	55.8	<
	Father (years)	33.15 (6.49)		-3.99	53.6	.001 <

			38.42 (3.96)			.001
Household size		5.15 (1.85)	4.05 (.85)	3.28	62.2	< .01
Workday (in hours)	Mother	7.39 (1.69)	5.04 (2.86)	3.07	33	< .01
	Father	8.80 (1.72)	8.50 (2.28)	0.57	57	n.s

In both countries the assessments were carried out in the families' homes by two trained psychologists and took 1.5 hour.

Measures

Preschoolers' attachment representation

The Attachment Story Completion Task ASCT (Bretherton & Munholland, 1999) is a semi-structured procedure that evaluates attachment representations through means of an attachment story completion task using doll play. The introduction of several attachment relevant stories (or story stems) is enacted to the child with small doll figures. A child doll of the same sex is the main character of the story which is intended to serve as a figure of identification for the child. The attachment system is activated through the attachment specific contents of the story stems. The attachment representations of the children are inferred from the play actions and the structure of the narrative with the help of defined codings for each story.

The coding and classification used was the Attachment Story Completion (GEV-B, Gloger-Tippelt & König, 2009) which yields both a quantitative attachment security score (4 = very secure; 3 = secure; 2 = insecure; 1 = very insecure) and a qualitative attachment classification of secure, avoidant, ambivalent or disorganized attachment representations. In the case of secure attachment representations the child is collaborative and acknowledges feelings such as sadness or anger; protagonists display a wide range of affective states, and adults are presented as supportive. In the case of de-activates strategy the child is reluctant to engage in play, stories tend to be poor, conventional, or affectless, and protagonists scarcely engage in relationships. Hyperactivated child are aroused by the task and are unable to constructively complete the story stems and are more likely to focus on or emphasize the negative aspects of the stories. Children with disorganized attachment strategies create stories marked by a loss of control with catastrophic, violent, or destructive themes; protagonists may be depicted as helpless and unprotected, and parent and child roles may be reversed.

The instrument has shown good interrater reliability ($\kappa = .82$, $p < .0001$) and convergent validity (Gloger-Tippelt & König, 2009).

Family triadic interactions

The Lausanne Triogue Play (LTP, Fivaz-Depeursinge & Corboz-Warnery, 1999) measures the mother-father-child interaction in a standardized way. The family sits, forming a triangle, so that all members can have eye contact. Through an instruction the family is encouraged to play in four phases: 1) one parent plays actively with the child, while the other is present, 2) parent's reverse roles, 3) mother, father and child play all actively together and 4) finally mother and father interact and the child is present. The interactions are videotaped with two synchronized cameras, one

pointing at the parents and the other at the child (Fivaz-Depeursinge & Corboz-Warnery, 1999).

The videotaped are code using the Family Alliance Assessment Scales (FAAS) (Favez et al., 2011), which allows the assessment of the family alliance (cooperative, conflictive, disorganized), as well of structural and dynamic aspects of the interaction, which are coded in five different dimensions: 1) participation, 2) role organization, 3) focalization, 4) warmth and affective contact and 5) error in the communication + reparation. This dimension and their subcategories are scored (2= adequate, 1= moderate, 0= inadequate) and the addition of this score constitutes the “family score”, which represents the functionality level of the family interaction.

The FAAS has shown good interrater reliability ($\kappa = .61 - .90$; $p < 0.05$) and proved to be valid (Favez et al., 2011).

For this study, the preschooler’s version was used whose only difference with the original LTP setting is that between the family triangle there is a table with standardized toys, which can be used during the different phases from the procedure. Kappa and intraclass correlation coefficients (ICC) analyses were carried out to calculate the inter rater reliability for the family alliances and family scores and both showed good scores ($\kappa = 0.7$; $p \leq 0.05$; $ICC = 0.97$).

Parental depressive symptoms

The presence of depressive symptoms in the parents was evaluated with the Beck Depression Inventory (BDI-I, Beck, Steer, & Brown, 1961). It consists of 21 self-reported items, each scored from 0 to 3 points and higher scores indicate the presence of more symptoms.

This questionnaire has been widely used, and shows good reliability and validity levels, with an alpha coefficient of .92 (Beck et al., 1961).

Parental distress

Parental distress is evaluated through the Parenting Stress Index Short form (PSI-SF), a questionnaire consists of 36 items derived from the PSI, which is comprised of three scales: Parental Distress, Difficult Child Characteristics, and Dysfunctional Parent-Child Interactions (Abidin, 1995).

Validity and reliability studies showed good correlation coefficients (.73 -.95), good test-retest coefficients (.68-.85) and internal consistency (.80-.90). A Chilean study with 137 mothers of low socioeconomic income resulted in a Cronbach’s alpha of .943 (Farkas & Valdés, 2011).

Family socio-demographic characteristics

A specific questionnaire was created to assess childbirth, health and scholar antecedents, as well as family demographic data (including family constitution, parental education level and occupation).

Sex role ideology

The Sex Role Ideology Scale (SRIS, Kalin & Tilby, 1978) measures roles of men and women. It has demonstrate internal consistency (0.79) and good test-retest reliability (0.87) (Kalin & Tilby, 1978).

In this research the abbreviated version of the SRIS was used, which contained 9 items (Freund et al., 2012). In each item, the subjects indicate their degree of agreement or disagreement with the proposed statement using a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree). The scores of the items written in a traditional direction were reversed before obtaining the total scale score. Possible scores range between 9 and 63, and lower scores correspond to traditional ideologies, while higher scores to more egalitarian ideologies regarding gender roles.

Data analysis

Descriptive analyses were performed to describe the Chilean and the German sample. Chi square tests were conducted to investigate associations between qualitative measures. At last correlation analyses followed by multiple regression analysis with forward method were applied to predict preschoolers' attachment security levels in the Chilean sample. Before conducting multivariate regression analysis requirements were tested (Stevens, 2009).

In order to assure reliability of the results of the regression analysis, cross-validation will be performed using an external dataset.

This is achieved by developing an equation from data collected from one sample (the screening sample) and then using that equation to predict outcomes for another sample (the validation sample). The cross-validated R is the correlation between the values predicted for the validation sample and the empirical values of the validation sample. In the current study, the Chilean group was treated as the screening sample and the German group as the external validation sample. After the multiple regression analyses were conducted the coefficient estimates of the screening sample were used to predict the scores of the validation sample. Those predicted scores were then correlated with the empirical scores. The resultant cross-validated R is an index of how well the equation derived from the screening sample predicted the scores of the validation sample. If the cross-validated R is significantly smaller than the multiple correlation coefficients (shrinkage) then we can conclude that reliability was low, which is a known problem in multiple regression analysis in relatively small samples (Ramos & Yudko, 2008). In case the cross-validated R is close to the R of the screening sample, it supports the validity of the regression model.

All analyses were performed using SPSS 21.0.

5.6. Results

Descriptive analysis

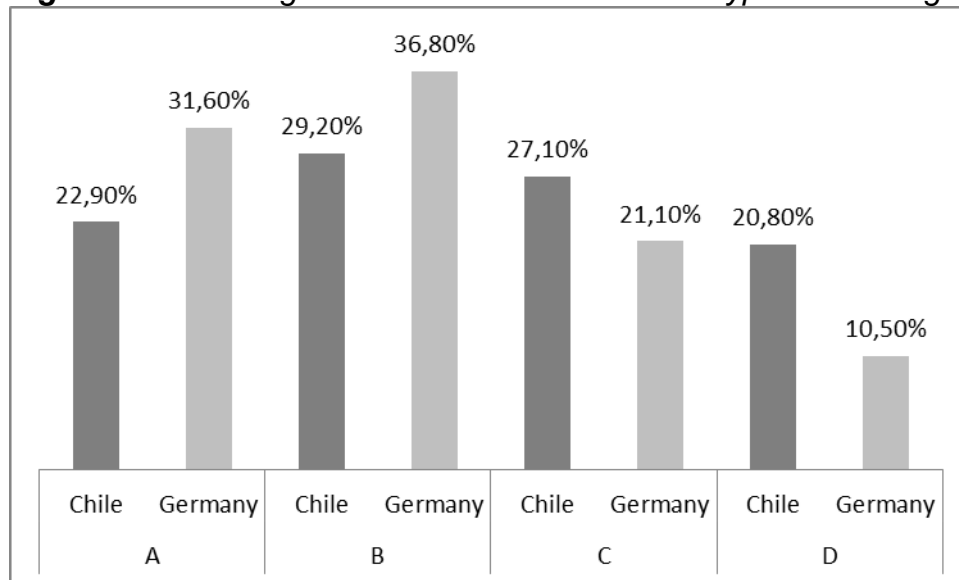
Table 2 shows descriptive statistics for the attachment security levels scores, the family score in the LTP, parental depressive and stress symptoms and sex role ideology. As the data show the screening and the validation samples show significant differences regarding family score in the LTP, maternal stress levels and parental sex role ideology. The Chilean sample showed lower family scores, higher maternal stress levels and lower scores in the SRIS in mothers and fathers.

Table 2. Descriptive statistics for Chilean and German families.

		Chile (N=44)	Germany (N=19)	t	df	p
Attachment levels	security	1.81 (.85)	2.21 (.88)	-1.76	60	n.s.
Family score		10.09 (4.94)	13.42 (5.15)	-.240	63	<.05
Maternal symptoms	depressive	6.17 (5.11)	4.63 (5.09)	1.11	63	n.s.
Paternal symptoms	depressive	5.28 (3.97)	4.53 (3.89)	.70	63	n.s.
Maternal symptoms	stress	79.07 (16.04)	66.26 (15.13)	2.97	63	<.01
Paternal symptoms	stress	75.22 (13.07)	73.32 (17.59)	.48	63	n.s.
Maternal ideology	sex role	42.2 (8.33)	55.42 (5.24)	-6.4	63	<.001
Paternal ideology	sex role	36.59 (8.72)	53.21 (7.99)	-7.15	63	<.001

Regarding GEV-B, children did not show differences in the attachment security levels and both Chilean and German children showed more insecure attachment classifications (see figure 1).

Figure 1. Percentage of attachment classification types according to nationality



A= insecure avoidant; B= secure; C= insecure ambivalent; D= disorganized

Most of the families both Chileans and Germans showed conflictive alliances of the covert type. Chilean families showed more dysfunctional alliances, having more disorganized and less cooperative alliances than German families ($X^2(2, N = 65) = 6.19, p < .05$) (see table 3).

Table 3. Contingency table: Family alliance in Chilean and German families.

	Cooperative	Conflictive	Disorganized	Total
Chile	5	28	13	46
Germany	7	9	3	19
Total	12	37	16	65

Interrelations between attachment classifications and family alliance

In the Chilean sample attachment classifications and family alliance was associated ($\chi^2(6, N = 46) = 16.70, p < .01$) (see table 4).

Table 4. Contingency table: Attachment classification and family alliance

	Cooperative	Conflictive	Disorganized	Total
Avoidant (A)	0	4	3	7
Secure (B)	4	10	0	14
Ambivalent (C)	0	12	5	17
Disorganized (D)	1	2	5	8
Total	5	28	13	46

Correlational analysis

Attachment security levels in the GEV-B showed highly significant Pearson correlations with the family score in the LTP ($r = .41, p < .01$), with maternal stress, especially in the subscale parental child difficult interaction ($r = -.30, p < .05$) and with paternal sex role ideology ($r = .33, p < .05$). The correlations between attachment security levels parental depressive symptoms, paternal stress, and maternal sex role ideology were not significant.

In addition, there was a positive association between attachment security levels and paternal educational levels ($r = .31, p < .05$), but not with other sociodemographic characteristics of the parents.

Regression analysis

Multiple regression analysis with forward method was conducted to the screening sample. The family score by itself explained a 17% of the variance, and when added maternal stress the model explained a 25% of the variance (see table 5).

Table 5. Model summary for attachment security scores.

Predictors	β	p	R	R ² increase	F change	P change	(F change)
Model 1:							
Family score	.069	.024	.41	.17	8.29	.006	
Model 2:							
Family score	.073	.023	.50	.25	6.85	.003	
Maternal stress	-.016	.007					

** $p < 0.01$

The cross-validation confirmed the first model: the predicted and the empirical scores were correlated with $r=0.57$ ($p<.05$), the cross-validated R was 0.32, which is close to the R in the screening sample 0.17.

5.7. Discussion

The following study is a contribution to the understanding of attachment representations during preschool years, from an ecological perspective, considering that during this stage the social environment of the child expands and new social demands emerge. We hypothesized that attachment security levels in the child would be explained by triadic family interaction and some parental individual, social and cultural characteristics.

It's worth to mention that this study is a first approximation to the analysis of preschooler's attachment representations in the light of the triad. Our results corroborated our hypothesis, given that family triadic interactions indeed predicted preschoolers IWM's in a significant way, regardless of the individual, social and cultural family characteristics. The reliability and validity of the proposed model are strongly supported by the external cross-validation.

But what does this result mean? It's worth to mention that this study is a first approximation to the analysis of preschoolers' attachment representations in light of the triad. Although attachment has been conceptualized from their origins as a dyadic construct, the triadic paradigm has shown that triangular interactions are important for development. Our results corroborate this postulate, showing that not only dyadic relations are involved in the development of attachment representations, but also "mother-father-child" interactions.

If we make a zoom into this finding, specifically, if we see how attachment representations relates to triadic play, we found that participation, co-construction, parental frame, warm, validation and repair capacity play a very important role. So, when these variables are present in a family interaction it is more probably to find secure attachment representations in the child. On the other hand, when the family cohesion and interaction are threatened, when there is tension in the parental unit, competition among their members, coordination difficulties, interferences, breaks, repair problems, and difficulties in achieving the triadic play, we could expect to find more insecure attached children. On specific terms, in families with cooperative alliances, whose members participate, coordinate "well enough" on a joint task, respect their roles, and exchange positive affect, it is more probably to find secure attached children. Meanwhile, families having a conflictive alliance, where the parents are not capable of coordinating "well enough" to carry out the task, interrupting each other, causing breakdowns in the interaction, and competing with each other to obtain the attention of the child are more of risk to have insecure attached children. On the other hand, families with disorganized alliances, whose members demonstrate interactions characterized by exclusion and who, despite their efforts, do not achieve coordination, cohesion, and emotional contact with each other will tend to have children with disorganized attachment classifications.

So, it seems to make sense to think about attachment representations in a triadic context, like, as Byng-Hall (2002) proposed, the family functions as the secure base and as a network of sufficiently reliable attachment relationships that provide all

family members with a sense of security. A secure family base requires collaboration on the part of the adults to ensure that the needs of the children are given appropriate priority. So, when the family achieves a successful interaction, they are capable to include all participants, to maintain and respect their roles, to share a common focus and to be affective connected. Besides, parents are able to co-construct a game with the child, to give a solid and secure frame, to validate their child and to repair in case of need.

This result is coherent with previous co-parenting studies, which posed that warmth and cooperation in the co-parental relationship during the first two years of the child's life are predictive of good emotion regulation skills and social adjustment in children during the preschool years (McHale & Rasmussen, 1998), and that high levels of co-parental antagonism in families observed during infancy or during the preschool years increased the likelihood of developing insecure attachments (Frosch et al., 2000) or non-consistent between parents (Caldera & Lindsey, 2006), and to more aggressive imagery during semi-structured family doll play (McHale et al., 1999).

Maternal stress was also a discriminant predictor for attachment security in the Chilean sample, which also confirm our hypothesis and coincides with previous findings, which posed that high stressed mothers feel overwhelmed so their capacity to support and co-regulate their child affects tend to decrease (Feldman, 2007, Forehand, Lautenschlager, Faust, & Graziano, 1986). This result was expectable, considering that raising preschool children is especially related with stress and given that most of the mothers defined themselves as principal caregiver.

Contrary to our expectations, the sociocultural background did not appear to be a discriminant predictor for attachment security. Nevertheless, this finding needs to be formulated with care, given that paternal sex role ideology and parental educational levels, did relate to attachment security. The relation between sociocultural variables and attachment security levels could be mediate by triadic family interactions. This would explain, why in a multiple regression framework, sociocultural variables did not explain any additional variance. Unfortunately, it is not possible to address this assumption in a cross-sectional study.

A major finding was that both, Chilean and German children, showed more insecure attachment classifications, which doesn't match with previous cross cultural meta-analyses (vanIjzendoorn & Kroonenberg, 1988). Nevertheless, individuals of German samples have historically appeared to be more avoidant (Gloger-Tippelt & König, 2007; Immelmann et al., 1981), which coincides with our findings. Chilean children on their side belonged to low income families, so the predominance of insecure attachment representations can be incorporated to the controversy findings that associated poverty contexts with a low-quality mother-child interaction (Figueredo et al., 2009; Murray et al., 1999; Rodríguez, 2006; Stern, 1997) and to a low sensitive response of mothers with their children (Pelchat et al., 2003).

Besides, in both Chilean and German families the conflictive alliance predominates, which means that most families showed difficulties achieving a triadic play. The parents are not capable of coordinating "well enough" to carry out the task, interrupting each other, causing breakdowns in the interaction, and competing with each other to obtain the attention of the child. A possible explanation to this finding

could rely on the lack of triadic instances and time for family life, considering that after the assessment, both in Chile and Germany, usually families reported in a spontaneous way, that it was the first time they played in a triad. In spite of the socioeconomic differences, in both countries fathers worked on an average eight hours a day. So, we could think that there are cultural and material barriers to let the families spend more time together, such as work schedules, allowances for time off from work and, in big cities like Santiago, the time spend in the way to work. To corroborate if this result is expectable in the general population, more studies need to be done.

A more psychological explanation could rely on the fact that both Chilean and German mothers define themselves as primary caregivers, and spend daily more hours a day with their children. So, we could think that when fathers arrived home, they probably divided home and raising tasks, without being necessary in a triad. Some scholars have notice that women's beliefs and behaviors towards men's involvement affect actual levels of involvement. Some women can inhibit a collaborative effort between men and women in family work by limiting men's opportunities for learning and growing through caring for home and children. This phenomena has been conceptualized as maternal gatekeeping (S. M. Allen & Hawkins, 1999). Nevertheless, we could also think that paternal sex role ideologies inhibit a major level of father's involvement. To corroborate this hypothesis, more studies need to be done.

Another interpretation for this result is that triangles are usually evocative of very painful emotions, regardless of the point of the triangle on which we find ourselves. Love in a triangle, is no longer exclusive and when we must share someone's love, we may feel betrayed, demeaned, and bereft. From a transgenerational perspective, if the parents are themselves insecure attached, it's more probably that their capacity to separate, share, differentiated or to cope with any kind of relationship disappointment will inevitably be affected (Fonagy, 1999; Levy, Blatt, & Shaver, 1998).

Taking into account that family alliances tend to remain stable (Favez, Frascarolo, Carneiro, et al., 2006), it's relevant to design diagnostic programs that allow an early detection of the families interactional difficulties and resources, to intervene in case of need and prevent the consolidation of insecure attachment styles.

Findings from this study may be useful for practitioners who work in early childhood education, intervention, and community agencies that serve parents, children and family therapy settings. It's worth to note that although the LTP has been primarily used in research, it is also a clinical tool that could be used both with diagnostic and psychotherapeutic purposes. Through video-feedback family professionals should encourage shared parent-child activities, positive parenting and the establishment or reinforcement of co-parenting behaviors. Facilitating supportive and responsive interactions among parents and children and between parents are likely to sustain or help create secure expectations for support among all family members.

However, we need to be cautious with the following interpretations, considering that an important amount of the attachment variance remains unexplained. Future research should continue investigating the relation between those variables,

including other individual, interactional or sociocultural factors involved like transgenerational variables (e.g. parental attachment), variables concerning the parental dyad (co-parenting, marital satisfaction), and child variables (temperament, attachment) that could be part of a broader comprehensive model.

Regarding study limitations, it is important to note that this research constitutes an explorative approach in the study of preschooler's attachment representations in light of the triad, so our results should be interpreted with caution due to relatively small sample size. No doubt more studies and new perspectives are needed to expand and complement the present results. Besides, even if collecting complex videotaped data in home visits improves the participation rates of nontraditional populations and the ecological validity of the findings, it could have intervened the children's answers and creativity, especially in the attachment story completion procedure.

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CONCLUSIONS

The following doctoral thesis pretends to be a contribution in the understanding of child development and family process, specifically on attachment representations during preschool years and family triadic interactions. We assumed that internal working model and interpersonal relationships influence each other, and therefore we hypothesized that triadic family interactions may be reflected in children's mental representation of attachment and in turn, that triadic interactions will be influenced by parental individual, psychosocial and cultural variables. The research methodology has different steps, from which five manuscripts emerged, two of them accepted for publication and three of them submitted in research relevant journals. The five papers adopt a common systemic and ecological perspective, are thematically related, and can be divided in three parts. As a first step, it was considered necessary to evaluate in Chile, how parental mental health variables related to family functioning and to the triad, so the first two articles referred to this topics. The third manuscript is a literature review and it evidenced the importance of paternal involvement in child development and proposed a triadic perspective in analyzing family interactions, and the last two articles incorporate sociocultural variables, searching for predictors for the triad and for the preschooler's attachment representations in Chilean and German families.

The first article, "Depressive symptoms, parental stress and family functioning", examined the relationship between those variables. The main findings showed that, while mother's depressive and stress symptoms related to intra-familial and interactional aspects, fathers tend to be more affected by instability in maternal mental health and by the presence of environmental risks. For the mothers, the quality of their emotional ties, specifically with their children and partners, was a relevant factor with respect to mental health, while for the fathers, factors related to the security and stability of the environment, i.e., contextual factors, affected their levels of stress.

Besides, 40% of the mothers and 30.6% of the fathers showed high levels of parental stress, which confirms previous studies that have posed that raising young children is a stage of life when high levels of stress arise due to the emotional, social, and economic demands of the maternal and paternal role (McLennan & Offord, 2001). Mothers showed significant more parental stress than fathers, which is consequent given that an 80% of them defined themselves as primary caregiver. Having an occupation was a protective factor for mothers, while for fathers it was an older age and higher educational levels.

Regarding family functioning dimensions, environment and family interactions explained parental capabilities, child well-being and parental capabilities explained family interactions and family interactions explained child well-being. There was a clearly reciprocity among the different dimensions of family functioning and among these dimensions with parental psychological variables, which corroborates that systemic analysis is a suitable comprehensive model of family mental health. So, this first article confirmed the relation between parental mental health variables and family functioning dimensions.

The purpose of the second article “Triadic family alliance and parental mental health” was to evaluate the relationship between parental mental health variables and the family triadic interaction, hypothesizing that families with more parental symptoms will show lower quality interactions. The results showed that most of the families had dysfunctional alliances, which would account for the existence of tension in the parental unit and would directly affect family interactions. While a slight tendency was observed for families with dysfunctional alliances to present higher levels of depressive symptoms and parental stress, no statistically significant differences from functional alliances were found. Neither the presence of depressive symptoms nor parental stress in one of the members of the parental couple is a necessary condition for the existence of a dysfunctional family alliance. It is worth noting that the presence of depressive symptoms and stress in the father is more discriminant, especially between cooperative and conflictive alliances. These findings suggest the hypothesis that other relevant variables influence the family alliance in addition to the mental health of the parents.

The third article is a review, whose aim was to highlight the importance of incorporating the father into the family process and interaction studies and to support the existence of a triadic family effect from the early stages of family interactions. It begins with a contextualization of the cultural and economic changes occurred in developed Western countries that have placed new demands regarding the participation of fathers in raising their children (E. Pleck & Pleck, 1997). However, despite the advances and changes in the configurations of family roles, the greatest burden in terms of time and responsibility for household tasks, care and child rearing remains in the hands of women. In Chile, while men are increasingly interested in participating in parenting, their efforts remain focused on roles such as play, walks and supporting homework (Aguayo et al., 2011). Thus, we are far from achieving co-responsibility in parenting and housework tasks between men and women (Valdés & Olavarría, 1998).

Through evidence that supports that the active presence of fathers has a positive impact on the psychosocial development of their children (S. Allen & Daly, 2007; Sarkadi et al., 2008) and that co-parenting provides vital psychological and emotional support for the growth and development of all family members, this article seeks to stop considering men to be secondary actors in parenting tasks, as well as to introduce in the Chilean context a family assessment and intervention tool. The Lausanne Trilogue Play involves both parents as active participants in the socialization process of their children and considers the participation of each individual and the interrelationships between participants to be central elements in the emergence of a harmonious and cohesive family style that supports optimal development in the child (Belsky, 1981; Cowan & Cowan, 2002; McHale & Cowan, 1996).

This is how the fourth manuscript “What shapes “mother-father-child” interactions? A study with Chilean and German families” aims to contribute to the understanding of the triad beyond parental mental health variables. An ecological model composed by individual, environmental and sociocultural variables is proposed to explain family interactional processes. We hypothesized to find more functional triadic interactions in families with less parental stress symptoms, lower levels of psychosocial risk as well as more egalitarian sex role ideologies. The results corroborated partially the

posed hypothesis given that parental stress didn't predicted the triadic interaction, but family psychosocial risk, especially child risk and paternal sex role ideologies predicted the functionality of the triadic play.

The child's well-being implies a strong bonding between parents and children, as also the parental perception of an adequate child adjustment, so less risk in this dimension is reflected in the triad. More egalitarian paternal sex role ideologies, on their side, are also protective for triadic family functioning, probably because more egalitarian fathers are more flexible and more involved in parenting, which matched with previous findings (Schwinn, 2011) and with the postulates of the previous review (F. Pérez & Olhaberry, 2014). Like in the second manuscript, although around a third of the parents presented high levels of parental stress, no significant association with triadic family functioning was found.

It's interesting that although Chilean and German families had different sociocultural characteristics after controlling for education and sex role ideology as sociocultural variables there were no significant differences in the family interactions between them. So, more than the national belonging, it's the sociocultural belonging which explains the triadic interaction, which emphasizes the need of not confounding nation with culture (Matsumoto & Yoo, 2006).

Having in mind the variables that are involved in triadic interactions, the last paper "Beyond the dyad: preschoolers' attachment from a triadic perspective" comes finally to the main research question. Do triadic family interactions predict preschooler's attachment representations? We hypothesized that family interactional patterns may be reflected in children's socio-emotional development and in their constructions of mental representation of attachment relationships. The results indeed corroborate our hypothesis, given that triadic family interactions predicted preschoolers IWM's in a significant way, both in Chilean and German families, regardless of the individual, social and cultural differences they have. This would indicate the reliability of the proposed model.

It's worth to mention that this study is a first approximation to the analysis of preschooler's attachment representations in the light of the triad. Our results corroborate that triangular interactions are important for development, showing that not only dyadic relations are involved in the development of attachment representations, but also "mother-father-child" interactions.

Maternal stress was also a discriminant predictor for attachment security, which coincides with previous findings (Feldman, 2007; Forehand et al., 1986). This result was expectable, considering that most of the mothers defined themselves as principal caregiver, both in Chilean and German families, and that raising preschool children is especially related with stress. Although paternal sex role ideology and parental educational levels, did relate to attachment security, they didn't appear to be a discriminant predictor for preschoolers IWM's.

A major finding was that both, Chilean and German children, showed more insecure attachment classifications, which doesn't match with previous cross cultural meta-analyses (vanIjzendoorn & Kroonenberg, 1988). Nevertheless, individuals of German samples have historically appeared to be more avoidant (Gloger-Tippelt & König,

2007; Immelmann et al., 1981), which coincides with our findings. Chilean children on their side belonged to low income families, so the predominance of insecure attachment representations can be incorporated to the controversy findings that associated poverty contexts with a low-quality mother-child interaction (Figueredo et al., 2009; Murray et al., 1999; Rodríguez, 2006; Stern, 1997) and to a low sensitive response of mothers with their children (Pelchat et al., 2003).

Although insecure attachment and unresolved trauma are risk factors for development of psychopathology (vanIJzendoorn & Bakermans-Kranenburg, 1996), it should not be overlooked that each attachment pattern can be seen as an adaptation or even as a survival achievement for a certain interpersonal ecology (Stevenson-Hinde, 1990). This achievement has its price, but it can also mobilize or even create new resources. From a resource point of view, one can perceive insecure avoidant patterns as an enhanced ability and willingness to trust more in internal than an external forces. In insecure ambivalent representations, one can see the heightened interpersonal sensitivity (Stierlin, 1995).

Summarizing, the findings confirmed the main hypothesis, namely, that triadic interactions predicted attachment representations. Maternal stress was also a discriminant predictor for preschooler's IWM's. Triadic family interactions, on their side, were explained by sociocultural variables and not by parental mental health. Maternal and paternal mental health variables are interrelated, but mothers and fathers get stressed for different reasons.

On specific terms, in families with cooperative alliances, whose members participate, coordinate "well enough" on a joint task, respect their roles, and exchange positive affects, it is more probably to find secure attached children. Meanwhile, families having a conflictive alliance, whose members compete, where the parents are not capable of coordinating "well enough" to carry out the task, interrupting each other, causing breakdowns in the interaction, and competing with each other to obtain the attention of the child are more at risk to have insecure attached children. On the other hand, families with disorganized alliances, whose members demonstrate interactions characterized by exclusion and who, despite their efforts, do not achieve coordination, cohesion, and emotional contact with each other will tend to have children with disorganized attachment classifications. These relations coincide with the ideas of Marvin and Stewart (1990), namely that "adaptive" resemble the idea of secure attachments, "enmeshed" and "disengaged" families resemble insecure attachments and as Stevenson-Hinde proposed, "chaotic" families resemble "disorganized" attachment representations.

It seems to make sense to think that triadic family interactions shape children's attachment representations, considering that they begin to develop before the child birth, as the Prenatal LTP shows (Carneiro et al., 2006), and that mother-father-infant interactions during infancy are predictive of emotional and cognitive outcomes in the child (Favez, Frascarolo, Carneiro, et al., 2006; Wyl et al., 2008). So, if the triad functions as a secure base and as a network of sufficiently reliable attachment relationships, it will provide all family members with a sense of security, as Byng-Hall (2002) proposed. A secure family base requires collaboration on the part of the adults to ensure that the needs of the children are given appropriate priority. So, when the family achieves a successful interaction, they are capable to include all

participants, to maintain and respect their roles, to share a common focus and to be affective connected. Besides, parents are able to co-construct a game, to give a solid and secure frame, to validate their child and to repair in case of need. This result is coherent with previous co-parenting studies, which posed that warmth and cooperation in the co-parental relationship during the first two years of the child's life are predictive of good emotion regulation skills and social adjustment in children during the preschool years (McHale & Rasmussen, 1998), and that high levels of co-parental antagonism in families observed during infancy or during the preschool years increased the likelihood of developing insecure attachments (Frosch et al., 2000) or non consistency between parents (Caldera & Lindsey, 2006), and to more aggressive imagery during semistructured family doll play (McHale et al., 1999).

In relation to the findings on family interactions, the studies showed that more than parental mental health variables, the sociocultural aspects predicted the triadic functioning. Specifically parental educational levels and paternal sex role ideology played a significant role. Higher parental educational levels may be a protective factor because they are associated with greater cognitive resources to deal with different situations and conflicts, to better job opportunities and cultural access, and have also shown to be a good predictor of maternal ability to sensitively respond to their children's signals (Coppola et al., 2006; Pelchat et al., 2003). More egalitarian paternal sex role ideologies, on their side, are also protective for family functioning, probably because more egalitarian fathers are more flexible and more involved in parenting. Previous findings have shown that more egalitarian couples are more flexible and achieved higher family functioning (Schwinn, 2011).

It's interesting to mention, that although German families tend to show more functional alliances, after controlling for education and sex role ideology this differences disappear. So, more than the national belonging, the sociocultural background seems to be responsible for the observed differences.

But, beyond these sociocultural differences, in both Chilean and German families with preschoolers the conflictive alliance predominates. That means that most families showed difficulties achieving a triadic play. The parents are not capable of coordinating "well enough" to carry out the task, interrupting each other, causing breakdowns in the interaction, and competing with each other to obtain the attention of the child. As Haley (1981) pointed out in his theory of pathological systems, problems occur in contexts characterized by covert coalitions that cross status (generation) lines and the most problematic coalitions are covert (Haley, 1981).

A possible explanation for the majority of conflictive alliances could rely on the lack of triadic instances and time for family life, considering that after the assessment, in Chile and Germany, usually families reported in a spontaneous way, that it was the first time they played in a triad. In spite of the socioeconomic differences, in both countries fathers worked on an average eight hours a day. So, we could think that there are cultural and material barriers to let the families spend more time together, such as work schedules, allowances for time off from work and, in big cities like Santiago, the time spend on the way to work. To corroborate if this result is expectable in the general population, more studies need to be done.

A more psychological explanation could rely on the fact that both Chilean and German mothers define themselves as primary caregivers, and spend daily more hours a day with their children. So, we could think that when fathers arrived home, they probably divided home and raising tasks, without being necessary in a triad. Some scholars have noticed that women's beliefs and behaviors towards men's involvement affect actual levels of involvement. Some women can inhibit a collaborative effort between men and women in family work by limiting men's opportunities for learning and growing through caring for home and children. This phenomena has been conceptualized as maternal gatekeeping (S. M. Allen & Hawkins, 1999). Nevertheless, we could also think that paternal sex role ideologies inhibit a major level of father's involvement. To corroborate this hypothesis, more studies need to be done.

Another interpretation for this result is that triangles are usually evocative of very painful emotions, regardless of the point of the triangle on which we find ourselves. Love in a triangle, is no longer exclusive and when we must share someone's love, we may feel betrayed, demeaned, and bereft. From a transgenerational perspective, if the parents are themselves insecure attached, it's more probably that their capacity to separate, share, differentiate or to cope with any kind of relationship disappointment will inevitably be affected (Fonagy, 1999; Levy et al., 1998).

Even though around a third of the parents presented high levels of parental stress, no significant association with family functioning was found. This result doesn't match with previous findings, where stress and depressive symptoms have shown to impact both dyadic and triadic interactions (Bronte-Tinkew, Moore, Matthews, & Carrano, 2007; Cierpka, Scholtes, Frey, & Köhler, 2011; Cummings, Davies, & Campbell, 2000; Feldman, 2007; Fivaz-Depeursinge & Favez, 2006; Rodrigo, Martín, Cabrera, & Máiquez, 2009). One could hypothesize that the parents at risk do not perceive their stress as a dysfunctional burden. Another possible explanation for this result could rely on the small sample size, so more studies are needed to be done.

Regarding depressive symptoms, it's expectable that they didn't relate to the triadic functioning, because the sample was non-clinical. It will be worth to assess clinical and non-clinical samples to address the effect of depressive symptoms and corroborate if the other parent is capable to compensate the lack of sensitivity (Gere et al., 2013), or if the symptomatology of one parent cause a withdrawal of the healthy parent, which implies a higher level of risk for the child's socio-emotional development (Cierpka et al., 2011). However, our results showed that maternal and paternal symptoms are interrelated, so one could think that if one of the parents is highly depressed probably the other will also be affected, which would be reflected in the triad.

It's also interesting that the reasons behind the symptoms, in this case the stress, tend to vary between mothers and fathers. While for both parents the symptoms of the other affected the own state, for mothers were intra-familial issues, specially relational issues, more relevant, while for fathers factors related to the security and stability of the environment increased their level of stress. One could think, that the different reasons behind the stress of mothers and fathers, is probably linked to their main role. We could hypothesized that roles inside the families were divided in a more traditional way, where the male role is linked to their image as provider and

their protective function, while the role of women is linked to family life, home, care and delivering emotional support (Valdés & Olavarría, 1998). This hypothesis could probably be corroborate by the fact that, both in Chile and Germany, mothers define themselves as primary caregivers, and fathers reported a longer working time, which coincides with previous findings (Olhaberry et al., 2011; Peukert, 2008).

The complex cultural and economic changes that have occurred since birth control methods became widely available and increased female participation in the workforce have generated a change in the family framework and in the distribution of traditional gender roles. Families are facing new challenges, while demanding greater participation in parenting from both the father and the mother. Because this increased responsibility implies assuming roles that complicate relationships and tasks, these changes suggest the importance of balancing skillsets and mutual collaboration, to the benefit of child development and mental health (Belsky, 1981; Cowan & Cowan, 2002; McHale & Cowan, 1996). However, as this and previous studies have shown, fathers spend less time on care giving activity than mothers, even if the mothers work outside the home (Coltrane & Adams, 2001; Hofferth et al., 2002; J. Pleck & Masciadrelli, 2004).

Considering the importance of paternal involvement in the emotional, cognitive and social development of their children, it is necessary to promote a cultural change in which parenting is a shared responsibility using empirical evidence to confront traditional beliefs that consider child health issues, care or education as belonging to the female sphere. The present study goes in this line, emphasizing the importance of triadic family relationships in the child development and the reciprocity between maternal and paternal mental health and family functioning.

By incorporating the father when addressing early infancy, a field of research is opened for future studies that considers the entire family system in all of its complexity. The presence of the father constitutes an emerging field in the psychology of small children, infants, and preschoolers because the majority of the research has focused on the mother-child dyad, as noted previously. The present study corroborates the importance of paternal characteristics, specially the level of involvement in caregiving tasks, the flexibility regarding sex roles and the educational level, in the achievement of quality family interactions. In western nuclear families the father has a determining role in the separation and individuation process, encouraging the child according exploration and expansion behavior (vonKlitzing, Simoni, Amsler, & Bürgin, 1999). In being a playmate the paternal figure can also promote the development of curiosity in the child, intellectual and social abilities and sexual behaviors through offering emotional support and stability (Heresi, 2000).

If we consider that having an occupation outside the home is associated with lower levels of depressive and stress symptoms in mothers, it is important to facilitate the female incorporation into the workforce, especially in countries like Chile where the female workforce rate is significantly lower than those of developed nations (ILO, 2007). Nevertheless, the work conditions, both for female and male should contribute to the family life, which means that both, mothers and fathers, should have available time to spend with their families.

Another protective factor against depressive and stress symptoms, with regard to the triad and to the attachment security levels were parental educational levels. Higher educational levels relate to better mental health, better triadic functioning and more attachment security. This coincides with previous studies, which posed that lower educational levels affect negatively the sensitive response to the children, parenting skills, co-parenting behavior and triadic interactions (Guillén, 2007; Schoppe-Sullivan & Mangelsdorf, 2013; Schwinn, 2011; Tamis-LeMonda et al., 2004; Valenzuela, 1997). Besides, lower educational levels relate to poverty contexts and, although the socioeconomic position does not predict mental health, belonging to a low-income family implies, with greater chances, an unfavorable family environment, adverse parental conduct and life stressors with family mental health repercussions (Grant et al., 2003).

Given that Germans had on average higher educational levels than Chileans, it's a challenge for the Chilean society to improve the access and the quality of the education. Indeed, one of the promises of the present government is to reach free education at all levels, like in Germany, where the access to education is not linked to the family income.

Considering that from birth, human beings are immersed in relational family contexts, which represent a wide range of resources and problems with respect to a child's socialization, this study corroborate that the presence of a father and a mother who adequately co-parent, enriche their interactions with their children and simultaneously act as a protective factor against insecure attachment representations. Because the quality and diversity of relationships are critical in the formation of self, the family triadic unit offers a broad relationship framework, where the child can have a different experience of self and of significant others as well as relationships that develop their conduct behavior and favor their adaptation to reality. From a developmental perspective, the triangulation is a process in which the experiences of the young child with the mother alone, with the father alone and with mother and father as a couple are internalized and as internal object representations, which determine the intrapsychic structure of the child (Damasch et al., 2008).

Taking into account that the evaluated families were in the middle of raising their children and that the families are similar to the general population, the results let us to conclude that the design and implementation of programs for the promotion and prevention of secure attachment and dysfunctional family interactions are necessary, considering that most children had insecure attachment representations and that the majority of the assessed families showed dysfunctional family interactions, as well as high levels of parental stress.

Guided by systemic family theory, we could corroborate that not only dyadic but also interpersonal triadic relations affect attachment patterns. Based on these results, it is suggested to use a systemic approach in the design of promotion, prevention and intervention programs, considering the different family subsystems and how these interrelate. Therapists and psychological researchers practically always have to deal with complex relationships and family constellations (although they might only see one member of a given family). However, clinical and developmental psychology is still focused on individuals or, in the best case, dyads. More triadic research has to be done.

It is essential to promote the active participation of all family members, especially of the father, who often becomes a minor actor either by self- or other exclusion. The focus of these intervention programs should be relational, given the impact the triad has on the development of their members, particularly as this study showed in the child attachment representations. Although the LTP has been primarily used in research, it constitutes a clinical tool that can be used in the diagnosis and planning of family interventions, both from a structural and from a dynamic perspective. The type of family alliance can indicate whether there is a need for psychotherapeutic intervention, generating thematic foci to work on and allowing for preventive mental health interventions for small children.

Through the use of the LTP and video feedback sessions family professionals could work on specific aspects of the interaction they wish to promote, improve or change. In the video feedback session, the focus is placed on interactions and relationships, which makes it easier for the parents to address difficulties in this area, highlighting the functional interaction sequences and visible resources of the family. Clinicians or educators should encourage shared parent–child activities, positive parenting and the establishment or reinforcement of co-parenting behaviours, which supports the creation of secure expectations among all family members.

Additionally, it is critical to promote different parental stress coping strategies for mothers and fathers, strategies that are more focused on relational aspects for mothers and on the relationship with the mother and environmental aspects for fathers.

Study limitations and future research

Certain limitations of our study could have interfered with the results presented, such as the use of the BDI-I to assess depressive symptoms in the general population because the instrument is not precise in discerning symptoms in non-clinical populations. This weakness could have an impact as far as depressive symptoms being distributed homogeneously in the population, which limits comparative analysis. Additionally, the homogeneity and low rates of paternal depressive symptoms suggest that the BDI-I does not account for typically masculine depressive manifestations such as substance abuse or psychosomatic manifestations (Kessler, et al., 2005).

Besides, the application of the NCFAS-G was administered to the mothers and fathers simultaneously, which could have impact the given answers, either by social desirability or conflict avoidance. To test this hypothesis, in the future, parents should be interviewed separately to contrast their perspectives.

Besides, even if collecting complex videotaped data in home visits improves the participation rates of nontraditional populations and the ecological validity of the findings, it could have intervene the children's answers and creativity, especially in the attachment story completion procedure. Moreover, the necessary presence of every member of the triad often meant that the evaluations were conducted late in the afternoon, so that the fatigue of the participants may have affected their performance.

It is important to consider that this study constitutes a first approach in the examination of the triad for families with preschool aged children, so the results of the current study should be interpreted with caution due to relatively small sample sizes. Without a doubt, more studies and new perspectives are necessary to broaden and complement the results shown here.

Future research on child development and family process should incorporate other individual, interactional or sociocultural factors involved in the quality of family interactions like transgenerational variables (e.g. parental attachment), variables concerning the parental dyad (co-parenting, marital satisfaction), and other child variables (temperament, behavior, emotional and social aspects) that could be part of a broader comprehensive model.

Considering that some families still live with the extend family and in most cultures, besides parents, older siblings, grandparents, aunts, and uncles are most likely to serve as attachment figures it would also be advisable to include other members of the extended family who participate in daily family routines and who play an important role in childcare. Furthermore, the perspectives of the caregivers from the child-care centers should be taken into account because the children evaluated spend a large amount of time at the centers.

Finally, it should be noted that additional studies are needed to obtain more conclusive results. We also think it is important to conduct more longitudinal research, considering that chronic stressors may have more profound and determining consequences on the child and family mental health, as also studies with different social and clinical groups, incorporation other psychosocial variables that could be part of a broader comprehensive model.

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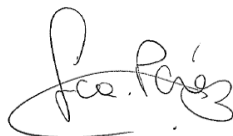
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