




Social-emotional functioning in planned lesbian families: does biological versus non-biological mother status matter? An Italian pilot study

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ABSTRACT

To date, few studies have investigated the social-emotional functioning of planned lesbian families, wherein only one parent is the biological mother of the child. We examined if being a biological versus non-biological mother plays a role in planned lesbian couple functioning and mother-infant play interactions. The present study analyzes the attachment state of mind, couple alliance, parenting stress, and emotional availability in a sample of 40 mothers (20 biological and 20 non-biological). The results showed that mothers' life-long attachment experiences and related mental states of mind, rather than biological relatedness between the parent and child, matter in a mother and child's emotional involvement in parent-child interaction. Furthermore, the results confirmed the different impact of the perceived quality of the couple alliance on biological and non-biological mothers. The findings obtained elucidated what counts in this new family typology, and constitute a heuristic solicitation for future studies to better understand the key factors and mechanisms implied in social-emotional functioning.

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Introduction

In the last 30 years, a significant number of lesbian couples have become parents using donor insemination, and it is likely that their number will rise over the coming decades (Tornello, Johnson, & O'Connor, 2013). Planned lesbian-mother families are characterized by the fact that one of the two mothers does not have a biogenetic link with the offspring, given that only one is the biological mother who gave birth to the child (Borneskog, Lampic, Sydsjö, Bladh, & Svanberg, 2014; Bos, van Balen, & van den Boom, 2004). Thus, this parental couple typology is a combination of a biological and non-biological bond with the child. Because of the clear intention to form a new family through donor insemination, these families must be considered different from those with two lesbian mothers whose children were born into their previous heterosexual relationships, and who therefore could both have a biological bond with their offspring (Bos, 2013). In Italy, negative attitudes and stereotypes against same-sex families persist with a number of religious and political traditions that sustain homophobic opinions and

sentiments (Baiocco et al., 2015); the role of gender ideology, religion, and politically prevalent positions have actually hampered the development of this new family type. It is worthy to note that the current legislative system doesn't acknowledge same-sex couples – specifically planned lesbian mothers – as a legal family, thus not allowing the relative legal recognition of the marriage. Same-sex families who have applied for donor insemination usually are forced to travel abroad to accomplish their desire to become parents, and only the biological mother can get the legal recognition as a legal parent whereas the non-biological one can't obtain it (with a very few number of non-biological mothers that obtained the stepchild adoption). The situation has also delayed the scientific understanding of this family functioning, and there is therefore a lack of empirical research able to disentangle controversial issues in a reliable and longstanding manner (Ioverno et al., 2018).

A relevant issue to be dealt with by psychological research is the effect of the biological versus non-biological bond between mother and child on both the parents' and children's social-emotional adjustment and wellbeing. Studies on atypical families, wherein the bond with the child is not biological, such as in adoptive and foster care families, have generated significant findings. These consistently showed that children are able to dramatically recover after family placement thanks to the quality of their social-emotional relationship with the surrogate of their lost biological parents (for a comprehensive review, see Dozier & Rutter, 2016). The pivotal role of these studies is to enhance understanding of the key factors and mechanisms implied in parenting and children's social-emotional wellbeing under these atypical conditions. However, little is known about parents and children who are biologically related to only one parent, not the other, as is the case for same-sex planned lesbian mothers (Patterson, 2017). Until now, researchers have mainly employed a comparative design approach. Most of these studies found no significant differences between homosexual and heterosexual parent families regarding parenting skills and practices quality of care and emotional investment in the relationship with the children (Bos, van Balen, & van den Boom, 2007), and parents' psychological adjustment (Patterson, 2000).

Surprisingly, although attachment plays an essential role in the social-emotional adjustment and wellbeing of parents and children, scant research has thus far been conducted using these constructs on planned lesbian parent families, compared to the considerable amount of results on heterosexual families (Fearon, Groh, Bakermans-Kranenburg, van IJzendoorn, & Roisman, 2016; Groh et al., 2014). In particular, only one qualitative study on 15 lesbian couples with internationally adopted children has been conducted (Bennett, 2003), the results of which indicate attachment as a primary significant variable contributing to children's wellbeing. After the last two decades of research, we do know that a parent's attachment state of mind (i.e., attachment representations or attachment working models) is a main predictor of children's social-emotional development (Grossmann, Bretherton, Waters, & Grossmann, 2013; van IJzendoorn, 1995), as parents' internal working models guide parenting behaviors and their responsiveness to the child's needs (Bakermans-Kranenburg & van IJzendoorn, 2009; Berlin, Zeanah, & Lieberman, 2016). This then influences the quality of the child's behavior and attachment to that parent (Steele & Steele, 2016). To assess the quality of attachment in adulthood, a reliable variable is coherence of mind, as derived from the gold standard measure of adult attachment, namely the Adult Attachment Interview

(AAI) (Cassidy, Sherman, & Jones, 2012; Dykas, Woodhouse, Cassidy, & Waters, 2006; Roisman, Madsen, Henninghausen, Sroufe, & Collins, 2001).

The dyadic emotional availability (EA) construct is a valid indicator of the quality of the parent-child relationship (Saunders, Kraus, Barone, & Biringen, 2015), and is closely related to attachment (Ziv, Aviezer, Gini, Sagi, & Koren-Karie, 2000). Given that sensitivity is a major predictive factor in attachment inter-generational transmission (Belsky, 1984; Biringen et al., 2000; Smith & Pederson, 1988), it is worthwhile studying the role of an expanded construct, namely EA (Biringen, Derscheid, Vliegen, Closson, & Easterbrooks, 2014; Saunders et al., 2015), in defining the quality of the child-parent relationship. EA refers to the capacity of a dyad to share an emotionally healthy relationship by using the different dimensions implied in it. Specifically, it is related to the parent being able to show sensitivity, proactively structure the relationship by providing sensitive discipline, and act non-intrusively and with non-hostility. Furthermore, coupled with the corresponding child's behavior, EA refers to the parent's responsiveness and active involvement.

Another key factor implied in family social-emotional functioning is the construct of parenting stress, defined as the amount and quality of stress experienced in the caring relationship with the child (Deater-Deckard, 1998). Generally, parenting stress refers to a condition or the feeling experienced when a parent perceives that the demands associated with parenting exceed the personal and social resources available to meet them (Cooper, McLanahan, Meadows, & Brooks-Gunn, 2009). Studies have positively associated parent's insecurity with parental stress in caring tasks in both biological and non-biological families (Lionetti, Pastore, & Barone, 2015; Nygren, Carstensen, Ludvigsson, & Sepa Frostell, 2012), while parent's security is predictive of parents' coping skills in managing potentially stressful dynamics resulting from childcare (Jones, Cassidy, & Shaver, 2015) and family functioning (Moreira, Gouveia, Carona, Silva, & Canavarro, 2015). Particularly in the preschool period, parenting can lead to high levels of stress and has been indicated as a risk factor for higher levels of child disruptive behavior problems and maladaptive parenting practices (Williford, Calkins, & Keane, 2007). Greater stress typically indicates poorer outcomes in both the child and parent (usually maternal) domains. In addition, family-level factors such as the parenting alliance and co-parenting have been linked to parenting stress (Cooper et al., 2009).

A further aspect associated with both the quality of parental functioning and children's wellbeing concerns the parenting alliance, which should be considered the proximal determinant of the quality of parenting experiences. The parenting alliance implies a parent's perception of the strength of the alliance with the partner: in other words, how cooperative, communicative, and mutually respectful the couple is regarding various caring tasks for their children (Abidin & Brunner, 1995). The parenting alliance affects the quality of the parent-child relationship in terms of parental investment, responsivity, and reduced hostility (Castellano, Velotti, Crowell, & Zavattini, 2014; Sturge-Apple, Davies, & Cummings, 2006). Some studies have also associated a couple relationship characterized by warmth, complicity, and emotional support with lower levels of parenting stress (Wieland & Baker, 2010), highlighting the tight association between the constructs of attachment, stress, and the parenting alliance in family caring tasks (Abidin & Brunner, 1995; Deater-Deckard & Petrill, 2004). Regarding planned lesbian families, the quality of the relationship between partners is perceived as being

more harmonious and characterized by higher relationship satisfaction than that reported by heterosexual couples (Borneskog et al., 2014; Kurdek, 2004). A co-parenting alliance among lesbian couples has been studied in terms of the couple division of housework as an aspect of co-parenting (Biblarz & Stacey, 2010; Farr & Patterson, 2013). In particular, a balanced share of housework among lesbian parents has been found (Bos, 2013), even though the biological parent seems more involved in childcare and housework (Bos et al., 2007), has a higher desire for motherhood and tends to assume the role of the primary caregiver more than the non-biological mother (Bos et al., 2007; Downing & Goldberg, 2010). In this regard, Golombok et al. (2003) have pointed out that non-biological mothers are less likely to show high levels of emotional and disciplinary involvement with their children, and seem to have the highest degree of satisfaction with family work and division of tasks in the couple in terms of the management of the child (Chan, Brooks, Raboy, & Patterson, 1998). This appears significant if framed within the more comprehensive issue of the extent to which being the biological versus the non-biological mother matters in the social-emotional involvement with children (Golombok, Blake, Casey, Roman, & Jadva, 2013). Within the attachment theory frame, the aforementioned question can be reworded to inquire if and under what conditions being the primary caregiver in planned lesbian-mother families affects the quality of social-emotional involvement with a child.

Whereas couple alliance and satisfaction have been investigated in other typologies of non-biological parenthood, such as in adoptive families (Goldberg & Smith, 2014; Lionetti et al., 2015), thus far, little data are available on planned lesbian mother families. Compared to heterosexual families, the extant findings highlight homosexual ones as being characterized by lower perceived parental stress and better parenting skills alongside a more equal division of roles, suggesting that a more in-depth analysis of these variables is appropriate (Baiocco et al., 2015; Borneskog et al., 2014).

Last, meta-analytic findings indicated that children's gender matters in parenting styles and behaviors regarding warmth, sensitive responsiveness, and parental control (Lytton & Romney, 1991). In addition, gender schema and stereotypes play a role in family education and in the related behavior of children (Kollmayer, Schober, & Spiel, 2018). Regarding social-emotional functioning, several studies point to meaningful gender differences, as daughters display more responsiveness to and involvement with parents than do sons (Bornstein et al., 2008; Lovas, 2005). Given that mothers are also more emotionally available than fathers (Lovas, 2005), a possible explanation for gender differences among children may be that they tend to model themselves primarily on the same-sex parent (Bornstein et al., 2008). Aligned with this, a child's gender could constitute a worthwhile variable to consider when examining if and how children's social-emotional interaction with their lesbian mothers is affected by whether they are girls or boys.

In light of the aforementioned issues, the main aim of this study is twofold. The first is to investigate if and under what conditions the status of being a biological versus non-biological mother matters in planned lesbian couple family functioning. Second, we aim to analyze if being a biological versus non-biological mother affects children's outcomes: that is, the association between maternal attachment mental states based on personal familial history and the EA shown by children's behavior in interactions with their mothers. Finally, the effect of children's gender on the aforementioned association is examined.

We hypothesized that:

- (1) Regardless of maternal status – biological versus non-biological mother – lesbian mothers' attachment state of mind (i.e., attachment coherence of mind) is associated with the mother's EA, as demonstrated in interactive behaviors with her own child.
- (2) Controlling for children's age, lesbian mothers' attachment state of mind (i.e., attachment coherence of mind) is associated with children's EA in play interaction, and the child's gender plays a moderating role.
- (3) Lesbian mothers' couple alliance is associated with the stress perceived in providing childcare, and maternal status (biological versus non-biological) plays a moderating role.

Method

Participants

A total of 40 mothers (20 biological and 20 non-biological mothers) participated in the study. Mothers were recruited from the main national association of lesbian and gay families, called Rainbow Families Association. It was ensured that all mothers had conceived using donor insemination. Bisexual and transgender parents and also cases in which children had been born in the context of a heterosexual relationship were excluded from the study. Ethical approval for the study was granted by the University XY Ethics Committee *purposely left blank for confidentiality in reviewing process* and informed consent was obtained from parents.

Sample characteristics are provided in Table 1. The average of the relationship duration was 9.5 years ($SD = 5.2$). The two groups (biological vs non-biological mothers) were matched for parents' age ($t(18) = -1.06, p = .30$) and socioeconomic status (SES; $t(18) = .28, p = .78$).

Procedure

The study included two home visits. During the first, mothers' attachment state of mind was assessed through the AAI (George, Kaplan, & Main, 1985). In the second visit, a 15-

Table 1. Participant characteristics.

		Mothers			
		Biological		Non-biological	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Age (years)		39.7	5.7	41.9	7.5
SES		52.1	11.5	52.9	9.5
		Children			
		<i>M</i>	<i>SD</i>	%	
Age (months)		30.5	21.4		
Gender	Boys			45	
	Girls			55	

SES: socioeconomic status

minute mother-child dyadic play session (5 min with toys, 10 min of free play) was videotaped. During this visit, mothers also completed both the Parenting Alliance Measure (PAM; Abidin & Konold, 1999) and Parenting Stress Index-Short Form (PSI/SF; Abidin, 1995). Two independent reliable raters, blind to the mothers' status (biological versus non-biological), coded the AAI transcripts, and two independent reliable raters, blind to the AAI coding, assessed the EA scales. Different raters coded the scales for mothers and children.

Measures

Attachment

The Adult Attachment Interview (AAI; George et al., 1985; Main, Goldwyn, & Hesse, 2002) assesses unconscious attachment states of mind related to one's interpersonal relationship and affect regulation. A scale that is used to rate AAI transcripts and that is of interest for the current study is Coherence of Mind. This scale (ranging from 1 to 9) assesses the degree to which an individual is consistent, relevant, and concise in his/her description of childhood attachment memories, as well as the degree to which beliefs that are expressed during the interview are based in reality. The scale is considered the best and reliable indicator of the interviewee's state of mind with respect to attachment (Main et al., 2002); individuals with a secure attachment state of mind show higher coherence of mind on the AAI, whereas low coherence of mind is related to insecurity, which is an indicator of poorer affect regulation and interpersonal functioning. A score of five is considered the cut-off for categorizing secure versus insecure attachment states of mind (Main et al., 2002). The two AAI coders for the current study successfully completed reliability testing through Drs. Mary Main and Erik Hesse at the University of California in Berkeley after completing an AAI training Institute provided by certified AAI trainers. Inter-rater agreement on coherence of mind scale for randomly chosen AAI transcripts (20%) between the two raters was .87.

Emotional availability

Emotional Availability Scales 4th Edition (EAS; Biringen, 2008) assess mother-child interactions along six dimensions of EA: four parent scales (sensitivity, structuring, non-intrusiveness, and non-hostility) and two child scales (responsiveness and involvement). The measure was applied by reliably trained researchers by videotaping 15 minutes of mother-child dyadic play sessions. A summary score for both maternal EA and child's EA (child's EA) is obtained by computing the mean value among the EA scales (Barone, Barone, Dellagiulia, & Lionetti, 2018; Negrao Pereira Soares and Mesman, 2016; Biringen et al., 2014). Inter-coder reliability for randomly chosen observations (10% of all data) was .81.

Parenting stress

Parenting Stress Index-Short Form (PSI/SF; Abidin, 1995) is a 36-item questionnaire that assesses stress in the parent-child system. Parents are asked to indicate the extent of their agreement or disagreement, based on 5-point rating scale, ranging from 1 (strongly agree) to 5 (strongly disagree). The PSI/SF is composed of three scales: Parental Distress (PD), Parent-Child Dysfunctional Interaction (P-CDI) and Difficult Child

(DC). The PSI/SF also yields a Total Stress score (TS) score that is an indicator of the overall experience of parenting stress in caring tasks (Abidin, 1995). Higher score indicates greater levels of stress. In the present study, Cronbach's alpha was .84, thus showing a good internal consistency.

Parenting alliance

Parenting Alliance Measure (PAM; Abidin & Konold, 1999) is a 20-item self-report measure designed to assess the perceived alliance (i.e., cooperation and respectful interaction) between the parents. Participants were asked to respond using a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). All items were summed together to produce a total score. High score reflects a stronger and more positive alliance (e.g., "I believe my child's other parent is a good parent" and "I communicate well about our child"). In the present study, Cronbach's alpha was .88.

Data analysis and results

Table 2 represents the means and standard deviations for all variables of interest. As all variables were normally distributed, the study hypotheses were tested via parametric tests. Paired t-tests were conducted to examine whether there were statistically significant mean differences between biological and non-biological mothers in parenting stress, attachment coherence of mind, parental alliance, and maternal and the child's emotional availabilities. The results indicated no differences between the mothers' typologies (parenting stress: $t(19) = .89$, $p = .38$, $d = .29$; attachment coherence of mind: $t(18) = .81$, $p = .43$, $d = .33$; parental alliance: $t(19) = -1.78$, $p = .09$, $d = .49$; maternal EA: $t(18) = -.73$, $p = .47$, $d = .26$; child's EA: $t(18) = -.69$, $p = .50$, $d = .24$). Furthermore, the chi-square analysis indicated no significant differences between biological and non-biological mothers in the two-way distribution of attachment – security versus insecurity ($X^2 = 1.29$, $p = .26$, $\phi = .16$) – and four-way classification – F, Ds, E, and U classifications ($X^2 = 1.51$, $p = .68$, $\phi = .16$).

Next, Pearson's correlation coefficients were determined to investigate the relationships between parenting stress, attachment coherence of mind, parental alliance, and maternal and the child's EA within the sample of biological and non-biological mothers (see Table 3). For biological mothers, a negative correlation between parenting stress and parental alliance ($r = -.47$, $p = .03$) was observed, but this was not noted for non-biological mothers ($r = -.22$, $p = .35$). Moreover, only the latter's attachment coherence

Table 2. Descriptive statistics for parenting stress, parental alliance, maternal and child's emotional availabilities, and attachment coherence of mind.

Variables	Mothers	
	Biological <i>M (SD)</i>	Non-biological <i>M (SD)</i>
Parenting Stress	65.6 (13.0)	62.1 (10.6)
Parenting Alliance	84.7 (8.0)	88.3 (5.6)
Maternal Emotional Availability	5.7 (0.8)	5.9 (0.9)
Child's Emotional Availability	5.1 (1.1)	5.3 (1.0)
Attachment Coherence of Mind	5.1 (1.3)	5.5 (1.1)

Table 3. Pearson correlations coefficients.

	Biological Mothers				
	PS	CM	PA	M-EA	C-EA
PS	-	-0.24	-0.47*	-0.25	-0.26
CM	0.25	-	0.05	0.28	0.4
PA	-0.22	-0.3	-	0.2	0.04
M-EA	-0.11	0.72***	-0.37	-	0.78***
C-EA	-0.01	0.53**	-0.36	0.90***	-
Non-biological Mothers					

PS: Parenting Stress, CM: Attachment Coherence of Mind, PA: Parenting Alliance, M-EA: Maternal Emotional Availability, C-EA: Child's Emotional Availability.

*** $p < .001$, ** $p < .01$, * $p < .05$

of mind was positively associated with maternal EA ($r = .72$, $p < .001$) and the child's EA ($r = .53$, $p = .01$).

Moderation analyses using PROCESS (Hayes, 2013) were conducted to test our working hypotheses. Then, the pick-a-point approach (Bauer & Curran, 2005) was applied to probe interactions. Here, relatively high, average, or low values of the moderators were calculated to ascertain whether the independent variable was related to the dependent variable for high (mean plus one standard deviation), moderate (mean), and low (mean minus one standard deviation) values on the moderator.

Attachment coherence of mind and maternal EA in play interactions

We tested whether lesbian mothers' attachment coherence of mind was associated with maternal EA, regardless of maternal status (biological or non-biological mother). Mothers' attachment coherence of mind as the independent variable and maternal EA as the dependent variable were considered, and maternal status was treated as moderating this putative association. Overall, the model was significant ($R^2 = .34$, $F(3, 35) = 5.98$, $p = .002$), but the interaction between the independent variable and moderator was not significant, highlighting a trend toward significant values ($b = -.37$, $t = -1.93$, $p = .06$). In line with our hypothesis, only lesbian mothers' attachment coherence of mind was associated with maternal EA ($b = .56$, $t = 3.86$, $p < .001$).

Attachment coherence of mind and the child's EA in play interactions

Our working hypothesis postulated that lesbian mothers' attachment coherence of mind would be associated with the child's EA in play interaction, and moderated by the role of the child's gender. Our results showed that, overall, the model was significant ($R^2 = .28$, $F(4, 34) = 3.38$, $p = .02$), but the interaction between the independent variable and the moderator was not significant ($b = -.18$, $t = .29$, $p = .77$). Again, only lesbian mothers' attachment coherence of mind was associated with the child's EA ($b = .47$, $t = 2.56$, $p = .02$), regardless of gender.

Association of mothers' couple alliance with parenting stress

A moderator analysis wherein maternal status moderates the relationship between lesbian mothers' couple alliance and stress perceived in providing childcare was tested.

Surprisingly, the model was not significant ($R^2 = .17$, $F(3, 36) = 2.47$, $p = .08$). As the previous analysis negatively correlated parental alliance and parenting stress only for biological mothers, we performed a further linear regression analysis to test if biological mothers' couple alliance could be significantly associated with parenting stress. The results indicated that the model with one predictor explained 22% of the variance ($F(1, 18) = 5.1$, $p = .03$, $\beta = -.76$), significantly associating biological mothers' couple alliance with parenting stress. Nevertheless, this was not true for non-biological mothers ($F(1, 18) = .91$, $p = .35$, $\beta = -.42$).

Discussion

The present study aimed to identify the factors that explain planned lesbian family functioning by examining the characteristics thereof in terms of attachment, mother-child EA in play interactions, the child's gender, parenting stress, and the couple alliance. We conducted a pilot study with a specific population of planned lesbian mothers, as they represent those who chose lesbian motherhood to establish a new family. Furthermore, this population demonstrates a unique combination of the biological versus non-biological motherhood experience in the same family. Our first aim and question thus addressed whether having or not having a biological bond with one's child played a role in the functioning of the family. Our study is a pilot in terms of a reduced sample size and the type of questions addressed from a non-comparative approach. As discussed, Italy is a European country in which social, religious, and political beliefs and attitudes have mostly hampered – and continue to do so – a scientific empirically informed perspective on same-sex families. The first strength of our study is that it offers an in-depth analysis of several variables implied in the social-emotional functioning of planned lesbian families, and extends beyond a comparative approach with heterosexual parent families. A second strength is the application of attachment theory and related constructs to understand the characteristics of lesbian mothers' family social-emotional functioning, contributing toward addressing the lack of research in this area.

The growing body of research on atypical families (e.g., adoptive and foster care families) suggests that biological relatedness between a parent and child is not essential for a positive parent-child relationship (Dozier & Rutter, 2016). Our findings seem to confirm that in these families, mothers' life-long attachment experiences and related mental states of mind matter, informing a mother's way of being emotionally involved in the relationship with her own child, rather than the biological link to the latter. According to Biringen (2000), the AAI coherence of mind scale is a reliable variable appropriately linked to the observed quality of EA mother-child interaction. Besides this finding, noteworthy is the trend indicating the significant value of the variable biological versus non-biological mothers in affecting the association between a mother's coherence of mind and EA behaviors in interactions. If confirmed in future studies, this trend could add interesting data for dealing with the question on what counts in this family typology to enable smooth social-emotional adjustment between the mother and child.

Another question dealt with in this paper was related to children's gender as a putative factor that affects the association between maternal attachment representations and the child's ability to be emotionally involved in play interaction with his/her

own mother. Although sex differences in children's behaviors and attitudes are small in infancy (Else-Quest, Hyde, Goldsmith, & van Hulle, 2006), they emerge slowly in early childhood, becoming more evident in the preschool and school years (Blakemore, Berenbaum, & Liben, 2009). As such, previous studies (Bornstein et al., 2008; Lovas, 2005) reported meaningful gender differences in the social-emotional function as daughters display more responsiveness to and involvement with parents than do sons. Therefore, we tested a possible difference in a child's EA in interactive play with the mother based on the child's gender. As parents usually adapt their interactions according to children's gender, the factors we identified could represent a valuable finding. In same-sex parent families, no differences were found regarding children's – boys or girls – emotional responsiveness and sensitive involvement of the parent in interactions. This finding seems consistent with a related construct and previous data from recent research emphasizing that there are few differences in how boys and girls are parented – through gendered parenting – with respect to warmth and sensitive responsiveness. Furthermore, the effect size decreased with age (Mesman & Groeneveld, 2018). Thus, our data confirm findings already highlighted for the functioning of other family typologies. At the same time, since same-sex families could represent an exception in the findings observed thus far, studying the functioning thereof may provide an exciting opportunity for understanding how gender socialization meets specific challenges in later periods of development such as puberty and adolescence. Future studies, possibly with bigger samples and longitudinal designs, are welcomed and required to support the findings of our pilot study.

Last, the third hypothesis of the study, namely that mothers' couple alliance is associated with the stress experienced in providing childcare, with the putative effect of maternal status (biological versus non-biological mother) as moderator, was partially confirmed. Specifically, the moderation analysis did not detect an association between couple alliance and parenting stress or any significant interaction. However, the correlation analysis and simple linear regression both associated the couple alliance with parenting stress, with higher levels of couple alliance associated with less perceived stress in providing care. Thus, these two constructs seem associated even in this family typology, indicating the importance of couple reciprocal support and the alliance to reduce a well-known impairment in family functioning, namely experiencing stress during every day caring tasks. Noteworthy is that the perceived quality of the couple alliance had a different impact on biological and non-biological mothers. The first benefited the most from the support of and alliance with their partner in terms of buffering the impact of the stress experienced in providing childcare, whereas this was not true for non-biological mothers. Previous studies indicated that lesbian biological mothers spent more time on family tasks (Goldberg, Downibg, & Sauck, 2008) and felt more burdened by their children even though studies showed a high level of dyadic adjustment and synchronicity in lesbian family parenting (Baiocco et al., 2015; Stacey & Biblarz, 2001). Aligned with these findings, we suggest that those who engage more with caregiving tasks – biological mothers – are influenced by the stress in providing childcare and benefit the most from couple support. This finding, if fully replicated in future studies with an adequate sample size, could be significant in generating new insights regarding the extent to which being a biological versus non-biological mother counts in the

social-emotional involvement with their own children in same-sex families (Golombok et al., 2013).

Limitations and future directions

Several limitations should be considered when interpreting the findings of this study. First, the design did not allow for a determination of causality, and thus future research should use longitudinal methods to better understand social-emotional functioning in lesbian same-sex parenting. Second, the sample size did not allow the generalization of data obtained and constrained the analyses. This limitation is better understood by considering the difficulties in recruiting families and the time-consuming measurement methods, namely the AAI and EA scales, which balanced the time required with the highly informative and reliable data they provided. We did not include a co-parenting measure to assess the time spent on childcare and housework. Possibly, this additional measure could provide a reliable basis for discussing the finding related to the different impact of the couple alliance on biological and non-biological mothers in terms of buffering the stress stemming from caring tasks. Future studies should better address this issue by including this measure. Despite these limitations, we hope that the pilot findings obtained – addressing a relevant question with a limited sample size – constitute a heuristic solicitation for future studies with a larger sample size and longitudinal pathway of the social-emotional adjustment of these children and their mothers.

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