

## Fathering in the Chilean context: Wellbeing and father involvement pre and post the COVID-19 pandemic

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**Abstract:** We examined father involvement in two groups of two-parent Chilean families with children aged from 2 to 7 years, one prior to the pandemic (N = 115) and the second during the pandemic (N = 103). We first presented a description of fathering in the Chilean context and then examined potential predictors of fathers' cognitive and affective involvement. Data showed that during the pandemic fathers reported significantly higher levels of depressive symptoms compared to before the pandemic. However, levels of cognitive and affective involvement did not vary across studies. Parental stress predicted cognitive and affective involvement in pre-pandemic fathers. Number of children and educational level were related only to cognitive involvement. The implications of these findings for intervention and future research are discussed.

**Keywords:** *Fathering; father involvement; preschool children; non-WEIRD countries.*

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Over recent decades, research on parenting has been influenced by social, economic and demographic changes, which have led to the acknowledgment that traditional mother-focused models of development are outdated and do not represent the experience of the majority of children. These changes have also affected how fathers fulfill their parental role and influence their children's development. In order to account for context-specific aspects of the fathers' role, research has emphasized the need to understand fathering as situated within, and inseparable from, the contexts in which fathers and children are embedded (Schoppe-Sullivan & Fagan, 2020). However, most studies on parenting have been carried out in WEIRD (Western, educated, industrialized, rich, and democratic) countries, offering little information on how parenting unfolds in more diverse contexts.

In this article, we examine father involvement in Chilean families. To do so, we first present a summary of the current theoretical frameworks and empirical studies on fatherhood. Then, we present a description of fathering in the Chilean context. Next, we examine the characteristics of father involvement in two groups of two-parent Chilean families with children aged from 2 to 7 years. Finally, we examine potential predictors of father involvement to highlight possible barriers and promoters of father involvement in the Chilean context. The implications of these findings for intervention and future research are discussed.

### Theoretical frameworks and evidence on the role of fathers in child development

Nowadays, the idea that fathers, as well as mothers, are capable caregivers and that both are central agents in the socialization of children is widely accepted. However, it was only in the 70s that fathers started to be included in parenting research. The seminal work by Lamb et al., (1985) was one of the first to present a model of father involvement that included: (a) engagement (amount of time spent in direct contact with their children in verbal stimulation, caregiving, and physical play); (b) accessibility (attendance and availability); and (c) responsibility (ability to plan activities specifically adapted to the child's age and needs). This model motivated an increased interest in understanding father involvement and inclusion of fathers in child development research (Cabrera et al., 2014). Later, Palkovitz (2002) conceptualized paternal involvement in three overlapping domains (e.g., cognitive, affective, and behavioral), and included simultaneously occurring activities (e.g., time invested, degree of involvement, observability, salience of involvement, directness, and proximity). More recently, Cabrera et al. (2014) presented an expanded version of the Heuristic Model of the Dynamics of Paternal Behavior and Influence on Children Over Time, which combines and goes beyond Belsky's (1984) parenting model determinants and Bronfenbrenner's,

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ecological theory of human development (Bronfenbrenner & Morris, 2007). The expanded model focuses on fathers and their influence on children's development, considering the transactional and reciprocal nature of the relationship between fathers, children and context.

Thus, this model is well suited not only to examine the influence of fathers' involvement on child development, but also to examine potential determinants in fathers' parenting behavior. Cabrera's model proposes multiple influencers on father behaviors, among them are current fathers' characteristics (e.g., personality), child characteristics (e.g., gender, age); and contextual sources of stress and support (e.g., income, family relationships).

The relevance of studying determinants of father involvement is sustained by the evidence available on its contribution to child development, both through direct and indirect mechanisms. Fathers' influence on young children's social, emotional, and academic development has been well documented (Parke, 2002). In different socioeconomic and ethnic groups, fathers' sensitivity and support is associated with positive outcome in children (McDowell & Parke, 2009). Several studies have found a positive association between father involvement and child cognitive (Rollè et al., 2019) and socioemotional development (Kroll et al., 2016).

### **Determinants of father involvement**

For any parent, their parenting behavior and relationship with their children are affected by numerous contextual factors, including those within familial, social, psychological, and cultural domains (Bronfenbrenner & Morris, 2007). The literature suggests that for fathers, whose role is less defined, the contextual factors seem to have a greater impact than for mothers. Empirical evidence supports this claim by showing that father involvement shows a greater range of diversity than mothers (Cummings et al., 2004). This diversity is observable across and within countries. Evidence shows that care patterns of fathers are more common (but still lower than maternal care) in European countries with more progressive paternity leave policies and better developed child care systems (Roopnarine & Yildirim, 2019).

Differences in father involvement among countries may depend on factors such as employment and family leave policies. A cross-national comparison of men caring for children below 4 years of age in Bosnia, Brazil, Chile, Croatia, India, Mexico, Rwanda and South Africa showed that the participation in daily care varied from 63% in Croatia to 36% in Chile (Barker et al., 2011).

To understand individual differences among father involvement, Cabrera et al.'s (2014) model presents four dimensions of potential influences on fathers' parenting behavior: (1) fathers' personal history (e.g., rearing and cultural history); (2) fathers' characteristics (e.g., education, mental health, age); (3) family context (e.g., children's age, economic conditions, mothers' mental health), and (4) fathers' social network and work situation (e.g., nature of fathers' work). Recently, Rollè et al. (2019) conducted a systematic review on father involvement and cognitive development and analyzed a series of articles that focused on the determinants of father involvement. They concluded that there is a general agreement in the literature about the necessity to consider how personal (e.g., educational level, mental health, child temperament, personality), interpersonal (e.g., marital quality, co-parenting), and contextual factors (e.g., social support, culture) influence one another in their impact on father involvement.

Special attention has been given to two aspects of parental mental health: stress and depression. Depression includes changes at the emotional, cognitive and/or motor levels that affect interpersonal functioning, compromising the quality of the parent-child relationship (Wilson & Durbin, 2010). Cummings et al. (2004) conducted a study in the U.S. with parents of preschool children ( $n= 235$ ) and their results showed that parents who experienced depressive symptoms were more likely to display negative parental behaviors (e.g., intrusiveness and psychological control). Other studies have reported a relation between depressive symptoms and quality of stimulation (Chapin & Altenhofen, 2010). A study by Malin et al. (2012) showed that fathers reporting more depressive symptoms had children with less grammatically complex speech because fathers used fewer utterances during interactions with their children.

Parental stress (stress associated with the demands of parenting) has been linked to negative parental behaviors and practices (Zajicek-Farber et al., 2012). Parents who report higher levels of stress also report using stricter discipline and less positive parenting (Anthony et al., 2005). Recently, Santelices et al. (2021) conducted a study with 123 Chilean mothers and reported that the greater the depressive symptomatology and maternal stress, the greater the socioemotional difficulties of their children. It is not uncommon for stress and depression to occur together, as shown by a Chilean study with 142 mothers and fathers (Sandoval-Obando et al., 2021).

Regarding mental health, it must be taken into consideration how quarantines and uncertainty due to the COVID-19 pandemic generated a highly challenging environment to which parents have been required to adjust. These COVID-related changes have caused a significant increase in the general stress of the population, especially in parents, compared to those who do not have children (Russell et al., 2020). A

study on parents with children under 18 years of age in the U.S. showed that the most prevalent difficulties among parents included changes to their mood and general stress levels (Brown et al., 2020). In Chile, a study on parental burnout before and during the pandemic reported an increased paternal burnout, especially for mothers (Santelices et al., 2022).

Parental education and income provide parents with greater resources to “invest” in their children by providing an enriched home environment (e.g., buying books, didactic toys; Duncan & Magnuson, 2012). Studies have documented that higher educated parents tend to spend more time with their children and engage in more stimulating activities, such as reading, with more complex language (Monna & Gauthier, 2008). Lack of education or income can also influence the parent-child interactions through its impact on parents’ mental health (i.e., elevated level of stress and/or depressive symptoms; Conger et al., 2010).

### **The Chilean case**

In Chile, father involvement has changed during recent decades. For example, the percentage of national births without a registered father decreased 26% between 2007 and 2016, when 11.3% and 8.7% of children born had no registered father, respectively (INE, 2018). Despite most children (73%) in Chile being born to unmarried couples (INE, 2022), a study published in 2018 reported that most fathers (63%) live with their children (GFK, 2018). Men in Latin America have increasingly shown greater interest in participating in their children’s care and education; however, the provider role continues to be a key element of hegemonic masculinity. In spite of the increasing incorporation of women into the paid workforce, the responsibilities associated with childcare are still mainly assumed by mothers (Aguayo et al., 2016). The recent changes in father involvement are reflected in the Aguayo et al. (2012) study on paternity in the Chilean public health system. This study shows that paternal participation in, for example, being present during childbirth and attending children’s health check-ups is higher in younger parents than in older fathers. Nonetheless, this study also shows that most of the household and childcare tasks fall on the mother. 70% of fathers with children between 0 and 4 years old report playing with their children daily or several times a week, but only 39% report changing their children’s diaper or clothes. 30% bath them and 27% prepare their food on a daily basis or several times a week (Aguayo et al., 2012). Data from the International Men and Gender Equality Survey (IMAGES) conducted during 2009-10, reported that among Chilean men (n = 426) younger and more educated men were more likely to report participation in domestic activities, including childcare. For fathers with children under age four, most reported playing with their child (70%) and a minority cooking or changing diapers (27% and 39% respectively) (Barker et al., 2011).

From a national policy perspective, in Chile the national program “*Chile Crece Contigo*” created to promote children’s development in the first year of life, considers promoting greater participation of fathers in reproductive and health processes, as well as in tasks of caring for and raising their children. The relevance of this model is sustained in different approaches. Firstly, it is considered a child’s right to be cared for by their fathers. Secondly, the active participation of the father constitutes a benefit for the development of the child. And thirdly, the presence of the father in the care and upbringing of children is important in the advance towards gender equality in the distribution of unpaid domestic work, given that the greatest burden of care has been and still is taken on by women (SERNAM, 2009). Furthermore, from a national policy perspective, since 2011, fathers have had 5 days of paid paternity leave and 6 additional weeks that can either be taken by the mother or father. Despite existing national policies, sociocultural norms seem difficult to change: mothers are still the main caregivers.

The Chilean population has faced both a political and health crisis in recent years. In October 2019, an outburst of social protests took place, which were followed by the health crisis of COVID-19. The first cases were detected in Chile in March 2020. Political instability and health restrictions to prevent the virus spreading had significant consequences in several areas, including mental health and socioeconomic aspects. From a socioeconomic perspective, the pandemic-related restrictions generated household income reductions, especially for families with children and adolescents, where six out of ten households (59.4%) faced a decrease in what had been their pre-pandemic income. Low socioeconomic groups and female-headed households were particularly affected, showing a 57.8% income decrease compared to a 50.8% decrease in male-headed households, thus exacerbating the existent inequality in the country (UNICEF-PNUD-OIT; 2021). Consistent with international data, feelings of fear, anxiety, and sleep problems significantly increased in the general population in this period (Dagnino et al., 2020). How this situation has been affecting fathering - and parenting in general- is an empirical question with no clear answer yet.

## CURRENT STUDY

Even though there is a growing interest in studying father involvement, the literature is disproportionately located in a few developed countries (e.g., the United States, Canada, the U.K.) (Roopnarine & Yildirim, 2019). In this study, we drew data from two different studies conducted with fathers of diverse backgrounds in Chile: one prior to the pandemic and the second during the pandemic, after the first lockdown started in Santiago. We have aimed to (1) describe and compare the levels of father involvement; (2) examine the ecological context of these fathers (i.e., educational level, mental health, etc.); (3) consider predictors of father involvement for each group of fathers. Based on the results, we discuss factors that could be facilitating or impeding fathers' involvement and possible implication for practice and research on father involvement. Taking into account previous international and Chilean data, we expected to find relatively high levels of affective involvement, but low levels of cognitive involvement in both groups. In addition, we presumed that fathers in study 2 (during the pandemic) would report higher levels of parental stress and depression and that both would be negatively related to fathers' involvement. We also expected that fathers with a higher educational level and income would report higher levels of involvement.

## Methods and procedures

The present article offers a secondary analysis of the father involvement samples from two different studies on parenting and child development in Chilean preschoolers. Assessment instruments and procedures are described for each study. For the data presented here, only fathers' questionnaires were used. All studies and procedures were approved by the University Institutional Ethics Review Board.

## Study 1

**Procedure.** This study was conducted in 2016 and examined mother and father influence on child development. Participants were recruited and assessed in public primary health centers, from the south-east area of Santiago, Chile. The final sample consisted of 115 families (115 fathers and 115 mothers) with a child between 30 and 42 months of age ( $M = 35.78$ ; 47% boys). Fathers and mothers with severe psychiatric psychopathology and children with intellectual disability or a neurodevelopmental disorder were excluded from the study.

## Instruments.

**Sociodemographic variables.** Age, income, educational level, number of children, and marital status were assessed through a questionnaire.

**Father involvement.** We measured father involvement using a Spanish adaptation of a questionnaire developed by Meuwissen & Carlson (2015). Fathers reported on a Likert scale ranging from 1 (never) to 6 (more than once a day) points, the frequency in which they perform diverse activities with their children. A factor analysis suggested two sub-scales emerged: Cognitive involvement (sing songs, read books, tell stories, play with toys, and play imaginary games) and affective involvement (hug, tell the child he/she is loved or praise the child, let child help you with household chores, tell child you appreciate what s/he did). The scale showed adequate psychometric properties (Cronbach's  $\alpha$  for the four affective involvement items was .60; and for the five cognitive involvement items .71). In addition, we asked fathers to report how many hours they spent with the child during weekdays and weekends.

**Depressive symptoms.** Fathers' depressive symptoms were measured using the Spanish version of the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977). This scale is composed of 10 items that define a spectrum of depressive symptoms experienced during the past week, such as "I was bothered by things that usually don't bother me" and are rated from 0 (Rarely or none of the time - less than a day) to 3 (Most or all of the time - 5 to 7 days). Cronbach's  $\alpha$  was .76 for fathers, indicating a moderate to high internal consistency.

**Parental stress.** It was assessed with the Parental Stress Scale (PSS; Berry & Jones, 1995). This is composed of 18 items describing perceptions and feelings about the experience of being a parent (e.g., "I feel overwhelmed by the responsibility of being a parent". "It is difficult to balance different responsibilities because of my child"), which they have to answer in a 5-point Likert Scale, ranging from 1 (Strongly disagree) to 5 (Strongly agree). Internal consistency of the scale was moderate (Cronbach's  $\alpha = .79$ ).

## Study 2

**Procedure.** The second study was conducted between 2020 and 2021 to assess parental and child wellbeing during the COVID-19 pandemic. Recruitment was done through Instagram and Facebook advertising and flyer distribution in child health centers. Parents willing to participate were contacted by phone to explain the details of the study, check inclusion criteria and explain procedures and consent form. Once participants agreed with the conditions and the digital consent form was signed, links with the online questionnaire were sent by WhatsApp or email, depending on participants' preferences. The final sample consisted of 103 fathers and 424 mothers with a child between 30 and 42 months of age (age  $M = 43.59$ ; 57.8% boys). Assessment was done through online questionnaires.

**Instruments.** Sociodemographic data, depressive symptoms and father involvement were assessed using the same instruments reported in Study 1. Internal consistency for father's scales were as follows: Depressive symptoms Cronbach's  $\alpha = .79$ ; Cronbach's  $\alpha = .71$  for affective involvement and  $\alpha = .80$  for cognitive involvement).

**Parental stress.** We used the Parental Stress Index (Abidin, 1995) which contains 36 items rated on a 5-point scale. The PSI has been validated in the Chilean population (Aracena et al., 2016). The index provides a total score for perceived parenting stress in three areas: personal distress associated with the parenting role and perceived competence (e.g., "I often have the feeling I cannot handle things very well"), stress derived from parents' interaction with their child (e.g., "Most times, I feel that my child does not like me and does not want to be close to me"), and stress that results from their child's behavioral characteristics. Only the personal distress subscale was analyzed in the current study. Internal consistency of the subscale was high (Cronbach's  $\alpha = .90$ ).

### Data analysis

For data analyses, first, we computed descriptive and performed a series of independent sample t-tests and chi-square analysis to examine differences between the two studies and bivariate correlations to examine associations between the main study variables. Next, we performed regression analyses to determine predictors of father involvement. All statistical analyses were performed in R v4.0.2.

## RESULTS

### Descriptive analysis of paternal involvement

To address our first aim (to describe father involvement), we ran descriptive analysis on time spent with children and affective and cognitive involvement. When considering the time fathers spent during the week with their children in both groups, most fathers reported they spent from zero to five hours with their child per day. As for the weekends, most fathers in the pre-pandemic group (study 1) reported spending ten or more hours with their child. As for the post-pandemic group (study 2), a similar distribution to the one reported on weekdays was identified, with most fathers spending zero to five hours a day with their child (see Table 2).

Regarding involvement, fathers in both groups reported higher affective than cognitive involvement. We found no significant differences either in affective ( $t = 1.27$ ,  $p = 0.20$ ,  $d = 0.18$ ) nor cognitive involvement ( $t = -0.56$ ,  $p = 0.57$ ,  $d = -0.08$ ), between groups.

### Sociodemographic characteristics

Our second aim referred to examining the ecological context of fathers in our studies. To do so, we present the sociodemographic characteristics of the samples in Table 1.

The fathers' ages ranged from 20 to 58 years of age. There were slight differences between studies in the number of children fathers reported having. Fathers in study 1 reported a higher number of children ( $M_{S1} = 2.09$ ) compared to study 2 ( $M_{S2} = 1.57$ ). Participants had preschool children aged 2 to 7. Study 2 children were older than those of the families included in study 1.

All participants included in the sample cohabited with their children's mother, but almost half were not married couples. Most fathers finished high school, yet the percentage of fathers that had technical or professional degrees varied according to the study, with fathers in study 1 presenting a lower educational level ( $X^2 = 35.29$ ;  $df = 3$ ;  $p < .001$ ). Moreover, fathers in the two studies reported different levels of household incomes. Study 2 included a more diverse sample regarding household income, whereas in study 1 the sample included less diverse and lower income families. However, there were no significant differences between groups ( $X^2 = 4.41$ ;  $df = 3$ ;  $p = .22$ ). The low-income category represents families with a monthly

income below US\$ 540. 56% of the Chilean population falls into this category. The middle-income category includes families with monthly income between US\$ 540 and US\$ 1100. This category represents the income of 26.2% of Chilean households. The high-medium income category includes monthly income between above US\$ 1100- 1650; in Chile 17% of the population falls into this category. Finally, the high-income category includes families with a monthly income above US\$ 1650, which represents only the 8.5 % of Chilean households (INE, 2020).

**Table 1.** Main Demographic Characteristics of participants in both studies.

|                              | Study 1 (N = 115) |      |       |       | Study 2 (N = 102) |       |       |       | Chi-Square<br>$X^2(2)$ |
|------------------------------|-------------------|------|-------|-------|-------------------|-------|-------|-------|------------------------|
|                              | M                 | SD   | Range | %     | M                 | SD    | Range | %     |                        |
| Father's age                 | 33.9              | 7.09 | 20-56 |       | 34.6              | 5.5   | 23-58 |       |                        |
| Child's age in months        | 35.78             | 3.77 | 29-46 |       | 43.59             | 15.03 | 23-92 |       |                        |
| Number of children           | 2.09              | 0.92 | 1-5   |       | 1.57              | 0.76  | 1-6   |       |                        |
| Marital status married       |                   |      |       | 42.61 |                   |       |       | 41.18 |                        |
| <b>Educational Level</b>     |                   |      |       |       |                   |       |       |       | 35.29***               |
| Less than HS                 |                   |      |       | 13.92 |                   |       |       | 4.90  |                        |
| HS Completed                 |                   |      |       | 28.70 |                   |       |       | 7.84  |                        |
| Incomplete college education |                   |      |       | 33.92 |                   |       |       | 27.45 |                        |
| University degree or more    |                   |      |       | 23.48 |                   |       |       | 59.80 |                        |
| <b>Family Income</b>         |                   |      |       |       |                   |       |       |       | 4.41                   |
| Low                          |                   |      |       | 38.26 |                   |       |       | 9.80  |                        |
| Middle                       |                   |      |       | 32.17 |                   |       |       | 55.88 |                        |
| High Medium                  |                   |      |       | 29.57 |                   |       |       | 19.61 |                        |
| High                         |                   |      |       |       |                   |       |       | 14.71 |                        |

Regarding parental mental health, 19.1% of fathers in study 1 and 29.3% of fathers in study 2 presented scores indicative of being at risk of a depressive disorder (see Table 2). T-test analysis revealed significant differences among groups ( $t = -2.71$ ,  $p = 0.007$ ,  $d = -0.38$ ), with the post-pandemic group (study 2) reporting significantly higher depressive symptoms ( $M = 8.3$ ,  $SD = 5.11$ ).

Regarding parental stress, fathers in study 1 reported a score of 32.57 in the Parental Stress Scale which ranges from 18 - 90. This positions them in a medium-low level of stress. Fathers in study 2 scored 25.96 in the Parental Distress which ranges from 12 - 60. These scores imply that fathers in study 2 reported medium to high levels of stress.

### Correlations and predictors of father involvement

To address our third aim, we ran bivariate correlations and multiple regressions. Bivariate correlations are shown in Table 3 and 4. In the pre-pandemic group, paternal involvement was positively and significantly associated with fathers' level of education, both for affective and cognitive involvement. Moreover, both types of involvement were positively and significantly associated. A significant negative association was identified between fathers' age and number of children and fathers' cognitive involvement. The fathers' ages and hours they reported spending with their children during weekends were also negatively associated.

As for the post-pandemic group, a significant negative association was identified between cognitive involvement and the father's age. Furthermore, cognitive and affective involvement in this group were significantly correlated (see Table 3).

Regarding mental health and father involvement, in the pre-pandemic group a significant negative association was identified between fathers' level of reported stress and cognitive and affective involvement. Fathers' stress was also negatively associated with the time spent with the child during weekends. As for fathers' depressive symptoms, this was only negatively associated with cognitive involvement (see Table 4). In the post-pandemic group, no association was found between fathers' involvement and parental distress and depressive symptoms (see Table 4).

**Table 2.** Descriptive analysis of Parental mental health and involvement.

|                               | Study 1 (N = 115) |      |         | Study 2 (N = 103) |       |         | T-Test |          |                               |
|-------------------------------|-------------------|------|---------|-------------------|-------|---------|--------|----------|-------------------------------|
|                               | M                 | SD   | Range   | M                 | SD    | Range   | t      | P        | Cohen's d                     |
| Mental Health                 |                   |      |         |                   |       |         |        |          |                               |
| Depressive Symptoms           | 6.43              | 4.75 | 0-25    | 8.3               | 5.11  | 0-21    | -2.71  | 0.007**  | -0.38                         |
| Parental Stress Scale         | 32.57             | 7.58 | 18-62   |                   |       |         |        |          |                               |
| Parental distress             |                   |      |         | 25.96             | 10.7  | 12-51   |        |          |                               |
| Affective Involvement         | 5.17              | 0.65 | 3.5-6   | 5.05              | 0.78  | 2.5-6.0 | 1.27   | 0.20     | 0.18                          |
| Cognitive Involvement         | 3.73              | 0.91 | 1.2-5.4 | 3.81              | 1.01  | 1.8-6.0 | -0.56  | 0.57     | -0.08                         |
| Child's age in months         | 35.78             | 3.77 | 29-46   | 43.59             | 15.03 | 23-92   | -5.10  | 0.001*** | -0.71                         |
| Number of children            | 2.08              | 0.92 | 1-5     | 1.57              | 0.76  | 1-6     | 4.52   | 0.001*** | 0.60                          |
|                               |                   |      | %       |                   |       | %       |        |          | Chi-Square X <sup>2</sup> (2) |
| Time spent with child week    |                   |      |         |                   |       |         |        |          | 19.33***                      |
| Low (0-5 hours)               |                   |      | 69.6    |                   |       | 67.6    |        |          |                               |
| Medium (5-10 hours)           |                   |      | 27.8    |                   |       | 17.6    |        |          |                               |
| High (10 or more)             |                   |      | 2.6     |                   |       | 14.7    |        |          |                               |
| Time spent with child weekend |                   |      |         |                   |       |         |        |          |                               |
| Low (0-5 hours)               |                   |      | 7.8     |                   |       | 58.8    |        |          |                               |
| Medium (5-10 hours)           |                   |      | 15.7    |                   |       | 20.6    |        |          |                               |
| High (10 or more)             |                   |      | 76.5    |                   |       | 20.6    |        |          |                               |
| Educational Level             |                   |      |         |                   |       |         |        |          | 35.29***                      |
| Family Income                 |                   |      |         |                   |       |         |        |          | 4.41                          |

Note: \* p = .05; \*\* p = .01; \*\*\* p = .001

**Table 3.** Bivariate correlations study 1.

|                                      | 1     | 2     | 3       | 4       | 5     | 6      | 7     | 8      | 9       | 10       | 11      |
|--------------------------------------|-------|-------|---------|---------|-------|--------|-------|--------|---------|----------|---------|
| 1. Age of child                      | —     |       |         |         |       |        |       |        |         |          |         |
| 2. Gender of child                   | 0.09  | —     |         |         |       |        |       |        |         |          |         |
| 3. Age of father                     | -0.10 | -0.15 | —       |         |       |        |       |        |         |          |         |
| 4. Ed. Level                         | 0.03  | 0.12  | 0.09    | —       |       |        |       |        |         |          |         |
| 5. Income                            | 0.21* | 0.06  | 0.14    | 0.34*** | —     |        |       |        |         |          |         |
| 6. N of children                     | -0.17 | -0.02 | 0.47*** | 0.00    | 0.04  | —      |       |        |         |          |         |
| 7. Time spent with child on weekdays | 0.04  | 0.05  | -0.02   | 0.00    | -0.14 | 0.08   | —     |        |         |          |         |
| 8. Time spent with child on weekends | 0.13  | 0.10  | -0.22** | 0.09    | 0.09  | -0.11  | -0.04 | —      |         |          |         |
| 9. Depressive symptoms               | -0.15 | 0.03  | -0.08   | -0.06   | -0.15 | 0.07   | -0.06 | -0.11  | —       |          |         |
| 10. Parental Stress                  | -0.14 | -0.08 | 0.01    | 0.05    | -0.08 | 0.18*  | -0.00 | -0.20* | 0.42*** | —        |         |
| 11. Affective Involvement            | 0.16  | 0.04  | -0.15   | 0.17*   | 0.14  | -0.14  | 0.03  | 0.03   | -0.09   | -0.28*** | —       |
| 12. Cognitive Involvement            | 0.16  | 0.07  | -0.20*  | 0.24**  | 0.06  | -0.20* | 0.15  | 0.08   | -0.19*  | -0.31*** | 0.39*** |

Note: \* p = .05; \*\* p = .01; \*\*\* p = .001

**Table 4.** Bivariate correlations study 2.

|                                      | 1       | 2     | 3      | 4     | 5     | 6     | 7      | 8     | 9       | 10    | 11      |
|--------------------------------------|---------|-------|--------|-------|-------|-------|--------|-------|---------|-------|---------|
| 1. Age of child                      | —       |       |        |       |       |       |        |       |         |       |         |
| 2. Gender of child                   | -0.07   | —     |        |       |       |       |        |       |         |       |         |
| 3. Age of father                     | 0.33*** | -0.10 | —      |       |       |       |        |       |         |       |         |
| 4. Ed Level                          | -0.05   | 0.15  | 0.01   | —     |       |       |        |       |         |       |         |
| 5. Income                            | -0.10   | -0.03 | -0.07  | 0.12  | —     |       |        |       |         |       |         |
| 6. Number of children                | 0.12    | -0.07 | 0.23** | -0.09 | -0.02 | —     |        |       |         |       |         |
| 7. Time spent with child on weekdays | -0.02   | -0.07 | -0.02  | 0.09  | -0.12 | -0.02 | —      |       |         |       |         |
| 8. Time spent with child on weekends | 0.04    | -0.10 | 0.04   | -0.01 | 0.08  | 0.07  | -0.19* | —     |         |       |         |
| 9. Depressive symptoms               | -0.04   | -0.12 | 0.09   | -0.06 | 0.03  | 0.12  | -0.06  | -0.19 | —       |       |         |
| 10. Parental Distress                | 0.00    | 0.02  | -0.03  | 0.07  | 0.10  | -0.02 | -0.03  | -0.18 | 0.51*** | —     |         |
| 11. Affective Involvement            | -0.03   | -0.07 | -0.10  | 0.07  | -0.06 | 0.01  | -0.05  | 0.09  | -0.04   | -0.08 | —       |
| 12. Cognitive Involvement            | -0.24** | -0.05 | -0.20* | -0.00 | -0.05 | -0.05 | -0.04  | 0.00  | -0.10   | -0.17 | 0.46*** |

Note: \*  $p = .05$ ; \*\*  $p = .01$ ; \*\*\*  $p = .001$

We performed multiple regression to predict father involvement. Table 5 and 6 show the results for study 1. Results show that parental stress was a significant predictor of fathers' affective involvement. Higher parental stress predicted lower affective involvement ( $b = 0.028$ ,  $p < 0.01$ ,  $B = -0.33$ ) (Table 5). This model explains 9.4% of the variance on cognitive involvement.

**Table 5.** Regression analysis for predicting affective involvement (study 1).

|                                      | <i>b</i> | <i>EE</i> | <i>t</i> | <i>p</i> | <i>B</i> |
|--------------------------------------|----------|-----------|----------|----------|----------|
| Intercept                            | 5.65     | 0.68      | 8.29     | 0.001    |          |
| Number of children                   | -0.05    | 0.06      | -0.76    | 0.44     | -0.07    |
| Depressive symptoms                  | 0.01     | 0.01      | 1.15     | 0.25     | 0.11     |
| Parental stress                      | -0.02    | 0.00      | -3.36    | 0.01     | -0.33    |
| Age of child                         | 0.00     | 0.01      | 0.59     | 0.55     | 0.05     |
| Ed Level (Less than High School)     | -0.2     | 0.19      | 1.07     | 0.28     | 0.33     |
| Ed Level (College)                   | 0.21     | 0.14      | 1.43     | 0.15     | 0.15     |
| Ed Level (University degree or more) | 0.28     | 0.16      | 1.74     | 0.08     | 0.18     |

Note: \*  $p = .05$ ; \*\*  $p = .01$ ; \*\*\*  $p = .001$

**Table 6.** Regression analysis for predicting cognitive involvement (study 1).

|                                      | <i>b</i> | <i>EE</i> | <i>t</i> | <i>p</i> | <i>B</i> |
|--------------------------------------|----------|-----------|----------|----------|----------|
| Intercept                            | 4.87     | 0.85      | 5.67     | 0.001    |          |
| Number of children                   | -0.17    | 0.08      | -2.06    | 0.04     | -0.17    |
| Depressive symptoms                  | -0.02    | 0.01      | -1.30    | 0.19     | -0.11    |
| Parental stress                      | -0.29    | 0.01      | -2.73    | 0.001    | -0.24    |
| Age of child                         | 0.00     | 0.02      | 0.16     | 0.87     | 0.01     |
| Ed Level (Less than High School)     | -0.37    | 0.24      | -1.51    | 0.13     | -0.14    |
| Ed Level (Some College)              | 0.57     | 0.20      | 2.87     | 0.001    | 0.27     |
| Ed Level (University degree or more) | 0.47     | 0.20      | 2.28     | 0.02     | 0.21     |

Note: \*  $p = .05$ ; \*\*  $p = .01$ ; \*\*\*  $p = .001$

Table 6 shows that the number of children ( $b = 0.17$ ,  $p < 0.05$ ,  $B = -0.17$ ), parental stress ( $b = -0.029$ ,  $p < 0.01$ ,  $B = -0.24$ ) and educational level significantly predicted father cognitive involvement. Higher numbers of children and elevated levels of stress were related to lower levels of cognitive involvement, while having an educational level above completed high school (reference group) was related to higher cognitive involvement (some college  $b = 0.57$ ,  $p = 0.001$ ,  $B = 0.27$ ; complete college education  $b = 0.47$ ,  $p = 0.02$ ,  $B = 0.21$ ). This model explains a 7.7% in the variance of cognitive involvement.

**Table 7.** Regression analysis for predicting affective involvement (study 2).

|                                      | <i>b</i> | <i>EE</i> | <i>t</i> | <i>p</i> | <i>B</i> |
|--------------------------------------|----------|-----------|----------|----------|----------|
| Intercept                            | 5.33     | 0.44      | 12.0     | 0.00     |          |
| Number of children                   | 0.06     | 0.11      | 0.54     | 0.58     | 0.06     |
| Depressive symptoms                  | 0.00     | 0.02      | 0.02     | 0.98     | 0.00     |
| Parental stress                      | -0.00    | 0.00      | -0.77    | 0.43     | -0.10    |
| Age of child                         | -0.00    | 0.00      | -0.43    | 0.66     | -0.04    |
| Ed Level (Less than High School)     | 0.42     | 0.52      | 0.82     | 0.41     | 0.10     |
| Ed Level (College)                   | 0.52     | 0.35      | 1.47     | 0.14     | 0.29     |
| Ed Level (University degree or more) | -0.00    | 0.21      | -0.01    | 0.98     | -0.02    |

Note: \*  $p = .05$ ; \*\*  $p = .01$ ; \*\*\*  $p = .001$

**Table 8.** Regression analysis for predicting cognitive involvement (study 2).

|                                      | <i>b</i> | <i>EE</i> | <i>t</i> | <i>p</i> | <i>B</i> |
|--------------------------------------|----------|-----------|----------|----------|----------|
| Intercept                            | 5.37     | 0.53      | 10.07    | 0.001    |          |
| Number of children                   | 0.07     | 0.13      | 0.545    | 0.58     | 0.05     |
| Depressive symptoms                  | -0.01    | 0.025     | -0.46    | 0.64     | -0.05    |
| Parental stress                      | -0.02    | 0.011     | -1.84    | 0.068    | -0.22    |
| Age of child                         | -0.01    | 0.007     | -2.62    | 0.01     | -0.27    |
| Ed Level (Less than High School)     | -0.14    | 0.62      | -0.23    | 0.81     | -0.02    |
| Ed Level (Some College)              | 0.72     | 0.43      | 1.68     | 0.09     | 0.31     |
| Ed Level (University degree or more) | -0.18    | 0.257     | -0.71    | 0.47     | -0.08    |

Note: \*  $p = .05$ ; \*\*  $p = .01$ ; \*\*\*  $p = .001$

We reported results for study 2 in tables 7 and 8. For fathers' affective involvement, none of the predictors was significant. For fathers' cognitive involvement, results (Table 8) show that only the children's age was a significant predictor ( $b = -0.019$ ,  $p < 0.01$ ,  $B = -0.27$ ). This model explains 7.9% of the variance in cognitive involvement.

## DISCUSSION

There is agreement on the fact that parents are the first and primary influence on children's development. Numerous research studies have consistently shown the importance of fathers in their children's life (Kroll et al., 2016; Rollè et al., 2019). However, most academic knowledge is still based on mothers from Western, Educated, Industrialized, Rich, and Democratic (WEIRD) countries. Understanding fathers' involvement in the care and development of young children will broaden our knowledge of child development and provide vital information to develop interventions that promote positive child development.

Consequently, the aim of the present study was to offer a description of father involvement and the characteristics and influencing factors of it in two samples of Chilean fathers, one assessed prior to the COVID-19 pandemic and the other during the pandemic.

### Father involvement in Chilean families

Our results are in line with our hypothesis that father involvement would be rather low. According to our study, in the pre-pandemic group most fathers (76.5%) reported spending ten or more hours a day with their children during weekends, but this number decreased significantly during the week, when only 2.6% reported spending that much time with their child. Work schedules might be an important barrier during the weekdays but given the opportunity during the weekends, fathers in this group reported devoting more time to being with their children. We did not observe a similar pattern in fathers in study 2; the distribution of hours spent with their children did not vary significantly between weekdays and weekends. Given the pandemic, fathers in study 2 had to face restrictions related to COVID-19 (i.e., mandatory lockdown for some weeks and school closure during an important part of the assessment). These restrictions may have promoted spending more time at home and thus more time with their children. Nevertheless, according to fathers' reports (data available from first author) the majority (74.5%) reported either working full time outside the home or being able to divide work hours between office and home. It could be the case that working schedules and parenting responsibilities did not vary importantly for this group of fathers. A study carried out in 2020 in Chilean families, showed that when schools and preschools were shut down due to COVID-19, the care carried out by educational establishments was transferred almost entirely to mothers and that 69% of these women both worked and cared for their children (Rojas et al. 2020). Moreover,

counting with paid help to take care of the children - which was reported by 80% of the fathers - may transfer the responsibility of childcare to other people besides the fathers.

Fathers in study 2 also reported spending significantly less time with their children during weekends. Only approximately one quarter of the fathers reported spending ten or more hours with their children - either on weekdays or weekends. In addition, fathers in study 2 did not report higher involvement (cognitive or affective) than fathers in study 1.

This is worrisome, because quality, but also quantity is needed to have an impact on children's development. It is through the time children spend with their parents that meaningful relationships are formed, and parents' knowledge and skills are shared (Linver et al. 2002; Yeung et al. 2002). In addition, neuroimaging studies suggest the parents (mothers and fathers) activate regions of the caregiving neural network in response to their infant cues and that - for a father - the more weekly hours he reports spending alone with his infant, the higher the functional connectivity of these regions (Abraham et al., 2014).

In relation to affective or cognitive involvement, fathers in both of our studies showed no differences. In general, participants reported expressing affection verbally or physically several times a week, echoing previous studies showing that fathers and mothers tend to show similar levels of positive affect to their children (e.g., Cabrera et al., 2017). These results are promising, considering previous studies indicating that growing up in warm environments promotes the development of social skills, emotional regulation, and self-esteem (Ispa et al., 2004; Von Suchodoletz et al., 2011).

Not so auspicious are the responses of parents regarding cognitive involvement (e.g., reading books, playing); the percentage of fathers who reported doing these types of activities 1 - 2 times per week or less was 23.5% for study 1 and 24% for study 2. Most fathers reported doing cognitive stimulating activities 3-6 times a week. For fathers in both studies, the least frequent activity reported was reading a book (60% and 50% respectively reported doing it once a month or less frequently). This is in line with other studies in Chile that report low frequency of home literacy activities (Strasser et al., 2012). It is alarming, because studies show that shared book reading is related to better language development and literacy (Mendive et al., 2017). It is hard to compare the general cognitive stimulation score with previous studies in Chile because most - if not all - available data is based on mothers' reports (Coddington et al., 2014). Furthermore, other international studies have not always used comparable assessment.

Surprisingly, for both studies, involvement did not vary as a function of hours spent with the child. These results suggest that it is not only a matter of time; it is probably a matter of social and cultural aspects. It seems that it is deeply rooted in our beliefs and attitudes that fathers are secondary caregivers. Thus, together with promoting fathers' accessibility to their children through, for example, postnatal leave and flexible work hours to take care of children (sick leave, taking them to doctor's appointments, attending school events) public policies and intervention programs should focus on raising awareness on fathers' contribution to child development at different levels - directly to mothers and fathers, to health care providers and educators. These efforts should start prenatally by, for example, fathers going to prenatal checkups, since evidence shows that prenatal involvement is a good predictor of later involvement (Cabrera et al, 2008).

### **Ecological context of fathering**

Development does not unfold in a vacuum; thus, understanding the context in which fathering occurs is important. Fathers in our two studies differ in important characteristics, besides experiencing the COVID-19 pandemic. For example, fathers in study 1 reported significantly lower levels of education and income compared to study 2. This is an important difference given previous studies that show that more highly educated parents tend to spend more time with their children (Monna & Gauthier, 2008) and to engage more in activities that stimulate children's cognitive functioning, such as educational play, using more varied and complex language and speech patterns (Altintas, 2015; Hoff 2003).

Moreover, these fathers may be able to count on more resources to manage parental tasks, such as having help in household organization and/or childcare. As said earlier, 80% of fathers in study 2 reported having paid help to take care of the children. The more favorable circumstances of fathers in study 2 may have helped them to cope with the pandemic in a more efficient way. Unfortunately, we cannot compare parental stress level between the two studies because we used different questionnaires. However, compared to reports during the pandemic, our fathers showed lower parenting distress compared to other samples using the same questionnaire. For example, the Taubman - Ben-Ari & Ben-Yaakov (2020) study on 137 new Israeli fathers reported higher average parental distress compared to our fathers in study 2 (2.69 vs. 2.16).

On the other hand, fathers in study 1 also reported low levels of stress when compared to scores reported among 8 countries assessed with the same scale (Louie et al., 2017). Examining parenting stress levels (i.e., stress related to the demands of being a parent) is very informative about parenting practices.

More stressed parents report more use of harsh discipline and less positive parenting in general (Anthony et al., 2005).

We also assessed parental mental health through self-report of depressive symptoms. Fathers assessed after the COVID-19 outbreak showed significantly higher levels of depressive symptoms compared to fathers in study 1. These results are consistent with previous studies that have reported a negative impact of the pandemic on the mental health of diverse populations (Dagnino, 2020).

It is important to consider that even though fathers in study 1 (pre-pandemic) reported lower levels of depression than fathers in study 2 (post-pandemic), 19% of them still presented scores above the cut off (in study 2, this percentage was 29.3%). Fathers' depressive symptoms impact the quality of the interaction with their children, as shown by Jacob & Johnson (2001), fathers with more depressive symptoms talk less to their children and display lower levels of sensitivity and higher levels of negative affect in their interactions compared to fathers with less depressive symptoms. Moreover, studies have described that depressed men tend to show lower tolerance to frustration, more irritability, anger, less impulse control and more risk of drugs and alcohol abuse. A study by Aguayo (2022) has recently described similar symptomatology in depressed Chilean men.

Examining mental health in caregivers is important, given the evidence of the impact of fathers' mental health on children's wellbeing and development (Gueron-Sela et al., 2018). Moreover, stress and depression are frequently presented together, which was also the case with our fathers. Dealing with everyday demands while experiencing high levels of depressive symptoms and parental stress may have an important impact on fathers' wellbeing and family dynamics.

In Chile, mental health screening for fathers has not been incorporated in routine health services. Most efforts have been oriented to the detection of postpartum depression in mothers: 89% of mothers are screened for perinatal depression in the primary public health system (Rojas, 2013). The changing prevalence of mental health disorders on both mothers and fathers due to the pandemic hopefully will allow new priorities and more attention to both maternal and paternal mental health. To be able to screen and respond to the mental health needs of fathers, it is necessary to acknowledge how social norms and expectations may hinder the expression and recognition of men's mental health problems, preventing them from asking for help or maintaining treatment (Aguayo, 2022).

### **Predictors of father involvement**

Our final aim was to examine what and how diverse factors may influence father's involvement. For fathers in study 1, stress played an important role. Both affective and cognitive involvement were lower in fathers who reported higher levels of parental stress. This is especially interesting in the case of fathers in study 1, who presented medium-low levels of parenting stress. Previous studies have reported a relationship between parental stress and paternal engagement and sensibility (Zajicek-Farber et al., 2012). Literature has also reported that depressive symptoms affect fathers' involvement; however, this was not the case with our participants (study 1 and 2). Such a result is significant regarding fathers in study 2, because they were assessed during the COVID pandemic and reported significantly higher depressive symptoms compared to fathers in study 1. There is something in these fathers that may be buffering the negative effects of mental health symptoms on fathers' involvement. One option could be family relationships, such as the quality of the marital relationship, or social support. However, a note of caution needs to be sounded. Mental health may be having an effect on the quality of the father-child interactions. In this study, we collected information on what fathers did with their children but not on how they did it.

It may be the case that fathers are doing the same things with their children, but in a less supportive and responsive way. In that case, more time with fathers may not necessarily have a positive impact. Based on studies showing the negative impacts of parental depression on children's wellbeing (Gueron-Sela et al., 2018), future studies need to examine the quality of father-child interaction to have a broader and deeper understanding about how paternal mental health influences the quality of the interaction with their children.

Cognitive involvement decreased as the number of children increased only for fathers in study 1, who reported a higher number of children. This relation may not be observable in study 2 given the lower number and variability of children per father. A greater number of children may produce a dissolution of both economic and personal resources: parents have less time to dedicate to each of their children and less capacity to invest in their education (Black et al., 2005). Our data show that the number of children is related to parental stress, suggesting that this may be a mechanism linking number of children and father involvement. More children offer greater challenges for fathers (e.g., dealing with relationships between siblings) and requires more time and energy on the part of the caregiver.

The children's age was shown to be associated with father involvement, specifically cognitive involvement. As children get older, fathers' behaviors tend to evolve as they increasingly become

comfortable with parenting activities. This may be the reason why fathers report more cognitive activities with older children. Fathers tend to be fun playmates, especially in more physical and active types of play (rough and tumble) (Amodia-Bidakowska et al., 2020) and may feel more comfortable doing this type of activity with 5- or 6-year-old children than a 2-year-old. The age range of children in study 2 was much narrower, which may prevent a possible association between age and involvement appearing.

Besides this, only for fathers in study 1 did higher educational level predict cognitive involvement. Counting on education above High School seems to provide fathers with more skills and resources to display higher involvement. These results were not found in study 2, probably due to the differences in the educational level between both groups. In study 1, higher diversity was found regarding educational level; as for study 2, participants were more homogeneous and the majority had higher education.

Overall, our findings highlight the importance of considering multiple determinants of fathering. Fathers, in our studies, presented high levels of affective but lower cognitive involvement. Personal characteristics, such as parenting stress may be an important barrier for paternal engagement. Fathers' mental health screening and support should be a central aspect of men's health checkups, as it is with mothers in Chile. Also, parenting educational interventions provided in the primary public health system, through the program *Chile Crece Contigo*, should specifically address paternal cognitive involvement, as well as practical barriers (most interventions take place during the week during working hours) that limit fathers' participation in these promotional activities.

Family level factors – the number of children and age of the child – are aspects related to fathers' involvement but with different effects. Fathers seem to feel more comfortable doing cognitive stimulating activities with older children. Given the positive effects of father's cognitive stimulation on children's school readiness (Cabrera et al., 2020), interventions and programs may want to promote fathers getting involved cognitively with their children at an early age. With a little guidance, fathers may find joy and interest in activities such as singing, reading, and playing with their infants.

Fathers with more children reported more parental stress and less cognitive involvement. Transition to fatherhood is a demanding period for parents, but having more children entails other types of responsibilities and duties. Health professionals and practitioners should be aware of the possible need for more support as the family grows.

### Limitations and future directions

The findings of the present work must be interpreted with caution considering its limitations. The first is that the study included two distinctive groups that differed in educational level, children's age and income, as previously mentioned. Also, data came from small convenience samples of fathers who agreed to be part of our study. This is particularly important for fathers in study 1, who participated in a larger face to face study (fathers in study 2 answered a questionnaire online). The generalizability of findings to Chilean fathers is, therefore, limited. Future research should include larger and more diverse samples.

Secondly, it must also be noted that the results of this study are correlational in nature and were collected at a single time point. As such, results cannot be interpreted in a causal framework. A third limitation is related to the absence of data on the quality of the father-child interactions. Observational data provide deep and rich information about how fathers get involved in their children's life. This is a necessary next step for future studies.

Despite the aforementioned limitations, our study provides a much-needed examination of paternal wellbeing and involvement in Chile. Since 2009, through the *Chile Crece Contigo* Program, the Chilean state has provided a child protection system. One of its pillars is to promote the well-being of children through conscious and active parenting. Efforts have also been made to promote more active parenting and co-responsibility (Aguayo et al., 2012). Our study provides empirical data to inform these efforts by distinguishing specific barriers to father's involvement with young children.

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**Daniela Aldoney:** Conceptualization; Data Curation; Formal analysis; Funding acquisition; Investigation; Methodology; Project administration; Resources; Software; Supervision; Validation; Visualization; Writing - Original Draft; Writing - Review & Editing. **María Ignacia García:** Writing - Original Draft; Writing - Review & Editing. **Carolina Panesso:** Data Curation; Formal analysis; Methodology; Writing - Original Draft; Writing - Review & Editing.

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