



SAPIENZA
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Facoltà di Medicina e Psicologia

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Tesi di Dottorato

Surrogacy families headed by gay men:

Children's psychological adjustment, gender-typed play behavior,
attachment security, and views on their surrogacy origins

Dottorando:

Dott. Nicola Carone

Tutor:

Prof. Roberto Baiocco

Co-tutor:

Prof. Vittorio Lingiardi

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Like beauty, family is in the eyes of the beholder.

(Crosbie-Burnett & Kelin, 2009, p. 38)

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Introduction

The most recent official statistics indicate that, in Italy, approximately 100,000 children had at least one gay father or one lesbian mother in 2006 (Baiocco & Laghi, 2013). Yet caution should be taken when drawing conclusions on the basis of this statistic, as it may not account for the children's great variability in parenting circumstances. Prior to the past several decades, gay and lesbian people had few family-building options, and thus having children in the context of a heterosexual union (including both long-term relationships/marriages and short-term unions) was the most common path to parenthood (Goldberg, 2010). In the 1970s, the early wave of same-sex parenting research was inspired by the fact that lesbian mothers were losing custody of their children to their ex-husband upon dissolution of their heterosexual marriage; thus, research was needed to establish that sexual orientation should not be considered a relevant criterion in the determination of custody (Goldberg & Gartrell, 2014; Golombok, 2015).

The growth of assisted reproductive technologies in the 1980s and 1990s resulted in donor insemination (DI) becoming a more accessible route to parenthood for lesbian women. For the first time, rather than fighting for child custody following an acrimonious divorce, lesbian couples could plan a family together after coming out. Lesbian mother families were also created by adoption, by sexual intercourse with a man who would not act as a father to the child, and by co-parenting agreements, whereby the mother had a child with a man who was not her partner but who was involved in raising the child. The rapid increase in openly lesbian women having children at that time became known as “the lesbian baby boom” (Patterson, 2017).

Similar to lesbian mothers, gay men may become fathers through several routes. Although many gay men have become fathers as a result of having children through heterosexual relationships, it is only in recent years that children have grown up in gay father families. A small proportion of previously married gay fathers are raising the children of that marriage. However, by far the largest proportion of gay father families are formed through adoption (Gates, 2015). In addition, some gay men co-parent with lesbian or heterosexual women. In these co-parenting arrangements, the child is usually raised in separate households, with varying degrees of involvement by gay fathers – ranging from occasional visits to shared parenting – with the child spending an equal amount of time in each family home.

Finally, an increasing number of gay men are having children through surrogacy – a practice through which a woman (the “surrogate”) bears a pregnancy for the intended parent(s) with the intention of handing over the resulting child. Gay fathers usually opt for gestational, rather than genetic, surrogacy, which involves both an egg donor and a surrogate mother (Blake et al., 2017). Of note, in Italy, surrogacy is strictly prohibited by the law 40/2004, “Norms concerning medically assisted procreation,” and thus people who wish to become parents must use transnational surrogacy services.

Despite the rise in same-sex parent families worldwide (Gates, 2015), the traditional nuclear family is still generally considered the best environment in which to raise children, and remains the gold standard against which all other family types are assessed. It is commonly assumed that the more a family deviates from the norm of the traditional two-parent heterosexual family, the greater the risks to the

children's psychological well-being. But is this really the case? Are children less likely to thrive in families headed by same-sex parents? The answer to this question depends on the extent to which these "modern families" (Golombok, 2015) differ from traditional families in the aspects of family life that matter most for children's healthy psychological development and, particularly, the extent to which they provide a less supportive family environment for children.

As Stacey and Biblarz (2001) argued, most research has taken a heterosexist perspective when addressing concerns about whether the children of lesbian or gay parents are disadvantaged, comparing lesbian and gay parenting outcomes with those set by heterosexual parent control groups and population norms. This has left the difference and diversity in lesbian and gay parenting and child outcomes underexplored and unappreciated. In recent years, the focus has turned from comparisons of same-sex and heterosexual parent families to variation within same-sex parent families, and particularly the influence of parenting styles on children's adjustment (Lingiardi & Carone, 2016b).

Of note, comparisons between children in lesbian mother families and children in two-parent heterosexual families have failed to find differences in children's psychological adjustment or gender development, or in the quality of parenting and family relationships. The only clear difference that has emerged is that non-genetic mothers in lesbian mother families are more involved in parenting than are fathers in two-parent heterosexual homes (for a review, see Fedewa, Black, & Ahn, 2015; Goldberg & Gartrell, 2014; Golombok, 2015; Patterson, 2017; Tasker, 2005). Might gay fathers provide as positive a parenting environment for children as lesbian mothers or heterosexual parents?

Of all the new family forms created in the last few decades, gay father families with children born through surrogacy and egg donation deviate most from the traditional nuclear family. Such families combine several controversial pathways to parenthood. Further, they differ from the traditional family with respect to the parents' sexual orientation, the parents' gender, and the child's conception through assisted reproduction, involving both surrogacy and egg donation. Children growing up in gay father families formed through surrogacy may have two fathers and two "mothers" – a genetic father, a non-genetic father, a genetic mother and a gestational mother – but no mother in the family home. It is surprising that these families have been largely ignored by research, particularly in countries such as Italy, where the view that children born to gay fathers through surrogacy will suffer harm due to the absence of a mother in the household is firmly claimed (Carone, 2016; Ferrari, 2015; Lingiardi, 2016; Lingiardi & Carone, 2016b; Taurino, 2016).

The present research project addressed the following four research questions:

1. Are surrogacy children with gay fathers at risk of developing psychological problems, both because they were born through surrogacy and because their family possesses the non-traditional feature of being headed solely by men?
2. Are gay fathers suitable role models for children's gender role development and socialization, even though their children lack a female live-in parent?
3. Do surrogacy and the male parental gender impact on the quality of attachment relationships children form with their parents?

4. How do gay father families experience surrogacy, in terms of their relationships with surrogates and egg donors, fathers' disclosure decisions, and children's views on their surrogacy origins?

Bearing in mind the limitations of existing research (Biblarz & Stacey, 2010; Tasker, 2010):

- lesbian mother families formed through donor insemination were chosen as the comparison group in order to explore differences in lesbian and gay parenting and child outcomes. This further enabled us to control for both parents' non-heterosexual orientation and their use of third-party assisted reproduction;

- data were collected through multiple procedures (i.e., standardized questionnaires, semi-structured interviews, and observational assessments), using multiple informants (each parent in the home, teachers, children, non-parent caregivers, and a child psychiatrist), to control for a potential bias shown by the parents to present their family in the best possible light in order to counteract criticism about their family arrangement and their child's adjustment;

- power analyses and a bootstrapping simulation were conducted in order to generate sufficient statistical power to detect differences between groups and to verify the stability of our results, respectively;

- hierarchical linear model analyses were performed to account for dependence in the outcome score variables, as multiple reporting individuals were nested into families.

Finally, although each chapter explains the theoretical perspectives that were adopted to test specific hypotheses and to interpret findings, the larger research project took a developmental contextual systems approach (Overton,

2015), whereby bidirectional relations between children, the family, and the wider social world were considered influential for child development.

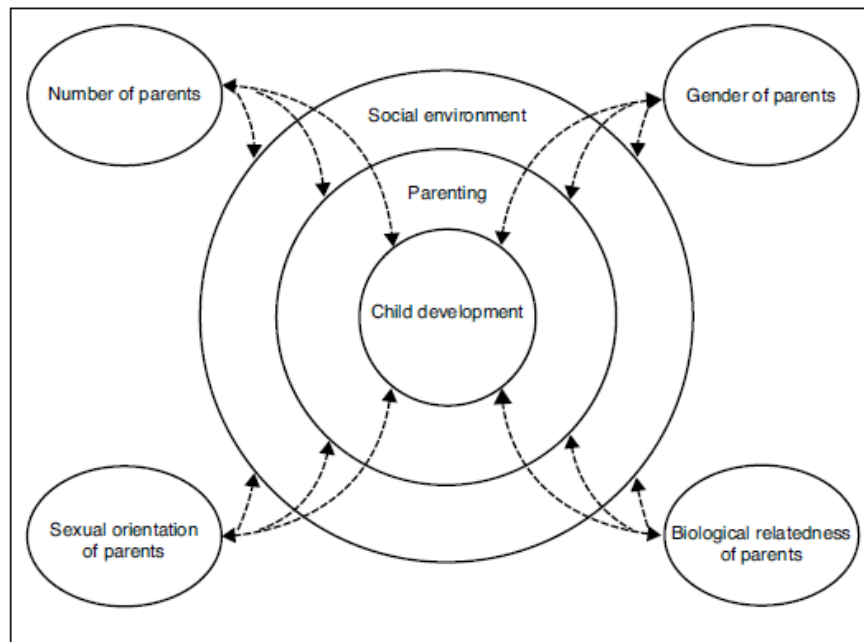


Figure 1. *Conceptual model of bidirectional influences of family structure and family processes on child development (retrieved from Golombok, 2017)*

Chapter 1 Parenting, stigmatization, and children's psychological adjustment

Introduction

It is only in recent years that children have begun to grow up in gay father families (Golombok, 2015). While some gay men co-parent with lesbian or heterosexual women, most gay father families are formed through adoption. Increasingly, gay men are also becoming fathers through surrogacy (Gates, 2015). Usually, gay men opt for gestational, rather than genetic, surrogacy, because it is considered less “emotionally risky,” involving both an egg donor and a surrogate (Blake et al., 2017). In Italy, where the present study was conducted, gay men who want to create a family have few reproductive choices. Domestic and international adoption are only possible for heterosexual married couples; domestic surrogacy is banned, regardless of sexual orientation or marital status; and co-parenting arrangements are not a preferred path to parenthood (Baiocco & Laghi, 2013). As a result, gay men who wish to become parents must use transnational surrogacy services (Carone, Baiocco, & Lingiardi, 2017).

The increasing number of same-sex male parent families worldwide has generated a keen debate in the scientific community on the influence of parental gender and sexual orientation on child adjustment. Arguments against these families draw on concerns that children may display psychological problems; develop atypical gender and sexual identities; and experience strained peer relationships, stigma, and teasing relative to children of heterosexual, married, and genetically-related parents (Biblarz & Stacey, 2010; Tasker, 2010). In the case of

gay father surrogacy families, an additional concern relates to the impact that surrogacy, itself, may have on children's views on their origins (Carone et al., 2017).

The psychological well-being of children with same-sex parents has been a sustained focus of research since the early investigations of families headed by lesbian mothers, initiated in the 1970s. These investigations tested the claims that arose in child custody disputes that children who were brought up by mothers in a same-sex relationship would suffer harm as a result of this parenting arrangement. Since that time, a large body of research has studied children raised by lesbian mothers from birth, following donor insemination. Findings have shown that lesbian mothers are just as likely to have good mental health and positive relationships with their children as are heterosexual mothers, and that their children are no more likely to show emotional and behavioral difficulties, poor performance at school, or atypical gender role behavior than are children with heterosexual parents (for reviews, see Biblarz & Stacey, 2010; Goldberg, 2010; Patterson, 2017; Tasker, 2010). Lesbian mother families have also been found to function within the normal range on measures for which norms are available (Golombok, 2015, 2017). In contrast, research suggests that family processes such as parenting quality, family relationships, and stigmatization from the outside world arising from the parents' gender and/or sexual orientation are more important predictors of child outcomes than family structure (Bos & Gartrell, 2010; Bos & van Balen, 2008; Lamb, 2012). These findings have been replicated in longitudinal research and general population samples, and have also been confirmed through meta-analyses (Bos, Kuyper, &

Gartrell, 2017; Fedewa et al., 2015; Golombok et al., 2003; Wainright, Russell, & Patterson, 2004).

Research on gay father families is still lacking, with the most recent meta-analyses (Fedewa et al., 2015) only including three studies of children of gay fathers. It follows that conclusions regarding a lack of an effect of parents' gender and non-heterosexual orientation on child adjustment may be drawn only from research on lesbian mothers. Thus, the generalizability of such research to gay parenting and children of gay fathers may be questioned. In fact, gay fathers hold a multiminority status (Armesto, 2002) that makes their parenthood more challenging than that of lesbian mothers. Furthermore, children of gay fathers are born in circumstances that are somewhat different to those of children of lesbian mothers, as surrogacy and egg donation are more controversial than donor insemination (Golombok, 2015). Finally, it is unusual for fathers, regardless of their sexual orientation, to act as primary caregivers (Golombok & Tasker, 2010).

Research has shown that parenting behavior constructs are not structurally different for mothers and fathers, and that both roles have a similar influence on child outcomes (Fagan, Day, Lamb, & Cabrera, 2014). In addition, a recent study of the brain activity of heterosexual mothers, heterosexual fathers, and adoptive gay fathers of young babies found heightened activity in emotion processing areas of the brain in heterosexual mothers and cognitive processing areas in heterosexual fathers; gay fathers showed increased activity in both regions (Abraham et al., 2014). Nonetheless, prejudices against fathers, holding them as fundamentally less effective parents than mothers, persist (Biblarz & Stacey, 2010). As a result, gay fathers are frequently confronted with greater discrimination regarding their sexual

identity than lesbian mothers (Armesto, 2002). Similarly, children of gay fathers may face more bullying or teasing than children of lesbian mothers, simply because their families are characterized by the non-traditional feature of being headed solely by men (Golombok & Tasker, 2010).

To date, our knowledge on the functioning of gay father families is mainly limited to research conducted early in the new millennium, almost exclusively in the US and UK, on adoptive gay father families. Findings indicate that preschool- and school-aged adopted children develop healthfully in this family environment, and that there are no differences in couple satisfaction, parenting stress, or parental disciplinary techniques across adoptive gay, lesbian, and heterosexual parent families (Farr, 2017; Farr, Forssell, & Patterson, 2010; Farr & Patterson, 2013; Goldberg, 2010; Goldberg & Garcia, 2016; Goldberg & Smith, 2013). Furthermore, a UK study by Golombok and colleagues (2014) found adoptive gay fathers to show greater warmth, higher interaction, and lower disciplinary aggression than adoptive heterosexual parents.

However, gay father surrogacy families differ from adoptive gay father families because children in the former family type can have both a genetic and a non-genetic father, as well as a genetic mother (the egg donor) and a gestational mother (the surrogate). The complexity of this arrangement may result in different outcomes for children. A study by Golombok and colleagues (2011) found that children born to heterosexual parents through surrogacy were well-adjusted at age 1 (Golombok, Murray, Jadva, MacCallum, & Lycett, 2004), 2 (Golombok, MacCallum, Murray, Lycett, & Jadva, 2006), and 3 (Golombok, Murray, Jadva, Lycett, MacCallum, & Rust, 2006), but showed more emotional and behavioral

difficulties than gamete conception children at age 7 – the age at which most children show an awareness of biological inheritance and understand the meaning and implications of lacking a genetic connection to parents (Solomon, Johnson, Zaitchik, & Carey, 1996; Williams & Smith, 2010). Follow-up studies found that surrogacy children no longer differed in their adjustment levels from children conceived by gamete donation at age 10 (Golombok, Blake, Casey, Roman, & Jadv, 2013) or 14 (Golombok, Ilioi, Blake, Roman, & Jadv, 2017).

In very recent years, research has begun to examine the adjustment of children born through surrogacy in gay father families. In an uncontrolled cross-sectional survey of 315 Australian same-sex parents, children aged approximately 5 years were reported by their parents to have higher levels of general behavior, general health, and family cohesion relative to the normative population (Crouch, Waters, McNair, Power, & Davis, 2014). However, the study analyzed data from both lesbian mothers and gay fathers together, and, in the gay father group, did not distinguish those with children born through surrogacy from those with children from a heterosexual relationship or those with adopted children. In an Italian questionnaire-based study of 20 gay fathers by surrogacy with children aged approximately 4 years, Baiocco and colleagues (2015) found no differences in family functioning or children's emotional regulation and well-being in a comparison of 20 lesbian mother families created by donor insemination and 40 heterosexual parents who had conceived spontaneously. To date, the only controlled, in-depth study has been conducted in the US. This study compared 40 gay father surrogacy families with 55 lesbian mother families formed by donor insemination – each with children aged approximately 5 years. The findings showed

that, irrespective of family type, parents and teachers reported children as highly adjusted, and fathers reported fewer child emotional problems than did mothers. In both family types, children who experienced higher levels of negative parenting and whose parents perceived greater stigmatization scored higher in parent-reported behavioral problems (Golombok et al., 2017).

Although the literature provides preliminary indications of the positive functioning of gay father surrogacy families, the paucity of the research, together with the methodological limitations (Crouch et al., 2014), very limited sample sizes (Baiocco et al., 2015), and different societal contexts in which the studies were conducted (Golombok et al., 2017), do not allow firm conclusions to be drawn on the adjustment of children born to gay fathers through surrogacy. Given the ethical call to remove indications of sexual orientation and marital status from requests for assisted reproduction (De Wert et al., 2014; Ethics Committee of the American Society for Reproductive Medicine, 2013), as well as the concerns voiced by healthcare professionals relating to possible higher levels of psychological problems and social stigmatization of children born through surrogacy compared to those born through other assisted reproductive techniques (Armuand, Lampic, Skoog-Svanberg, Wånggren, & Sydsjö, 2017), further in-depth research – possibly carried out in different cultural contexts – is required. Additionally, in light of the negative attitudes that prevail against non-traditional family forms (Gates, 2015; Ioverno et al., 2017), studies using multiple sources of information (e.g., parents and teachers) are also recommended to prevent the possible parental bias of underestimating children's problems (Tasker, 2010).

The Present Study

The present investigation was a controlled, multimethod and multi-informant study of surrogacy families headed by gay men with children aged 3 to 9 years. At this age, children can understand that their family structure is different to that of other children (Williams & Smith, 2011), have transitioned into kindergarten or school, and thus have entered a more diverse – and possibly less accepting – social environment. Based on the literature showing no differences in child psychological adjustment as a function of family structure (i.e., families headed by lesbian mothers or by heterosexual parents) (Golombok, 2015; Patterson, 2017), and that, where differences exist, such differences have been shown to favor children of lesbian mothers (Tasker, 2010), lesbian mother families formed by donor insemination were chosen as the comparison group. This enabled us to control for both the non-heterosexual orientation of parents and their use of assisted reproduction.

A developmental contextual systems approach (Lerner, Lewin-Bizan, & Warren, 2011) provided the underlying theoretical framework accounting for the complex interactions between individuals, families, and the wider social world, including historical time and place. The emphasis on historical time and place was especially relevant, as gay father surrogacy families did not exist before the latter part of the 20th century; thus, the approach highlighted the role of societal attitudes in family functioning. The study was further guided by the literature on parenting showing that children's psychological development is fostered in parent-child relationships, which are embedded in the socio-cultural context in which they are raised (Bornstein, 2002; Collins, Maccoby, Steinberg, Hetherington, & Bornstein,

2000; Lamb, 2012). As a result, the more negative the climate regarding gay father surrogacy families, the more difficult it is for fathers to ward off hostile attitudes towards their family and the more likely it is that their children will be bullied because of their fathers' sexual orientation or a homophobic culture at school.

The following hypotheses were tested:

(1) Gay father surrogacy families would face greater difficulties in terms of parenting quality, parent-child relationships, stigmatization, and child psychological adjustment than a comparison group of donor insemination families headed by lesbian mothers, arising from the additional challenges experienced by gay father families formed in this way (Armesto, 2002; Armuand et al., 2017; Golombok & Tasker, 2010). This hypothesis was partially based on previous findings of higher psychological problems among 7-year-old children conceived through surrogacy by heterosexual parents (Golombok et al., 2011).

(2) Stigmatization, parenting quality, and parent-child relationships would be more predictive of children's adjustment than would family type (Lamb, 2012; Golombok et al., 2017).

(3) Gay fathers would tend to underestimate their children's outcomes relative to teachers, due to their multiminority status (Armesto, 2002; Tasker, 2010).

Method

Procedure

Ethical approval was granted by the Ethics Committee of the Department of Developmental and Social Psychology of Sapienza University of Rome.

Participation in the study was entirely voluntary and no financial compensation was provided. Written informed consent was obtained from parents and teachers, and verbal assent was obtained from children. Families were visited at home by three of the five researchers trained in the study techniques. After parents' permission, children's teachers were asked to complete the questionnaire related to children's adjustment and were informed that their responses would not be reported back to the child's family or the school. Questionnaires were completed by 74 teachers (92.5%).

Participants

The sample comprised 40 gay father families with a child born through surrogacy and egg donation and a comparison group of 40 lesbian mother families with a child born through sperm donation, all residing in Italy. Multiple strategies were used to recruit as diverse a sample as possible, through Rainbow Families (an association of same-sex parents; $n = 28$, 35%), same-sex parent web groups and forums ($n = 26$, 32.5%), events with same-sex parents attending ($n = 12$, 15%), and snowballing ($n = 14$, 17.5%). The inclusion criteria for both family types were that the couple had a child aged between 3 and 9 years and had lived together since the child's birth. In families with more than one child in the relevant age range, the oldest child was studied.

Socio-demographic information for each group is presented in Table 1. The two groups were matched for children's demographic variables, so that the age of children did not differ, $F(1,78) = .08$, $p = .77$. The mean child age was 6.1 years. There was a similar proportion of boys and girls, $\chi^2(1) = .05$, $p = .82$, and a similar

proportion of siblings, $\chi^2(2) = 1.42, p = .49$, in each family type. Parents' age differed significantly between family type, $F(1,158) = 31.07, p < .001$, with gay fathers ($mean_{age} = 45.9$ years) older than lesbian mothers ($mean_{age} = 40.5$ years). There was no difference between family types in marital status, $\chi^2(2) = .82, p = .66$, length of the couple's relationship, $\chi^2(2) = .30, p = .86$, parents' ethnicity, $\chi^2(2) = 1.40, p = .23$, parents' educational attainment, $\chi^2(2) = 1.10, p = .29$, or the geographical area in which parents lived, $\chi^2(2) = .80, p = .67$. Household income differed significantly between family type, $F(1,72) = 21.83, p < .001$, with gay father families showing higher income. There were also significant differences between groups in parents' work status, $\chi^2(1) = 6.38, p < .01$, with more gay fathers in full-time employment, and parents' occupation, $\chi^2(1) = 15.98, p < .001$, with more gay fathers in professional/managerial occupations.

Table 1 *Descriptive Statistics of Socio-Demographic Information and Family Process Variables of Participating Families (n = 80)*

	Gay father families (n = 40)	Lesbian mother families (n = 40)	$X^2(df)$	p
	n (%)	n (%)		
Child's gender			.05(1)	.82
Boy	19 (47.5)	18 (45)		
Girl	21 (52.5)	22 (55)		
Number of siblings			1.42(2)	.49
0	17 (42.5)	16 (40)		
1	21 (52.5)	19 (47.5)		
2 or more	2 (5)	5 (12.5)		
Parents' ethnicity (Caucasian)	75 (93.8)	76 (95)	1.40(1)	.23
Parents' residence			.80(2)	.67
North	16 (40)	13 (32.5)		
Centre	19 (47.5)	23 (57.5)		
South	5 (12.5)	4 (10)		
Parents' educational level (bachelor's degree or higher)	60 (75)	54 (67)	1.10(1)	.29
Parents' occupation (professional/managerial)	59 (73.7)	33 (41.2)	15.98(1)	<.000
Parents' work status (full-time)	75 (93.7)	63 (78.7)	6.38(1)	.012
Length of couple's relationship			.30(2)	.86
Fewer than 10 years	12 (30)	12 (30)		
11–15 years	10 (25)	12 (30)		
More than 15 years	18 (45)	16 (40)		

	<i>M (SD)</i>	<i>M (SD)</i>	<i>F(df)</i>	<i>p</i>
Marital status			.82(2)	.66
Civil partnership in Italy	20 (50)	22 (55)		
Married/civil partnership abroad	12 (30)	13 (32.5)		
Unmarried/no civil partnership	8 (20)	5 (12.5)		
Genetic parenthood			2.68(1)	.10
Primary caregiver	19 (47.5)	30 (75)		
Secondary caregiver	16 (40)	10 (25)		
Do not disclose/do not know	5 (12.5)	0		
	<i>M (SD)</i>	<i>M (SD)</i>	<i>F(df)</i>	<i>p</i>
Child's age at visit (in months)	71.30 (28.18)	72.95 (22.01)	.08(1,78)	.77
Parent's age (in years)	45.90 (6.59)	40.51 (5.60)	31.07(1,158)	<.000
Household income (€)	124.972 (66.122)	70.263 (28.205)	21.83(1,72)	<.000
Positive Parenting				
Expressed warmth	4.07 (.80)	3.87 (.92)		
Sensitive responding	2.82 (.95)	2.70 (1.01)		
Amount of interaction	2.61 (.50)	2.49 (.67)		
Quality of interaction	3.04 (.65)	2.67 (.70)		
Negative Parenting				
Frequency of battle	2.87 (.93)	2.77 (.77)		
Level of battle	1.61 (.52)	1.74 (.58)		
Criticism	.89 (.65)	1.30 (.82)		
Disciplinary aggression	1.27 (.92)	1.50 (.94)		
Mutuality				
Parent responsiveness	5.39 (1.08)	5.27 (1.18)		
Child responsiveness	4.64 (.97)	4.69 (1.10)		
Dyadic reciprocity	2.54 (1.11)	2.35 (.99)		
Dyadic cooperation	2.81 (1.36)	3.12 (1.24)		

Perceived stigma	15.92 (5.38)	13.74 (2.40)
Parent-rated SDQ		
Internalizing problems	1.90 (1.79)	2.95 (2.24)
Externalizing problems	3.94 (2.40)	3.81 (2.32)
Teacher-rated SDQ		
Internalizing problems	2.00 (2.15)	2.76 (2.73)
Externalizing problems	3.76 (3.18)	3.89 (4.20)

Note. Data are presented as average scores across both parents in each family. SDQ = Strengths and Difficulties Questionnaire.

Measures

Children's adjustment. Children's emotional and behavioral difficulties were assessed using the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1994, 1997), which was administered to both parents. In order to obtain an independent assessment of children's psychological adjustment, children's teachers were also asked to complete the questionnaire (with parents' permission). They were informed that their responses would not be reported back to the child's family or the school. Questionnaires were completed by 74 teachers (92.5%). The test produces total scores of internalizing and externalizing problems (Goodman, Lamping, & Ploubidis, 2010), with higher scores indicating greater problems. For the parent questionnaire, the cutoff points for clinical problems are 9 for internalizing problems and 11 for externalizing problems. In the teachers' version, the cutoff point for both internalizing and externalizing problems is 11. The SDQ has been shown to have good internal consistency, test-retest and interrater reliability, and concurrent and discriminative validity (Goodman, 1994, 1997). Cronbach's alphas for the present sample were .82 and .86 for the parent and teacher version, respectively.

Children's psychological adjustment was also assessed during interviews with the parents who spent more time with their child ("Parent A"; the other parent was labeled "Parent B") – or a parent selected at random in families in which parenting was shared equally – using a standardized procedure (Rutter, Cox, Tupling, Berger, & Yule, 1975). Although parents generally shared childcare, Parent B usually spent more time at work and slightly less time with the child. Detailed descriptions were obtained of any emotional or behavioral problems

shown by the child. These descriptions of actual behavior, which included information about where the behavior was shown and the severity, frequency, precipitants, and course of the behavior over the past year, were transcribed and rated by a child psychiatrist who was unaware of the nature of the study. A high level of reliability ($\kappa = .82, p < .001$) between interviewer and psychiatrist ratings has been demonstrated for this procedure and validity has been established through a high level of agreement between interview ratings of children's psychological problems and parents' assessments of their child's emotional or behavioral difficulties (Rutter et al., 1975). Psychological problems, when identified, were rated according to severity on a 3-point scale ranging from 0 (*no disorder*) through 1 (*slight disorder*) to 2 (*marked disorder*), and type (anxiety, conduct/oppositional disorder, mixed disorder, Autism Spectrum Disorder, ADHD, and speech delay).

Quality of parenting. Parents were interviewed individually using an adapted semi-structured interview that lasted approximately 1 hour and was designed to assess parenting quality. This measure has been validated against observational ratings of parent-child relationships at home (Quinton & Rutter, 1988) and has been successfully used in previous studies of same-sex parent families with children of the same age (Golombok et al., 2014, 2017). Through this interview, detailed accounts were obtained of the child's behavior and the parent's response to it, with particular reference to parental warmth and control. A flexible style of questioning was used to elicit sufficient information for each variable to be rated by the researcher using a standardized coding scheme. Thus, ratings were given by the researcher on the basis of in-depth information from the parents, and not by the parents, themselves.

The following variables were coded: (a) *expressed warmth*, ranging from 0 (*none*) to 5 (*high*), which was based on the parent's tone of voice, facial expressions, and gestures when speaking about the child, as well as verbal descriptions of the child, spontaneous expressions of warmth, sympathy, concern about any difficulties experienced by the child, and interest in the child as a person; (b) *sensitive responding*, ranging from 1 (*low*) to 5 (*very sensitive*), which concerned the parent's ability to recognize and respond appropriately to the child's fears and anxieties; (c) *amount of interaction*, ranging from 1 (*little*) to 3 (*high*), which assessed the amount of time the parent and child spent in shared activities; (d) *quality of interaction*, ranging from 1 (*poor*) to 4 (*very good*), which described the extent to which the parent and child wanted to be with each other and enjoyed each other's company, as well as how much affection they showed one another; (e) *frequency of battle*, ranging from 0 (*never/rarely*) to 5 (*few times daily*), which assessed the frequency of parent-child conflict; (f) *level of battle*, ranging from 0 (*none*) to 3 (*major*), which assessed the severity of parent-child conflict; (g) *criticism*, ranging from 0 (*none*) to 4 (*considerable*), which represented the amount of parental criticism of the child; and (h) *disciplinary aggression*, ranging from 0 (*none*) to 4 (*aggressive*), which assessed the level of anger shown by the parent toward the child; (i) *defensive responding*, ranging from 0 (*not at all defensive*) to 4 (*extremely defensive*), which assessed the degree to which the parent appeared defensive in response to questioning about the child or the family, based on his/her willingness to answer interview questions and to admit to any difficulties. To provide interrater reliability ratings for the interview, data from 40 randomly selected families were coded by a second rater who was blind to family type. The intraclass correlation coefficients

(κ , $p < .001$) for expressed warmth, sensitive responding, amount of interaction, quality of interaction, frequency of battles, level of battles, criticism, and disciplinary aggression were .68, .82, .92, .85, 1.00, .81, .78, .79, and .80, respectively.

Given that multiple indicators of parenting were assessed, and to retain greater power for the analyses, we used principal components analysis (PCA) to create composite variables of positive and negative parenting. Higher scores reflected more positive parenting (i.e., enthusiasm about the child, recognition of the child's worries, shared activities, and enjoyment of the child's company) and negative parenting (i.e., frequent and severe conflict, criticism of the child's behavior or character, and physical aggression), respectively. These factors explained over 69% of the variance in the items and all of the factor loadings were above .70. The correlation between the positive and negative parenting factors was $r = -.42$, $p < .001$, showing a moderate negative relationship.

Parent-child interaction. Within each family, each parent-child dyad participated in a video-recorded observational task that lasted 5 to 10 minutes. In order to avoid practice effects, the Etch-A-Sketch task (Stevenson-Hinde & Shouldice, 1995) was used with Parent A and the Co-Construction task (Steele et al., 2007) was used with Parent B. In the 25 (31.2%) families in which parents shared parenting equally, tasks were randomly assigned. The Etch-A-Sketch is a drawing tool with two dials that allow users to draw vertically and horizontally, respectively. In the task, parent and child were asked to copy a picture of a house, each using one dial only, with clear instructions not to use the other dial. In the Co-Construction task, parent and child were given a set of wooden building blocks and

instructed to build something together using as many blocks as possible. The Etch-A-Sketch and Co-Construction sessions were video-recorded and coded using the Parent–Child Interaction System (PARCHISY; Deater-Deckard & Petrill, 2004) to assess the construct of mutuality – that is, the extent to which the parent and child engaged in positive dyadic interaction characterized by warmth, mutual responsiveness, and cooperation.

The following variables were rated on a 7-point scale ranging from 1 (*no instances*) to 7 (*constant, throughout interaction*): (a) *parent's responsiveness to child*, which assessed the extent to which the parent responded immediately and contingently to the child's comments, questions, or behaviors; (b) *child's responsiveness to parent*, which assessed the extent to which the child responded immediately and contingently to the parent's comments, questions, or behaviors; (c) *dyadic reciprocity*, which assessed the degree to which the dyad showed shared positive affect, eye contact, and “turn-taking”; and (d) *dyadic cooperation*, which assessed agreement over whether and how to proceed with the task. To establish interrater reliability, half of the video recordings ($n = 80$) were randomly selected and coded by a second rater. The intraclass correlations (κ , $p < .001$) for parent's responsiveness to child, child's responsiveness to parent, dyadic reciprocity, and dyadic cooperation were .88, .86, .79, and .75, respectively.

Perceived stigma. Stigmatization experienced by parents was measured using an adaptation of the 10-item subscale of a measure developed by Berger, Ferrans, and Lashley (2001) to assess HIV-related stigma (Golombok et al., 2017). The measure produces a total score, with higher scores indicating more negative experiences. The scale has been shown to have high internal consistency

(Cronbach's $\alpha = .90$) and construct validity (Frost, Parsons, & Nanin, 2007). Cronbach's α for the present sample was .87.

Data Analysis

Power Analyses

Power analyses were conducted to determine power levels for the analyses of principal interest. Alpha levels were set to .05. Following Cohen's recommendations (1988) for measuring small, medium, and large effect sizes, f^2 levels were set to .10, .30, and .50, respectively, for bivariate correlations and chi-square tests; and .10, .25, and .40, respectively, for paired-samples t-tests. For bivariate correlations ($n = 80$), power reached .99. For chi-square tests with one degree of freedom ($n = 80$) among the two family groups, power reached .99 for large, .76 for medium, and .14 for small effects. For chi-square tests with two degrees of freedom ($n = 80$) among the two family groups, power reached .98 for large, .66 for medium, and .11 for small effects. For the paired-samples t-test using teacher-report data ($n = 74$), power reached .99 for large and medium, and .55 for small effects. We deduced that, while our analyses were not sufficiently powered to detect small effects (e.g., $d = .20$), they were adequately powered to detect medium (e.g., $d = .50$) and large (e.g., $d = .80$) effects.

Data Analytic Plan

Hierarchical linear modeling (HLM; Kenny, Kashy, & Cook, 2006) was used to control for sources of shared variance and data dependency within families due to the nested structure of the data; that is, the parents in each family were not

treated as independent from one another in their individual reports of the variables of interest. Specifically, HLM adjusts the error variance for the interdependence of partner outcomes within the same dyad, resulting in more accurate standard errors and associated hypothesis tests. This procedure is particularly recommended for research on dyads that can be considered indistinguishable, such as same-sex parents (Kenny et al., 2006; Smith, Sayer, & Goldberg, 2013).

The basic equation for this conditional model can be described as:

$$\text{Level 1: } Y_{ij} = b_{0i} + b_1(\text{Gay}) + e_{ij}$$

$$\text{Level 2: } b_{0i} = \gamma_{00} + u_{0j}$$

In the level 1 equation, the outcome variable Y_{ij} corresponds to the average levels of each family calculated for an outcome variable. The overall level of the outcome variable in lesbian mother families is represented by b_{0i} , the intercept coefficient. The effects of being in a family with “gay versus lesbian” parents on the outcome variable is represented by b_1 , and the error term is e_{ij} . Level 2 reflects the family level. Thus, no predictors of interest were entered, but it was included to control for shared variance between parents within the same family. The random effect for the intercept term in Level 2 specifically accounts for within-participant dependence in the repeated observations from two parents for each child.

For the following analyses, there were 160 participants nested within 80 families. SPSS (version 24) was used to estimate the model parameters. Dichotomous variables were effects coded (gay fathers = - 1, lesbian mothers = 1 for family type; boy = -1, girl = 1 for child gender) so that estimates for other predictors would cross categories. All continuous variables were grand mean

centered to reduce collinearity. Effects that were significant at $p < .05$ were interpreted.

First, we performed an unconditional mixed ANOVA with random effects with only the outcome variables of interest (i.e., child internalizing and externalizing problems, positive parenting, negative parenting, parent responsiveness, child responsiveness, dyadic reciprocity, dyadic cooperation, and perceived stigma) and no predictors. Intraclass correlation coefficients (Cohen's kappa, $p < .001$) from the unconditional models, which provided variability measures at Level 2 (the family level), were .38–.87 ($M = .61$), meaning that 38–87% of the variation in outcome variable scores was between families. These measures exceeded the suggested cutoff value of 25% to require HLM (Guo, 2005).

Hypothesis 1, that gay father surrogacy families would face greater difficulties than donor insemination families headed by lesbian mothers in terms of parenting, parent–child relationships, stigmatization, and child psychological adjustment, was tested first in a conditional model, with models specified separately for each outcome variable. In a second conditional model, we examined Hypothesis 2 to determine whether family processes would matter more than family structure for child outcomes. In this model, we focused on child internalizing and externalizing problems as our dependent variables of interest. Family type remained the main predictor at Level 1. Other predictors entered into the model at Level 1 were negative and positive parenting, parent responsiveness, and stigmatization. Child gender and household income were entered as covariates to control for their effect on externalizing and internalizing problems, respectively. To test Hypothesis

3, that gay parents would tend to report better outcomes for their children than teachers, a paired-samples t-test was conducted.

Results

Correlational Analyses

We explored possible associations between family process variables and outcomes for children and parents, regardless of family type (see Table 2). For these analyses, data were reduced such that the two parents' scores within each family were averaged to provide a composite family score; this method was similar to that used by Farr, Forssell, and Patterson (2010). Before undertaking data reduction, we confirmed that parents' scores within couples for child externalizing problems, $r = .65, p < .001$; child internalizing problems, $r = .69, p < .001$; positive parenting, $r = .76, p < .001$; negative parenting, $r = .69, p < .001$; parent responsiveness, $r = .46, p < .001$; child responsiveness, $r = .38, p < .001$; dyadic reciprocity, $r = .47, p < .001$; dyadic cooperation, $r = .38, p < .001$; and perceived stigma, $r = .88, p < .001$, were significantly correlated.

Results showed that teachers' and parents' reports of internalizing problems, $r = .34, p < .01$, and externalizing problems, $r = .45, p < .01$, were significantly associated. Moreover, parents who were less wealthy, $r = -.37, p < .01$, showed lower positive parenting, $r = -.39, p < .001$; higher negative parenting, $r = .52, p < .001$; and lower responsiveness, $r = -.43, p < .01$. Furthermore, these parents experienced greater stigmatization, $r = .48, p < .001$, and described their children as having more internalizing problems. Parents with a male child, $r = -.34, p < .01$, showed lower positive parenting, $r = -.36, p < .01$; higher negative parenting, $r =$

.57, $p < .001$; and lower responsiveness, $r = -.30$, $p < .01$. They also experienced greater stigmatization, $r = .57$, $p < .001$, and described their children as having more externalizing problems.

Because household income and child's gender were associated with internalizing and externalizing problems, respectively, they were included as covariates in the related analyses. Parents' age and household income were not associated with the outcome variables (aside from the abovementioned significant relationship between income and parent-reported emotional problems), though the gay fathers were significantly older and economically better off than the lesbian mothers.

Table 2 Bivariate Correlations Among Family Process Variables, Children's and Parents' Characteristics

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Child age	1	-.14	.30***	.33**	.01	.06	-.01	.01	.05	.09	.02	.40***	.23*	.27*	.01
2. Child gender		1	-.04	.01	.01	-.34**	.07	-.29*	-.09	-.22*	-.04	-.09	-.01	-.10	-.17
3. Parent age			1	.45***	-.08	-.05	-.16	-.15	.09	-.02	-.09	.10	.07	.04	.10
4. Household income				1	-.37**	-.04	-.12	.05	.22	-.15	.26*	.11	.22	.07	-.09
5. Internalizing problems-p					1	.03	.34**	-.04	-.39***	.52***	-.43***	-.20	-.10	-.08	.48***
6. Externalizing problems-p						1	.01	.45***	-.36**	.57***	-.30**	-.01	-.16	-.01	.57***
7. Internalizing problems-t							1	.41***	-.21	.17	-.15	.02	-.06	-.15	.20
8. Externalizing problems-t								1	-.07	.27*	-.13	-.09	.04	-.10	.24*
9. Positive parenting									1	-.42***	.59***	.24*	.35**	.05	-.30**
10. Negative parenting										1	-.36**	-.10	-.14	.02	.57***
11. Parent responsiveness											1	.37**	.51***	.33**	-.36**
12. Child responsiveness												1	.46**	.52**	-.13
13. Dyadic reciprocity													1	.41***	-.16
14. Dyadic cooperation														1	-.15
15. Perceived stigma															1

Note. Internalizing problems-p, externalizing problems-p = parents' reports. Internalizing problems-t, externalizing problems-t = teachers' reports. * $p < .05$. ** $p < .01$. *** $p < .001$.

Parenting Quality, Parent–Child Relationships, Stigmatization, and Child Adjustment as a Function of Family Type

HLM analyses were conducted to evaluate Hypothesis 1 on the effect of family type on child outcome measures, family processes, and stigmatization (see Table 3). Results revealed that children of gay fathers showed significantly lower levels of parent-reported internalizing problems than children of lesbian mothers, $b = .54$, $t(79) = 2.41$, $p = .02$. An alternative model, using household income as the predictor, suggested a similar association, with higher income families reporting lower internalizing problems in their children, $b = <-.01$, $t(112) = -2.78$, $p = .01$. The introduction of family type and household income as simultaneous predictors of internalizing problems led family type to trend towards significance, $b = .43$, $t(84) = 1.93$, $p = .06$, whilst household income remained significant, $b = <-.01$, $t(106) = -2.35$, $p = .02$. Though the two predictors were significantly related, $r = -.48$, $p < .001$, the effects could not have been caused by multicollinearity, as the tolerance and variance inflation factor (VIF) values of collinearity were within acceptable levels ($>.50$ and <2 , respectively; Tabachnick & Fidell, 2012).

To determine whether family type or household income was the key predictor of internalizing problems, a further model was specified, whereby the indicator of internalizing problems was regressed onto family type, household income, and the interaction between both variables. Household income remained a significant predictor of higher internalizing problems, $b = <-.01$, $t(113) = -2.87$, $p = .01$, but neither family type, $b = .34$, $t(88) = 1.53$, $p = .13$, nor their interaction, $b = <-.01$, $t(113) = -1.69$, $p = .09$, became significant. This suggests that the key predictor of higher internalizing problems, as reported by parents, was household

income. When the analysis was repeated using teachers' ratings, children's internalizing problems did not differ as a function of family type, $F(1,72) = 1.75, p = .19$.

Differences were found between gay father families and lesbian mother families in terms of stigmatization, with gay fathers perceiving higher stigmatization than lesbian mothers, $b = -1.07, t(79) = -2.33, p = .02$. No other differences were found between family types, with scores on the individual variables reflecting high levels of positive parenting, $b = -.01, t(79) = -.09, p = .93$, low levels of negative parenting, $b = -.01, t(79) = -.02, p = .98$, good levels of parent-child interaction (i.e., parent responsiveness, $b = -.06, t(79) = -.45, p = .65$; child responsiveness, $b = .03, t(79) = .22, p = .82$; dyadic reciprocity, $b = -.10, t(79) = -.82, p = .41$; and dyadic cooperation, $b = .16, t(78) = 1.14, p = .26$), and low levels of externalizing problems, as reported by parents, $b = -.08, t(79) = -.30, p = .76$. Again, when the analysis was repeated using teachers' ratings, children's externalizing problems did not differ between family types, $F(1,72) = .02, p = .88$. Average scores of defensive responding in the interviews were very low in both groups ($M = .76, SD = .67$ for gay fathers; $M = .65, SD = .64$ for lesbian mothers), with no differences between family types, $F(1, 78) = .59, p = .45$.

The child psychiatrist identified slight adjustment difficulties among only two (5%) children of gay fathers (one with behavioral problems and one with emotional problems) and one (2.5%) child of lesbian mothers (with emotional problems). The psychiatrist's ratings showed no difference in the proportion of children with a psychiatric disorder between family types, Fisher's exact test, $p = .62$.

Table 3 Parenting, Parent–Child Relationship, Perceived Stigma, and Child Adjustment as Predicted by Family Type

Fixed effects	Positive Parenting			Negative Parenting			Parent responsiveness		
	<i>b</i>	<i>SE</i>	<i>t</i> (79)	<i>b</i>	<i>SE</i>	<i>t</i> (79)	<i>b</i>	<i>SE</i>	<i>t</i> (79)
Intercept	<.01	.10	.09	<.01	.10	.02	<.01	.13	.01
Gay fathers	<-.01	.10	-.09	<-.01	.10	-.02	-.06	.13	-.45
Random effects	σ^2	<i>SE</i>	<i>Z</i>	σ^2	<i>SE</i>	<i>Z</i>	σ^2	<i>SE</i>	<i>Z</i>
Residual	.24	.04	6.29***	.31	.05	6.31***	.93	.15	6.32***
Intercept	.76	.14	5.36***	.68	.13	5.03***	.81	.22	3.76***

Fixed effects	Child responsiveness			Dyadic reciprocity			Dyadic cooperation		
	<i>b</i>	<i>SE</i>	<i>t</i> (79)	<i>b</i>	<i>SE</i>	<i>t</i> (79)	<i>b</i>	<i>SE</i>	<i>t</i> (78)
Intercept	<.01	.11	.02	<.01	.12	.05	<-.01	.14	-.07
Gay fathers	.03	.11	.22	-.10	.12	-.82	.16	.14	1.14
Random effects	σ^2	<i>SE</i>	<i>Z</i>	σ^2	<i>SE</i>	<i>Z</i>	σ^2	<i>SE</i>	<i>Z</i>
Residual	.94	.15	6.32***	.81	.13	6.32***	1.51	.24	6.28***
Intercept	.60	.18	3.23**	.70	.19	3.73***	.92	.30	3.11**

Fixed effects	Perceived stigma			Externalizing problems			Internalizing problems		
	<i>b</i>	<i>SE</i>	<i>t</i> (79)	<i>b</i>	<i>SE</i>	<i>t</i> (79)	<i>b</i>	<i>SE</i>	<i>t</i> (79)
Intercept	-.02	.46	-.04	.02	.26	.08	-.01	.22	-.05
Gay fathers	-1.07	.46	-2.33*	-.08	.26	-.30	.54	.22	2.41*
Random effects	σ^2	<i>SE</i>	<i>Z</i>	σ^2	<i>SE</i>	<i>Z</i>	σ^2	<i>SE</i>	<i>Z</i>
Residual	2.58	.41	6.30***	2.34	.37	6.30***	1.59	.25	6.30***
Intercept	15.92	2.75	5.79***	4.7	.90	4.84***	3.26	.66	4.94***

Note. Intercept at Level 1 = overall level of the outcome variable in lesbian mother families. Gay fathers = degree to which the score differed between gay father families and lesbian mother families. Level 2 was included to account for parents nesting into children (two parents reported for each child), but no predictors were tested. * $p < .05$. ** $p < .01$. *** $p < .001$.

Family Processes Versus Structure in Relation to Child Outcomes

To evaluate Hypothesis 2, that family processes would be more strongly associated with child outcomes than would family structure, as rated by parents, a second set of conditional models was run using HLM (see Table 4). Results indicated that children's internalizing problems were predicted by higher levels of stigmatization, $b = .14$, $t(129) = 3.29$, $p = .001$, and lower income, $b = -.01$, $t(129) = -2.32$, $p = .01$. Moreover, lesbian mothers reported higher levels of internalizing problems in their children, $b = .56$, $t(87) = 3.02$, $p = .003$. Negative parenting, $b = .31$, $t(151) = 1.71$, $p = .09$, positive parenting, $b = -.22$, $t(143) = -1.18$, $p = .24$, and parent responsiveness, $b = -.17$, $t(149) = -1.36$, $p = .18$, showed no significant effects.

Consistent with our hypothesis, children's externalizing problems were predicted by family processes, such as higher stigmatization, $b = .17$, $t(129) = 3.46$, $p = .001$, and more negative parenting, $b = .73$, $t(152) = 3.52$, $p = .001$, but not by family type, $b = .13$, $t(78) = .64$, $p = .53$. Though the first two predictors were significantly related, $r = .57$, $p < .001$, the effects could not have arisen due to multicollinearity, as the tolerance and VIF values of collinearity were within acceptable levels (Tabachnick & Fidell, 2012). Neither positive parenting, $b = -.37$, $t(144) = -1.77$, $p = .08$, nor parent responsiveness, $b = -.12$, $t(148) = .88$, $p = .39$, showed significant effects. Finally, male children were reported to have more externalizing problems, $b = -.53$, $t(77) = -2.61$, $p = .01$. When the analyses were conducted using teacher-reported externalizing and internalizing problems, none of the paths was significant, except for the effect of child's gender on externalizing problems, $b = -.25$, $t(67) = -2.14$, $p = .04$.

Table 4 *Changes in Parent-Rated Children's Externalizing and Internalizing Problems as Predicted by Family Processes and Structure Following the Bootstrapping Procedure*

	Externalizing problems									
	Original sample (n = 160)						Bootstrapping (n = 1,000)			
	<i>b</i>	<i>SE</i>	<i>t(df)</i>	<i>p</i>	<i>Lower CI</i>	<i>Upper CI</i>	<i>SE</i>	<i>p</i>	<i>Lower CI</i>	<i>Upper CI</i>
Fixed effects										
Intercept	.06	.20	.32(74)	.75	-.33	.45	.13	.57	-.19	.30
Gay fathers	.13	.20	.66(78)	.53	-.27	.54	.14	.26	-.16	.38
Child gender	-.53	.20	-2.62(77)	.01	-.93	-.13	.14	.001	-.80	.27
Positive parenting	-.37	.21	-1.77(144)	.08	-.78	.04	.24	.13	-.83	.28
Negative parenting	.73	.21	3.53(152)	.001	.32	1.14	.22	.003	.29	1.30
Perceived stigma	.17	.05	3.47(129)	.001	.07	.27	.05	.001	.08	.24
Parent responsiveness	.12	.14	.92(148)	.39	-.15	.41	.21	.56	-.38	.60
Random effects	σ^2	<i>SE</i>	<i>Z</i>	<i>p</i>	<i>Lower CI</i>	<i>Upper CI</i>	<i>SE</i>	<i>p</i>	<i>Lower CI</i>	<i>Upper CI</i>
Residual	2.26	.37	6.18	.000	1.64	3.10	.31	.64	.	.
Intercept	1.93	.54	3.57	.000	1.12	3.35	.51	.001	.	.

	Internalizing problems									
	Original sample (<i>n</i> = 160)						Bootstrapping (<i>n</i> = 1,000)			
	<i>b</i>	<i>SE</i>	<i>t(df)</i>	<i>p</i>	<i>Lower CI</i>	<i>Upper CI</i>	<i>SE</i>	<i>p</i>	<i>Lower CI</i>	<i>Upper CI</i>
Fixed effects										
Intercept	-.01	.17	-.01(74)	.99	-.35	.45	.12	.99	-.22	.23
Gay fathers	.56	.19	3.02(87)	.003	.19	.54	.14	.001	.30	.77
Household income	-.01	.01	-2.32(121)	.01	-.01	-.13	.01	.04	-.01	.01
Positive parenting	-.22	.18	-1.18(142)	.24	-.58	.04	.26	.39	-.81	.33
Negative parenting	.31	.18	1.71(151)	.09	-.05	.67	.22	.17	-.05	.60
Perceived stigma	.14	.04	3.29(129)	.001	.06	.23	.06	.05	.06	.16
Parent responsiveness	-.17	.12	-1.36(149)	.18	-.42	.08	.13	.22	-.55	.18
Random effects	σ^2	<i>SE</i>	<i>Z</i>	<i>p</i>	<i>Lower CI</i>	<i>Upper CI</i>	<i>SE</i>	<i>p</i>	<i>Lower CI</i>	<i>Upper CI</i>
Residual	1.81	.30	6.11	.000	1.31	2.49	.34	.67	.	.
Intercept	1.55	.43	3.51	.000	.87	2.65	.75	.001	.	.

Note. Intercept at Level 1 = the overall level of the outcome variable in lesbian mother families. Gay fathers = degree to which the score differed between gay father families and lesbian mother families. CI = 95% confidence interval. Level 2 was included to account for parents nesting into children (two parents reported for each child), but no predictors were tested.

Comparisons Between Gay Fathers' and Teachers' Reported Measures of Child Adjustment

A paired-samples t-test was conducted to compare children's internalizing and externalizing problems, as rated by their fathers and teachers (see Table 5). There were no significant differences in the scores for internalizing problems, as rated by parents ($M = 1.82$, $SD = 1.78$) and teachers ($M = 2.00$, $SD = 2.15$), $t(36) = -.48$, $p = .64$, or in those for externalizing problems, as rated by parents ($M = 3.96$, $SD = 2.39$) and teachers ($M = 3.76$, $SD = 3.18$), $t(36) = .40$, $p = .69$. Thus, fathers did not report better adjustment outcomes in their children relative to teachers.

Table 5 *Changes in Parent- and Teacher-Rated Children's Externalizing and Internalizing Problems Following the Bootstrapping Procedure*

	Original sample ($n = 37$ gay father families)				Bootstrapping ($n = 1,000$)			
	<i>SE</i>	<i>p</i>	<i>Lower CI</i>	<i>Upper CI</i>	<i>SE</i>	<i>p</i>	<i>Lower CI</i>	<i>Upper CI</i>
Externalizing problems	.50	.69	-.82	1.22	.49	.69	-.80	1.13
Internalizing problems	.37	.64	-.92	.57	.37	.64	-.88	.57

Note. CI = 95% confidence interval.

Bootstrapping Simulation

Because our sample ($n = 160$ parents in 80 families) was not sufficiently large to detect small effects and power analyses for HLM could not be performed before data collection as the covariance structure was not known, we used bootstrapping to understand the stability of our results within a larger simulated sample ($n = 1,000$ parents in 500 families). Results suggested that repeated samples with $n < 1,000$ parents would not likely detect different statistically significant effects from those detected by our sample for any of the dependent variables of interest (see Tables 4 and 5).

Discussion

This was one of the first controlled and in-depth studies to have examined the psychological adjustment of children born through surrogacy in gay father families. Contrary to concerns that the practice of surrogacy (and particularly its use by gay men) may have adverse effects on children's health outcomes (Armuand et al., 2017; Golombok, 2015; Ioverno et al., 2017), in this study, parents and teachers reported that children's externalizing and internalizing difficulties were very low in relation to the cutoff point for clinical problems.

As also found by Golombok and colleagues (2017), gay parents reported lower levels of internalizing problems in their children than did lesbian mothers, though scores of both groups were within the normal range and the effect of family type on higher levels of internalizing problems became non-significant when entered as a simultaneous predictor with family income. A number of factors may have been associated with this result. First, studies of heterosexual parent families have found that fathers generally show lower levels of parental sensitivity than do mothers (Kwon, Jeon, Lewsader, & Elicker, 2012; Schoppe-Sullivan et al., 2006) and that mothers are more influential than fathers in children's development of internalizing problems (Bögels, Stevens, & Majdandžić, 2011; Connel & Goodman, 2002). Whether this is also true for families with same-sex parents warrants further investigation, though the single study that has been conducted on adoptive gay father families did not find gay fathers to be less sensitive than mothers (Golombok et al., 2014). Second, due to the different ways in which men and women are socialized to parent (Fagan et al., 2014), gay fathers might have been less capable of detecting their children's internalizing problems than lesbian mothers, because

such problems are more difficult to detect than externalizing problems. Third, gay fathers' higher socio-economic status, together with the greater planning required for engaging in surrogacy relative to donor insemination, may have resulted in more resilient gay parents who exerted more positive effects on their children's emotional well-being. Finally, to the extent that there is a genetic influence on the development of emotional disorders in children (Gregory & Eley, 2007), the finding that children born through donor insemination were more likely to display higher levels of internalizing problems than were children born through surrogacy and egg donation engages with the call for more accurate and rigorous screening of sperm donors (Frith & Blyth, 2014). Of note, ratings of internalizing and externalizing problems were not associated with family type when reported independently by teachers and a child psychiatrist.

As hypothesized, the behavioral problems of children born to gay fathers through surrogacy were not associated with family structure but with social and family processes such as negative parenting and homophobic stigmatization, with parents demonstrating higher levels of these variables reporting their children to show more behavioral problems. This is in line with the large body of research highlighting that children's externalizing problems are associated with both negative parenting (Bornstein, 2002; Collins et al., 2000) and the stigmatization of gay and lesbian parent families (Bos & Gartrell, 2010; Bos & van Balen, 2008; Golombok et al., 2017; Lamb, 2012). Stigmatization, but not parenting quality, was also associated with children's internalizing problems, as reported by parents, suggesting that parents' experience of stigmatization due to their non-traditional

family structure and path to parenthood was a strong predictor of children's psychological difficulties (Golombok et al., 2017).

Contrary to our expectations, parenting and mutuality did not differ between family types. Gay father and lesbian mother families were characterized by similar levels of positive and negative parenting, as assessed by the interview, as well as by similar levels of parent and child responsiveness, dyadic reciprocity, and cooperation, as assessed by direct observation. Nevertheless, in terms of perceived stigma, gay fathers reported higher levels of stigmatization than did lesbian mothers. This is unsurprising, given that gay fathers raise children in a socio-cultural context in which motherhood and womanhood are believed to be primary and fatherhood is held to be secondary, and thus they are stereotyped as less capable or less invested in childcare (Ioverno et al., 2017). Even among people who feel they are not homophobic, questions may emerge about whether a child can thrive without a mother or an other-sex parent in the home. In addition, gay men experience minority status as both gay in the heterosexual parenting community and fathers in the gay community (Armesto, 2002).

Criticism of research on children with same-sex parents often relates to statistical power, but such a critique could not be levelled against the present findings. Power analyses revealed that our sample size was sufficiently large to detect medium and large effect sizes, and the bootstrapping simulation revealed that a larger sample size would be unlikely to reveal differences in child or parent outcomes as a function of family type. A further strength of this study is that almost all teachers agreed to participate (92.5%), with no differences in the proportion of missing teachers' questionnaires across family types. The teacher questionnaire

thus provided an independent rating of emotional or behavioral problems in the children, confirming the non-clinical scores of psychological problems reported by parents.

It could be argued that gay fathers may have played down parenting difficulties and the presence of psychological problems in their children – either as a reaction to the stigma associated with gay male parenthood and the use of surrogacy or because they felt they must live up to high expectations of themselves as fathers, given the common assumption that gay fathers are unfit to parent. However, one advantage of the study was the multimethod (drawing on interviews, observations, and questionnaires) and multi-informant (involving parents, children, teachers, and a child psychiatrist) design. The interview procedure, which involved lengthy and detailed questioning as well as the assessment of non-verbal aspects of parents' responses, was designed to minimize socially desirable responding. Furthermore, parents' scores of defensive responding were very low. While the interviewers may have introduced bias, either through the interview procedure or the coding of interview material, any bias would have been minimized by the very detailed coding criteria. Furthermore, the second rater was blind to family type. Finally, the observational measure produced a detailed, objective assessment of the dynamics of the parent–child relationship, less influenced by the observed subject's tendency to “fake good” (Aspland & Gardner, 2003).

However, the study also had a number of limitations. The convenience nature and the demographics of the sample (i.e., high socio-economic status, predominantly Caucasian) prevent the findings from being generalizable to all gay father families formed through surrogacy. Because it was not possible to access a

representative sample from a national database, a variety of recruitment procedures were used to obtain as diverse a sample as possible. Moreover, this study focused on child outcomes as dependent measures and family variables as independent variables, but we acknowledge that the parent–child relationship is reciprocal and bidirectional (Bornstein, 2002; Collins et al., 2000). Finally, because this was a cross-sectional study, it would be valuable for further research to contribute longitudinal data.

The formation of gay father families through surrogacy and egg donation provides a stricter paradigm for assessing the impact of the simultaneous absence and presence of a genetic connection between fathers and their children than adoption, whilst controlling for parents' sexual orientation and avoiding the potentially confounding effects of adverse environmental factors such as neglectful or abusive parenting that are experienced by some children in the years prior to adoption. Moreover, comparing gay father and lesbian mother families formed by surrogacy and donor insemination, respectively, it is possible to examine the effects of parental gender on child development by controlling for the number of parents and the use of third-party reproduction. Although such “natural experiments” present methodological problems, they are extremely informative in their ability to differentiate factors that would otherwise co-occur in families with heterosexual parents (Rutter, 2007; Rutter, Pickles, Murray, & Eaves, 2001).

The findings of the present study add weight to the growing body of literature on adoptive gay fathers (Farr, 2017; Farr & Patterson, 2013; Farr et al., 2010; Goldberg, 2010; Golombok et al., 2014, 2017) and provide preliminary data on gay fathers through surrogacy (Baiocco et al., 2015; Carone, Baiocco, Ioverno,

Chirumbolo, & Lingiardi, 2017; Crouch et al., 2014; Golombok et al., 2017), highlighting that men can be just as competent as women at parenting (Fagan et al., 2014). The findings also indicate that neither gay male parenthood nor the absence of a female parent in the home necessarily have detrimental consequences for child adjustment (Carneiro, Tasker, Salinas-Quiroz, Leal, & Costa, 2017) and that the quality of family relationships has a greater influence on children's psychological adjustment than the presence or absence of a genetic link between parent and child (Golombok, 2017).

Research on gay father surrogacy families is of interest not only for its potential to increase our theoretical understanding of child socialization and development (Bornstein, 2002; Collins et al., 2000; Lamb, 2012), but also because it provides insight into legal controversies and social policy surrounding the optimal health and well-being of children with same-sex parents (Committee on Psychosocial Aspects of Child and Family Health, 2013). This is particularly relevant in countries such as Italy, where assisted reproduction for gay and lesbian people is banned, social attitudes towards same-sex parent families are fairly negative, and legislation does not recognize the relationship between the non-genetic/non-legal parent and the child (Ioverno et al., 2017). Yet this study indicates that young children in both gay father and lesbian mother families enjoy a positive and nurturing family environment characterized by high levels of positive parenting (i.e., with warmth, sensitive responding, and a high amount and quality of interaction), low levels of negative parenting (i.e., infrequent and unsevere battles, low criticism, and less disciplinary aggression), and a good parent-child relationship. However, these children may face prejudice from the outside world.

The present study did not include a heterosexual comparison group. However, in light of the high psychological well-being of children in both family types, as indicated by parents, teachers, and a child psychiatrist, it would be unrealistic to consider children born to same-sex parents through assisted reproduction at greater risk of developing psychological problems than children born to heterosexual parents through spontaneous conception or assisted reproduction. It is therefore empirically unfounded for policy-makers to ban intended gay and lesbian parents from accessing fertility treatments and to deny gay father and lesbian mother families the same civil rights and social benefits allowed to heterosexual parent families. At the same time, it would be erroneous to overlook or minimize the potential impact of stigmatization on child development, and both policy-makers and practitioners working with gay father and lesbian mother families should support coping responses to deal with it. It is important to follow up on these families as the children reach adolescence, as adolescence represents a transitional point in child development when stresses associated with family structure may be more acutely felt and issues surrounding identity formation in relation to the method of conception become salient (Golombok, 2015, 2017). Additionally, as children grow older, their parents' roles may shift, altering their behavior, the nature of the parent-child relationship, and children's adjustment (Bornstein, 2002).

Chapter 2 Gender-typed play behavior of boys and girls with gay and lesbian parents

Introduction

Since the rise of same-sex parent families through assisted reproduction, wherein children grow up with lesbian mothers or gay fathers from birth, concerns have been expressed that these children will develop a confused or non-conforming gender identity, express inappropriate gender roles, be less differentiated in their gender-related play and activity, and be more likely to report same-sex attraction or engage in a same-sex relationship because they lack different-sexed parents (Biblarz & Stacey, 2010; Gato & Fontaine, 2013). Whether – and to what degree – children with gay fathers or lesbian mothers differ by family type depends on the extent to which parents influence their children’s gender development.

Although several predictions may arise from the different theories considered, there is general agreement that sex-typed behavior results from the interplay between biological (e.g., genetic influences and prenatal sex hormones) (Hines, 2004, 2010a; Iervolino, Hines, Golombok, Rust, & Plomin, 2005), psychological (e.g., personality traits, self-regulation, self-efficacy; Antill, Russell, Goodnow, & Cotton, 1993; Bandura, 1986; Bussey & Bandura, 1999), social (e.g., parents, siblings, and peers; Bandura, 1977; Dawson, Pike, & Bird, 2015; Halpern & Perry-Jenkins, 2016; Maccoby, 1998; Mischel, 1966; Rust, Golombok, Hines, Johnston, & Golding, 2000), and cognitive (e.g., gender schemas; Bem, 1981; Martin & Ruble, 2010) factors, from early fetal development onward (Golombok & Fivush, 1994; Hines, 2010b; Ruble, Martin, & Berenbaum, 2006).

With regard to children's gender-typed behavior during play – the gender development focus investigated in this study – it has been largely demonstrated that children choose gender-stereotyped toys and activities from as early as 18 months of age, with boys preferring masculine stereotyped toys and play activities (e.g., toy vehicles, toolsets, swords, balls, toy guns) and girls preferring feminine stereotyped toys and play activities (e.g., tea sets, art activities, dolls, dress-up) (Caldera, Huston, & O'Brien, 1989; Golombok & Rust, 1993a, 1993b; Golombok et al., 2008; Jadvá, Hines, & Golombok, 2010). These patterns are fairly well established by the age of 3 years (Martin & Ruble, 2010), remain stable across development (Golombok, Rust, Zervoulis, Golding, & Hines, 2012), and become more pronounced during middle childhood (Ruble & Martin, 1998).

Research examining the role of parental sexual orientation or gender in children's gender-typed attitudes and behavior has been mainly limited to comparisons of children raised by lesbian mothers with those raised by heterosexual parents. Some studies have found a significant effect of parental sexual orientation or gender on children's gender-typed attitudes, regardless of child gender. For example, in the UK, MacCallum and Golombok (2004) compared 25 lesbian mother families and 38 single heterosexual mother families with 38 two-parent heterosexual parent families, all with children aged approximately 12 years. They found that boys in lesbian mother and single heterosexual mother families scored higher on a measure of feminine characteristics, but no lower on masculine characteristics, than boys in heterosexual parent families. No differences emerged in the femininity or masculinity scores of girls across family types. In the US, Sutfin, Fulcher, Bowles, and Patterson (2008) compared children aged 4 to 6 years

in 29 lesbian mother families and 28 heterosexual parent families and found that children, regardless of gender, in lesbian mother families demonstrated less traditional gender attitudes (i.e., more tolerance of peers' gender transgressions) than children in heterosexual parent families. In another US study, Fulcher, Sutfin, and Patterson (2008) compared 33 children with lesbian mothers with 33 children with heterosexual parents, all aged approximately 5 years. Children did not differ in their knowledge of gender stereotypes or their preference for current or future activities by family type, though children of lesbian parents found gender transgressions committed by boys to be less serious than children of heterosexual parents. In the Netherlands, Bos and Sandfort (2010) studied children aged 8 to 12 years in 63 lesbian mother families and 68 heterosexual parent families and found that children, regardless of gender, in lesbian mother families felt less pressure to conform to gender stereotypes and were less likely to view their own gender as superior, compared to children in heterosexual parent families.

Other studies have failed to find differences in children's gender-typed behavior between lesbian and heterosexual parent families. Golombok and colleagues (2003) used the Pre-School Activity Inventory (Golombok & Rust, 1993a, 1993b) to examine the gender-typed activities and behavior of children aged 7 years in 39 lesbian mother, 60 single mother, and 74 heterosexual two-parent families in the UK and found no differences in behavior as a function of family structure. The somewhat mixed findings yielded by these studies may relate to differences in the gender-related outcomes assessed (e.g., gender-related attitudes, personality characteristics, and behavior), the ages of the children studied, and the cultural contexts in which the studies took place.

Recently, three studies have included gay father families in examinations of gender-typed play behavior in same-sex versus different-sex parent families. In a UK cross-sectional study of 41 gay father families, 40 lesbian mother families, and 49 heterosexual parent families with an adopted child aged 3 to 9 years, Golombok and colleagues (2014) found no differences in sex-typed behavior across family types. In the US, Farr, Bruun, Doss, and Patterson (2017) longitudinally investigated gender-typed behavior among adopted children in 24 lesbian, 26 gay, and 39 heterosexual two-parent families at two times over 5 years ($mean_{age} = 3$ years at Wave 1, 8 years at Wave 2). When children were preschool-aged, family type was not significantly associated with parent reports of children's PSAI gender-typed behavior (Farr, Forrsell, & Patterson, 2010). At Wave 2, observations of children's gender-conforming toy play and parents' reports of children's PSAI gender non-conformity at age 3 were associated with children's self-reports of gender non-conformity at age 8. Children's gender-typed behavior also varied according to age and gender at both time points, with older children appearing more gender-conforming than younger children, and boys' gender-typed behavior being more gender-conforming and less gender-non-conforming than girls' gender-typed behavior. However, no significant differences were found as a function of parental sexual orientation over time (Farr et al., 2017).

Different results were found by Goldberg and Garcia (2016), who examined patterns and predictors of parent-reported gender-typed play behavior in US adopted boys and girls in 56 lesbian, 48 gay, and 77 heterosexual two-parent families, across early childhood, at three time points ($mean_{age} = 2.82$ years at T1, 3.93 years at T2, and 6.06 years at T3). At T1, according to parent reports, boys

with lesbian parents were significantly less masculine in their play than were boys with heterosexual parents and boys with gay male parents. To a lesser extent, girls with lesbian parents were significantly less feminine in their play than were girls with heterosexual parents (Goldberg, Kashy, & Smith, 2012). Regardless of family type, the parent-reported gender-typed behavior of boys, but not girls, significantly changed over time, with boys' behavior becoming more masculine (Goldberg & Garcia, 2016). Although all three studies used the PSAI (Golombok & Rust, 1993a, 1993b) and involved adoptive families, inconsistencies in their results may reflect the fact that, in Goldberg et al.'s (2012) study (but not in Farr et al., 2017; and Golombok et al., 2014), all target children were young and the oldest children in the household – both factors known to influence child gender development (Golombok & Rust, 1993b; Rust et al., 2000).

To date, no study has investigated the gender-typed play behavior of children born through surrogacy in families headed by gay men. Insofar as gender-typed behavior is also hormonally and genetically mediated (Iervolino et al., 2005), research findings from adoptive gay father families cannot necessarily be extrapolated to gay father surrogacy families. In addition, children born to gay fathers through surrogacy may display different patterns of gender-typed behavior from those of children born to lesbian mothers through donor insemination, as fathers and mothers socialize their children differently, with respect to gender (Biblarz & Stacey, 2010; Jacklin et al., 1984; Leaper, 2002).

The Present Study

The present investigation was a controlled and multi-informant (i.e., involving parents and another family member or friend) study of gender-typed play behavior in children born to gay fathers through surrogacy. Children born to lesbian mothers through donor insemination were chosen as the comparison group in order to control for both the presence of two same-sex parents in the home and the use of assisted reproduction to conceive.

The study was grounded in the perspectives of social constructionism (West & Zimmerman, 1987) and social learning (Bandura, 1977; Mischel, 1966), which are frequently used to theorize about the gender-related attitudes and behavior of children raised by same-sex parents (Baumrind, 1995). They are useful theoretical frameworks, as they suggest that children's gender-related play behavior may differ according to family structure. In particular, social constructionism allows one to speculate, at a general level, how gay and lesbian parents may create different home environments that endorse or limit gender flexibility. In addition, social learning theory enables one to consider how the absence of a same-gender parent in the household might impact gender-typed play. Gay fathers and lesbian mothers, as men and women, may hold stereotypical views about what constitutes acceptable parenthood or male and female behavior (Biblarz & Stacey, 2010; Jacklin, DiPietro, & Maccoby, 1984; Leaper, 2002). As a result, their sons and daughters may show different gender-typed play behavior. This effect may be moderated by child gender, such that children who grow up in homes without a parent of their gender may be less gender-typed because they lack a same-gender model to emulate (Bussey & Bandura, 1999).

Of note, toy play is a domain of development in which social constructionism and learning theories particularly apply, as toys can serve as models of objects and behavior that are considered appropriate for one's own gender. In fact, because parents participate in children's gender socialization (e.g., by selecting toys for their young children), they implicitly or explicitly teach their children gender role behavior (Leaper, 2002). In addition, children, themselves, are remarkably astute in understanding what toys are considered gender-appropriate by the broader culture, even when their parents claim not to hold these stereotyped beliefs (Freeman, 2007).

The following hypotheses were tested:

(1) Children in gay father families would be more gender-typed in their play than children in lesbian mother families (i.e., there would be greater differences between the play behavior of boys and girls in gay father families than between the play behavior of boys and girls in lesbian mother families). As social constructionism theory (West & Zimmerman, 1987) suggests, gay fathers, as parents who deviate from norms relating to both gender and sexual orientation (Averett, 2016), may be less interested in challenging gendered norms, and thus less likely to initiate and reinforce cross-gendered play, relative to lesbian mothers.

(2) Boys and girls who lack a same-gender parent in the household to imitate and identify with would demonstrate less gender-typed play than boys and girls with a parent of the same gender. In keeping with social learning theory (Bandura, 1977; Mischel, 1966), which emphasizes the role of modeling in children's gender-typed play behavior, it was expected that boys in lesbian mother families would demonstrate less masculine (more feminine) play behavior than boys in gay father

families, and girls in gay father families would demonstrate more masculine (less feminine) play behavior than girls in lesbian mother families.

Method

Procedure

The wider study procedure is described in Chapter 1 (pp. 20–21). Data are presented from the perspective of the parent who identified as most involved with the child on a day-to-day basis (labeled “Parent A”; the other parent was labeled “Parent B”). This distinction was straightforward in most families ($n = 55$, 68.75 %); in the remaining families ($n = 25$, 31.25%), the “Parent A” label was assigned randomly. In order to obtain an independent assessment of children’s gender-typed behavior, a non-parent caregiver (i.e., a grandparent, uncle, aunt, or family friend) who frequently (i.e., weekly) spent time with the child was also asked to complete the questionnaire (with the parents’ permission). They were informed that their responses would not be reported back to the child’s family. Eighty non-parent caregivers (100%) returned the completed questionnaire.

Participants

The sample comprised 40 gay father families with a child born through surrogacy and egg donation and a comparison group of 40 lesbian mother families with a child born through sperm donation, all residing in Italy. Children were aged between 3 and 9 years ($mean_{age} = 6.1$ years). Participants’ characteristics are described in more detail in Chapter 1 (pp. 21–22).

Measures

Gender-typed play behavior. Gender-typed play behavior was assessed by Parent A and the non-parent caregiver, using the Preschool Activities Inventory (PSAI; Golombok & Rust, 1993a, 1993b). Although the original version of the questionnaire was designed for use with children aged 3 to 7 years (Golombok & Rust, 1993a), it has also been used successfully with older children (3 to 9 years) (Golombok et al., 2014). The PSAI consists of 24 items addressing three aspects of play behavior: toys (7 items; e.g., tea set, toolset), activities (11 items; e.g., taking care of imaginary babies, climbing), and characteristics (6 items; e.g., avoids getting dirty, enjoys rough and tumble play). Parents use a 5-point scale (ranging from 1 [*never*] to 5 [*very often*]) to rate the frequency with which their child plays with the toy, engages in the activity, or demonstrates the described characteristic. These items, which assess feminine or masculine play, are used to create masculine (12 items) and feminine (12 items) subscales. The feminine subscale is subtracted from the masculine subscale to create a composite measure (Golombok & Rust, 1993a). The PSAI scoring system was designed to overcome various sources of bias. For example, the use of a composite measure (as opposed to separate masculine/feminine scales) ensures that the number of toys available to the child does not artificially inflate the score. A higher score on the composite measure represents more masculine behavior and less feminine behavior. Moreover, the PSAI is designed to identify variations in gender role behavior both between sexes and within each sex, allowing “masculine” and “feminine” boys and girls to be differentiated (Golombok & Rust, 1993a). When using PSAI scores as outcomes in age homogenous samples, researchers are advised not to age standardize; however,

for the purposes of direct comparison, scores should be standardized according to age (Golombok & Rust, 1993b), as performed in this study.

In the standardization sample (Golombok & Rust, 1993a), the mean composite PSAI score for all children was 51.10; the mean composite PSAI score for boys was 61.66 ($n = 1166$, $SD = 9.40$); and the mean composite PSAI score for girls was 38.72 ($n = 926$, $SD = 9.66$). Stability coefficients demonstrated high stability over time among both boys and girls (Golombok et al., 2008). Golombok and Rust (1993a) also reported the composite PSAI scores by age group. The age-standardized mean composite PSAI score for boys between 60 and 71 months (that is, the mean age band of the current sample) was 64.87 ($SD = 9.56$) and the age-standardized mean composite PSAI score for girls between 60 and 71 months was 33.52 ($SD = 9.80$). In the present study, for the parent-reported feminine subscale, Cronbach's alphas were .73 and .80 for the gay and lesbian parent families, respectively; for the parent-reported masculine subscale, Cronbach's alphas were .75 and .82 for the gay and lesbian parent families, respectively. For the non-parent caregiver-reported feminine subscale, Cronbach's alphas were .72 and .80 for the gay and lesbian parent families, respectively; for the non-parent caregiver-reported masculine subscale, Cronbach's alphas were .72 and .79 in the gay and lesbian parent families, respectively.

Data Analysis

Power Analyses

Power analyses were conducted to determine the power levels for the analyses of principal interest. Alpha levels were set to .05. Following Cohen's

recommendations (1988) for measuring small, medium, and large effect sizes, f^2 levels were set to .10, .30, and .50, respectively, for bivariate correlations; and .10, .25, and .40, respectively, for ANOVA. For bivariate correlations ($n = 80$), power reached .99 for large, .79 for medium, and .14 for small effects. For ANOVAs accounting for main effects and interactions with family type and child gender between factors ($n = 80$), power reached .94 for large, .59 for medium, and .14 for small effects. We concluded that, while our analyses were not sufficiently powered to detect small effects (e.g., $d = .20$), they were adequately powered to detect medium (e.g., $d = .50$) and large (e.g., $d = .80$) effects.

Data Analytic Plan

The analyses were conducted with SPSS version 24. To test our first hypothesis, that children in gay father families would be more gender-typed in their play than children in lesbian mother families, two ANOVAs 2×2 that examined the effects of child gender (boy vs. girl) and family type (gay father family vs. lesbian mother family) on composite PSAI scores, as rated by Parent A and the non-parent caregiver, were conducted.

To test our second hypothesis, that boys in lesbian mother families would demonstrate less gender-typed play behavior than boys in gay father families and that girls in gay father families would demonstrate less gender-typed play than girls in lesbian mother families, hierarchical linear modeling analysis (Kenny et al., 2006) was performed, because two non-independent raters (i.e., Parent A and the non-parent caregiver) within each family ($n = 160$) provided separate reports on each child's play behavior. Separate analyses were conducted for boys and girls.

Dichotomous variables were effects coded (family type: gay father family = -1, lesbian mother family = 1), so that estimates for other predictors would cross categories. All continuous variables were grand mean centered to reduce collinearity. Effects that were significant at $p < .05$ were interpreted. First, we performed different unconditional mixed ANOVAs with random effects with only the outcome variable of child's gender-typed behavior and no predictors. The intraclass correlation coefficient (Cohen's kappa, $p < .001$) from the unconditional model, which provided a measure of variability at Level 2 (the family level), was .91, meaning that 91% of the variation in the outcome variables score was between families. This exceeded the suggested cutoff value of 25% to require HLM (Guo, 2005).

Results

Descriptive Data on Gender-Typed Play Behavior

Means, standard deviations, and ranges for the composite PSAI scores are shown in Table 1. Scores are presented for boys and girls separately, by family type (see Figure 1). In the gay father families, the mean composite PSAI scores for boys were 63.19 ($SD = 9.91$) and 62.32 ($SD = 9.18$), as reported by parents and non-parent caregivers, respectively; the mean composite PSAI scores for the girls were 36.72 ($SD = 6.36$) and 35.77 ($SD = 6.06$), as reported by parents and non-parent caregivers, respectively. In the lesbian mother families, the mean composite PSAI scores for the boys were 57.15 ($SD = 8.73$) and 56.82 ($SD = 8.74$), as reported by parents and non-parent caregivers, respectively; the mean composite PSAI scores

for the girls were 41.37 ($SD = 8.02$) and 40.71 ($SD = 7.79$), as reported by parents and non-parent caregivers, respectively.

Table 1 Means and Standard Deviations for the Composite PSAI Score for Boys and Girls According to Family Type ($n = 70$)

	Full sample ($n = 80$)	Gay father families ($n = 40$)	Lesbian mother families ($n = 40$)
Boys	($n = 37$)	($n = 19$)	($n = 18$)
<i>M</i> (<i>SD</i>) – parent-reported	60.25 (9.72)	63.19 (9.91)	57.15 (8.73)
Range – parent-reported	41.65–75.23	41.65–75.23	45.22–73.24
<i>M</i> (<i>SD</i>) – non-parent caregiver-reported	59.65 (9.27)	62.32 (9.18)	56.82 (8.74)
Range – non-parent caregiver-reported	42.78–77.96	42.83–77.96	42.78–72.06
Girls	($n = 43$)	($n = 21$)	($n = 22$)
<i>M</i> (<i>SD</i>) – parent-reported PSAI	39.10 (7.55)	36.72 (6.36)	41.37 (8.02)
Range – parent-reported PSAI	25.26–53.75	28.23–52.41	25.26–53.75
<i>M</i> (<i>SD</i>) – non-parent caregiver-reported	38.30 (7.36)	35.77 (6.06)	40.71 (7.79)
Range – non-parent caregiver-reported	21.46–53.75	21.46–47.89	25.26–47.89

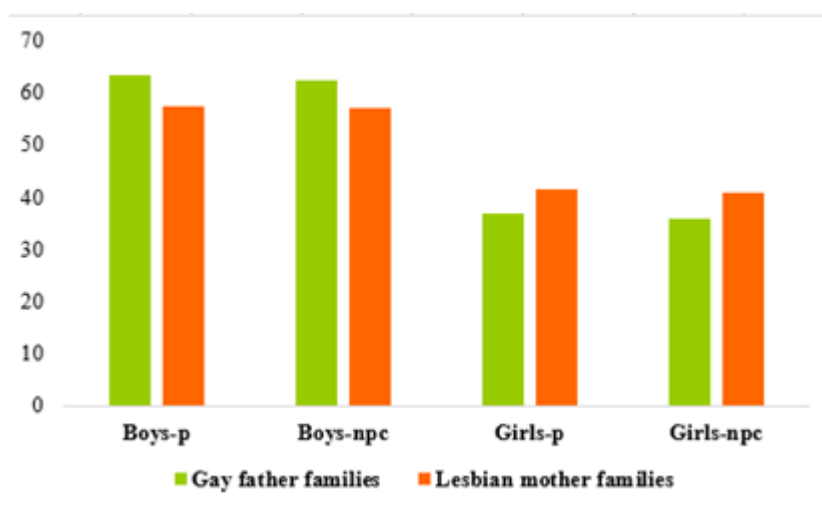


Figure 1. Gender-typed play behavior in boys and girls, as rated by parents (p) and non-parent caregivers (npc).

Correlational Analyses

Correlations between family variables and children's gender-typed play behavior are presented in Table 2. Results indicated that boys were perceived as

more masculine by older parents, $r = .34, p = .04$, and parents who were better off financially, $r = .35, p < .04$. Child's age was also associated with PSAI scores. Both parents, $r = .46, p < .01$, and non-parent caregivers, $r = .40, p < .05$, described older boys as more masculine, whereas older girls were described as less masculine (more feminine) only by their parents, $r = -.35, p < .05$. Finally, parents' and non-parent caregivers' reports of gender-typed play behavior were significantly associated, for both boys, $r = .71, p < .001$, and girls, $r = .82, p < .001$.

Table 2 *Bivariate Correlations Among Family Variables and Gender-Typed Play Behavior*

Variable	1	2	3	4	5	6
1. Child age	1	.26	-.01	.02	.46**	.40*
2. Parent age	.35*	1	-.03	.27	.34*	.40*
3. Parent education	.17	.19	1	.15	.15	-.03
4. Household income	.51**	.38**	.24	1	.35*	.26
5. PSAI-p	-.35*	-.19	.15	-.23	1	.71***
6. PSAI-npc	-.26†	-.09	.02	-.16	.82***	1

Note. PSAI-p = parents' reports. PSAI-npc = non-parent caregivers' reports. Values in the right upper quadrant refer to the boys group, whereas values in the left lower quadrant refer to the girls group. † $p < .10$ (marginally significant). * $p < .05$. ** $p < .01$. *** $p < .001$.

Gender-Typed Play Behavior and Child Gender

The parent-reported PSAI scores showed a significant main effect of child gender, $F(1, 76) = 129.00, p < .001, \eta p^2 = .63$, with boys scoring as significantly more masculine than girls in their play, and a significant interaction was found between family type and child gender, $F(1, 76) = 8.27, p < .01, \eta p^2 = .10$, with sons of both gay fathers and lesbian mothers demonstrating significantly more masculine play behavior than girls. No evidence of a main effect for family type was found, $F(1, 76) = .14, p = .71, \eta p^2 = .002$. To understand whether children of gay fathers showed more gender-differentiated (dissimilar) play behavior than children of

lesbian mothers, we conducted a simple effect analysis (with Bonferroni adjustment) that compared the average child gender difference in gay father families to the average child gender difference in lesbian mother families. The test supported our prediction, showing that, although boys' and girls' play behavior significantly differed in both family types, their mean difference was larger in gay father families, $F(1, 76) = 101.68, p < .001, \eta p^2 = .57$, relative to lesbian mother families, $F(1, 76) = 35.84, p < .001, \eta p^2 = .32$. Put another way, the perceived play behavior of boys and girls in gay father families was less similar than the perceived play behavior of boys and girls in lesbian families. When the analysis was repeated with the non-parent caregiver-rated PSAI scores, all prior significant effects were confirmed (see Table 1).

Differences in Boys' and Girls' Gender-Typed Play Behavior as a Function of Family Type

HLM analyses indicated that children differed according to family type, with sons of gay fathers showing significantly more gender-typed play behavior than sons of lesbian mothers, $b = -2.89, t(35) = -2.08, p < .05$, and daughters of gay fathers showing significantly more gender-typed play behavior than daughters of lesbian mothers, $b = 2.40, t(41) = 2.32, p < .05$ (see Table 3). In other words, boys in gay father families demonstrated more masculine play behavior than boys in lesbian mother families, and girls in gay father families demonstrated more feminine play behavior than girls in lesbian mother families (see Table 1). Given the association with gender-typed play behavior in the boys' group, the HLM analyses were repeated with parents' age and household income as covariates, with

the result that the effect of family type on boys' gender-typed behavior lost significance, $b = -1.36$, $t(33) = -.84$, $p = .41$.

Bootstrapping Simulation

Because our sample ($n = 160$ individuals nested in 80 families) was not sufficiently large to detect small effects and HLM power analyses could not be performed before data collection (as the covariance structure was not known), we used bootstrapping to understand the stability of our results with a larger simulated sample ($n = 1,000$ individuals nested in 500 families). The bootstrapping results confirmed that repeated samples of $n < 1,000$ would not be likely to detect different statistically significant effects (see Table 3).

Table 3 *Changes in Boys' and Girls' Gender-Typed Play Behavior as Predicted by Family Type Following the Bootstrapping Procedure*

	PSAI-Boys									
	Original sample ($n = 74$)						Bootstrapping ($n = 1,000$)			
	b	SE	$t(df)$	p	$Lower\ CI$	$Upper\ CI$	SE	p	$Lower\ CI$	$Upper\ CI$
Fixed effects										
Intercept	-.08	1.38	-.06(35)	.95	-2.88	2.73	.73	.90	-1.55	1.50
Gay fathers	-2.89	1.38	-2.08(35)	.04	-5.69	-.08	.74	.001	-4.32	-1.52
Random effects	σ^2	SE	Z	p	$Lower\ CI$	$Upper\ CI$	SE	p	$Lower\ CI$	$Upper\ CI$
Residual	25.45	5.92	4.30	.000	16.14	40.15	4.71	.53	3.08	28.65
Intercept	57.91	12.13	3.38	.001	32.42	103.46	9.62	.001	.	.

	PSAI-Girls									
	Original sample ($n = 86$)						Bootstrapping ($n = 1,000$)			
	b	SE	$t(df)$	p	$Lower\ CI$	$Upper\ CI$	SE	p	$Lower\ CI$	$Upper\ CI$
Fixed effects										
Intercept	-.06	1.03	-.05(41)	.96	-2.14	2.03	.49	.89	-1.04	.83
Gay fathers	2.40	1.03	2.32(41)	.02	.31	4.48	.49	.001	1.48	3.34
Random effects	σ^2	SE	Z	p	$Lower\ CI$	$Upper\ CI$	SE	p	$Lower\ CI$	$Upper\ CI$
Residual	9.99	-5.08	4.64	.000	6.54	15.23	1.87	.57	.77	10.74
Intercept	40.83	4.97	4.01	.000	25.05	66.55	5.44	.001	.	.

Note. Intercept at Level 1 = overall level of the outcome variable in lesbian mother families. Gay fathers = degree to which the score differed between gay father families and lesbian mother families. Level 2 was included to account for the not-independence between the parent and the non-parent caregiver reporting for each family, but no predictors were tested.

Discussion

The current study showed that family type has an effect on children's gender-typed behavior, in that boys and girls with gay fathers engage in more masculine and feminine behavior (respectively) in their play than boys and girls with lesbian mothers, respectively. These findings contrast with those of earlier studies conducted in the US and UK, in which adopted children of the same age were not found to differ in their play behavior across family types (Farr et al., 2017; Golombok et al., 2014). The difference in findings may be partly explained by the Italian context in which this study was conducted. In Italy, the view is held that gay fathers are less suited for parenthood than lesbian mothers (Ioverno et al., 2017; Lingiardi & Carone, 2016). As a result, gay fathers may feel higher pressure to conform to gendered norms and, in turn, may influence their children's play behavior in a more gender-typed way. Moreover, insofar as there are genetic influences on gender development (Iervolino et al., 2005), the different route to parenthood undertaken by parents in this study – involving surrogacy and donor insemination – may have fed into the different results relative to previous studies with adoptive gay and lesbian parents.

Furthermore, it is important to situate these study findings in the context of the mean scores of the standardization sample of children with heterosexual parents (Golombok & Rust, 1993a, 1993b). Looking at the parents' reports in the present study, the mean composite PSAI scores for boys with gay fathers ($M = 63.19$) and boys with lesbian mothers ($M = 57.15$) were 1.68 and 7.72 points below the mean composite PSAI scores of boys aged 60 to 71 months in the standardization sample ($M = 64.87$), respectively. Likewise, the mean composite PSAI scores for girls with

gay fathers ($M = 36.72$) and girls with lesbian mothers ($M = 41.37$) were 3.2 and 7.85 points above the mean composite PSAI scores of girls aged 60 to 71 months in the standardization sample ($M = 33.52$), respectively. Although both boys and girls with lesbian mothers were markedly gender-flexible in their play, the mean differences between their scores and those of the boys and girls in the standardization sample fell within the norm ($SD = 9.56$ and 9.80 for boys and girls, respectively).

Viewed through the lens of social constructionism (West & Zimmerman, 1987), the less gender-typed play behavior shown by children in lesbian mother families relative to children in gay father families might reflect the fact that children in lesbian mother families are typically brought up in an especially tolerant environment. Lesbian mothers are particularly likely to endorse or even initiate cross-gendered play behavior because their family, compared to a gay father family, does not possess the somewhat controversial feature of being headed by both male and sexual minority parents (Biblarz & Stacey, 2010; Goldberg, 2010; Goldberg & Gartrell, 2014). In addition, social constructionism would suggest that, although boys' and girls' play behavior significantly differed in both family types, boys and girls in gay father families tended to show markedly more gender-differentiation in their play behavior than boys and girls in lesbian mother families.

There is growing evidence that, in heterosexual parent families, children's gender socialization differs as a function of parent gender (Leaper, 2002), with fathers tending to be stricter than mothers in terms of what they consider gender-appropriate child behavior. Of note, a small survey of divorced gay fathers (Harris & Turner, 1986) offered similar indications, with gay fathers more likely than

lesbian mothers to report that they encouraged their children to play with sex-typed toys. Although the present study's findings seem to reflect this pattern (that is, both boys and girls with gay fathers were less gender-flexible in their play than boys and girls with lesbian mothers), questions remain about the degree to which this pattern occurs in same-sex parent families more generally.

Social learning theory (Bandura, 1977; Mischel, 1966) might explain the finding that boys with gay fathers were more gender-typed in their play behavior than boys with lesbian mothers. From this perspective, having two fathers and no mother might have exposed boys in gay father families only to male role models and to higher levels of the "rough and tumble play" that is typically initiated by fathers (Biblarz & Stacey, 2010; Jacklin et al., 1984; Leaper, 2002), resulting in more masculine play preferences and activities. However, as our prediction of the influence of parental gender modeling on children's gender-typed behavior was only partially supported (i.e., we did not find the opposite tendency in the daughters of gay fathers – they were not less feminine in their play behavior, but were more feminine than the daughters of lesbian mothers), social constructionism (West & Zimmerman, 1987) seems more appropriate for understanding this finding. Furthermore, it is conceivable that, as Biblarz and Stacey (2010) noted, gay fathers do not provide a "double dose of 'masculine' parenting" (p. 12). Rather, they appear to adopt parenting practices and styles that are less gender-stereotyped, and they sometimes describe themselves as demonstrating a balance of masculine and feminine energies (Biblarz & Stacey, 2010). Thus, although lacking a female live-in parent, daughters of gay fathers may experience their fathers as modeling both masculinity and femininity.

Yet this study reconsiders the impact of modeling on children's gender-typed play behavior (i.e., through children observing and imitating parents' behavior and gender-related attitudes) and aligns with the idea that children's gender-role socialization is influenced by other parental and, to a wider extent, environmental characteristics (Golombok & Fivush, 1994; Ruble et al., 2006). As some authors have pointed out (Biblarz & Stacey, 2010; Goldberg, 2010; Goldberg & Gartrell, 2014), it may be inappropriate to place so much emphasis on the significance of male and female role models in these families, when children tend to be exposed to a wide range of adults – both male and female – in their daily lives (e.g., teachers, coaches, babysitters, family members, parents' friends). Rather, it would be beneficial to investigate the impact of family structure on children's gender-typed behavior in combination with other parental factors, such as parental perception of their own gender, gender ideology, and the division of household labor (Dawson et al., 2015; Halpern & Perry-Jenkins, 2016). Moreover, due to the peculiarity of the family arrangement and the different social attitudes towards lesbian mothers and gay fathers (Ioverno et al., 2017) that result in a multiminority status (Armesto, 2002) for the latter (as both gay and male in the heterosexual parenting community and fathers in the gay community), the association between children's gender-typed behavior and parents' internalized sexual stigma (Lingiardi, Baiocco, & Nardelli, 2012) warrants investigation.

Although we did not include a measure of parental gender role attitudes and beliefs, and thus were unable to tease apart effects due to ideology from those due to family structure, our suggestions about the interrelationship between gender-related attitudes and parent gender rest on prior research. In this regard, in their

study of lesbian and heterosexual parents, Fulcher and colleagues (2008) found that, regardless of parents' sexual orientation, children whose parents modeled an egalitarian division of labor and held flexible attitudes about gender were less constrained by gender stereotypes in their occupational aspirations.

All in all, it is important to broaden the research on children's gender development and socialization in the context of research on parents' gender-related behavior and attitudes (Sutfin et al., 2008) because, in turn, same-sex parents may themselves – as social constructionism would predict – create an environment in which cross-gender behavior and activities are neither stigmatized nor discouraged. At the same time, same-sex parents also possess a heightened awareness of “gender accountability” (Berkowitz & Ryan, 2011), such that they recognize societal pressures to accomplish their children's gender socialization (Goldberg, 2010). They may manage such gender accountability in a variety of ways. For example, they may seek to secure gender role models for their children, as a means of deflecting concerns that two women cannot successfully raise a son and two men cannot successfully raise a daughter (Berkowitz & Ryan, 2011). Alternatively, they may resist such pressures, emphasizing to themselves – and to others – that parenting quality is more important to children's development than parent gender (Goldberg & Gartrell, 2014).

This exploratory descriptive study was limited in a number of ways. First, though multiple recruitment strategies were used, our sample was relatively small and was recruited through convenience techniques. Thus, the generalizability of the findings is limited. In addition, our cell sizes, which were broken down by child gender and family type, were quite small (e.g., there were only 18 sons in the lesbian

mother families). However, the bootstrapping simulation confirmed the stability of our results. Future studies should seek to replicate the findings with larger and more diverse samples to potentially include more influencing parental and family variables in the analysis. Second, as our sample did not include only first-born children, potential variance due to the presence of an older sibling – a factor known to influence gender-typed behavior (Rust et al., 2000) – was not removed. Third, our sample was quite rarified with respect to household income and education. Parents' financial and social resources may have had implications for their gender ideologies and role modeling, as well as the range and types of activities they offered to their children; all of these factors could have impacted gender development (Ruble et al., 2006). Fourth, the cross-sectional nature of the study limited our ability to make causal attributions and precluded an examination of how children's gender-related play behavior might have varied according to developmental stage. Future work should examine the gender-typed play behavior of children born through assisted reproduction in same-sex parent families over time. Another limitation is that we only looked at a single gender development outcome: play. It is possible that children may show different patterns over time, depending on the gender domain(s) being assessed. Finally, we did not include observational data and child reports of gender development, and such measures might have provided different ratings of children's interests and activity preferences. Further, such measures might become particularly important as the children grew older (Golombok et al., 2008).

On the other hand, this study had a number of strengths. First, this was the first study to examine the gender-typed play behavior of preschool- and school-

aged children in families headed by gay fathers and lesbian mothers through surrogacy and donor insemination, respectively; all previous studies have included only adoptive same-sex parents (Farr et al., 2010, 2017; Goldberg & Garcia, 2016; Goldberg et al., 2012; Golombok et al., 2014). Second, the use of multi-informant reports (i.e., from parents and non-parent caregivers) prevented parent self-report bias. Third, the HLM analyses allowed us to control for the effect of the shared variance within each family on child outcomes. Finally, most previous research has compared lesbian mother with heterosexual parent families (Biblarz & Stacey, 2010; Fulcher et al., 2008; Golombok et al., 2003; McCallum & Golombok, 2004; Sutfin et al., 2008). The present study compared gay father families with lesbian mother families, offering valuable insight into variations in children's gender-typed behavior due to the presence of only one gender in the household, whilst accounting for the simultaneous presence and absence of a genetic tie between a parent and the child (Iervolino et al., 2005) and controlling for parents' non-heterosexual orientation.

Gender flexibility has psychological benefits for children (Golombok, & Fivush, 1994; Ruble et al., 2006). Therefore, regardless of the reasons for different gendered play behavior, it is important not to view these differences as necessarily negative. Rather, there is increasing awareness by both educators and parents that the socialization of strict adherence to traditional gender roles restricts children's development, and that development of a more balanced, less differentiated repertoire of play behavior and activities in children may enhance learning and skill building (Ruble et al., 2006). In terms of practical implications, the current study could be informative to policy-makers, mental health professionals, and social

workers concerned with whether gay and lesbian parents are suitable role models for children's gender role development and socialization in households that lack different-sex parents (Gato & Fontaine, 2013). Our results suggest that, although there is variation within families, the gender development of Italian children with gay fathers and lesbian mothers proceeds in typical ways.

Chapter 3 Attachment security and utilization of parents as safe havens and secure bases

Introduction

In his formulation of attachment theory, Bowlby (1969/1982) observed that infants have an innate tendency to use their parents as both a *safe haven* when they are distressed and a *secure base* from which to explore when there are no immediate threats in the environment. Moreover, the quality of a child's relationship with his or her mother in the first years of life determines the child's future well-being. This view is well encapsulated in a report written for the World Health Organization on the effects of being without a mother on children made homeless in the Second World War (Bowlby, 1951, p. 11), in which Bowlby stated: "What is believed to be essential for mental health is that an infant and young child should experience a warm, intimate, and continuous relationship with his mother (or permanent mother substitute – one person who steadily 'mothers' him) in which both find satisfaction and enjoyment." Of note, Bowlby's thinking about the role of fathers as attachment figures evolved in his later years (Bowlby, 1988).

Research on fathering has shown that heterosexual fathers influence their children in similar ways to mothers (Lamb, 2010, 2013; Pleck, 2010). In terms of attachment, a meta-analysis of 14 investigations of infants' attachment to their mother and father, involving almost 1,000 families, found the proportion of children classified as securely attached to their father to be almost identical to the proportion classified as securely attached to their mother (van IJzendoorn & De Wolff, 1997). It also appears that the more fathers are involved with their infants, the more likely

that infants will form secure attachments to them (Cox, Owen, Henderson, & Margand, 1992; Di Folco & Zavattini, 2010). In addition, aspects of parental care that matter most for secure attachment in infancy and childhood have been found to be, among others, parental warmth, responsiveness, and sensitivity (Bakermans-Kranenburg, van IJzendoorn, & Juffer, 2003; de Wolff & van IJzendoorn, 1997; Fearon & Belsky, 2016; Thompson, 2006), as these factors promote a safe haven and secure base for the child. The importance of these parental behaviors is equivalent for both fathers and mothers (Arnott, & Meins, 2007; Kochanska, Aksan, Prisco, & Adams, 2008; Lamb, 2012; Pleck, 2010).

Although mothers and fathers can both serve as attachment figures, research has shown that they differ in their attachment roles. After a series of systematic studies, Lamb (1976, 1977a, 1977b) concluded that father–infant and mother–infant relationships may involve different kinds of experiences for infants, resulting in differential interactions and influences on children’s personality development from infancy onward. In other words, fathers are viewed as primarily supporting secure exploration, while mothers are thought to predominantly address safe haven needs (Bretherton, 2010; Grossman et al., 2002; Grossmann, Grossmann, Kindler, & Zimmerman, 2008; Kerns, Mathews, Kohen, Williams, & Siener-Ciesla, 2015). Knowledge that an attachment figure is available for comfort when needed should facilitate exploration from the attachment figure, and thus the two aspects of attachment behavior are expected to be related. It follows that a securely attached child is one who can use the parent as both a safe haven and a secure base (Ainsworth, 1989; Bowlby, 1969/1982; Bretherton, 2010; Grossmann et al., 2008).

Collectively, these studies suggest the importance of assessing parents as both safe havens and secure base supports (Kerns et al., 2015).

Although attachment is considered a lifespan construct (Bowlby, 1979), research has historically focused on two developmental periods: infancy through the preschool age, and adolescence through adulthood. This has left a relative lacuna of research in middle childhood (aged 6 to 12 years), when the frequency and intensity of attachment behavior declines (Bosmans & Kerns, 2015; Kerns & Brumariu, 2016). Notably, in the last two decades, valuable methodologies for assessing attachment in middle childhood have emerged, shifting from the use of behavioral observation (Ainsworth, Blehar, Waters, & Wall, 1978) to assess pre-symbolic, pre-verbal internal working models (Bowlby, 1969/1982) to the use of narrative-based measures (e.g., story stems, secure base scripts, attachment interviews) and self-reports (for a review, see Kerns, Schlegelmilch, Morgan, & Abraham, 2004) to assess more complex attachment representations.

Looking at the distribution of attachment in middle childhood, Bakermans-Kranenburg and Van IJzendoorn (2009b) synthesized the available studies (Ammaniti, Van IJzendoorn, Speranza, & Tambelli, 2000; Beijersbergen, Bakermans-Kranenburg, Van IJzendoorn, & Juffer, 2008), reporting that when participants (aged 6 to 14 years) were assessed using a modified version (for younger ages) of the Adult Attachment Interview, 41.5% showed a secure state of mind with respect to attachment, 39.5% showed an avoidant state of mind, and 19% showed a preoccupied state of mind. When doll-play narratives or observational measures were used, a greater proportion of children scored as securely attached (59% and 69%, respectively). This was probably because these measures do not

evaluate narrative coherence, which is the central criterion for attachment security in the AAI, conveying young participants' verbal abilities.

With regard to the utilization of parents as both safe havens and secure base supports in middle childhood, Kerns and colleagues (2015) administered both the Friends and Family Interview (FFI; Steele, Steele, & Kriss, 2015) and the Security Scale Questionnaire (SS; Kerns et al., 2015) to children aged 10 to 14 years being raised in heterosexual two-parent families. Findings showed that children relied more on mothers for safe haven support and fathers for secure base support, with robust associations ($r = .35$ to $.55$) of safe haven and secure base support across instruments. Presumably, this differentiation might reflect the effect of both gender norms within heterosexual parent families and children's views on the role of mothers and fathers (Fagan et al., 2014; Lamb, 2012), though in-depth investigations are merited to confirm this hypothesis.

The increase in families formed by same-sex parents (Golombok, 2015) has questioned many of the previous findings on the different and complementary roles that fathers and mothers may adopt with their children. Research on same-sex parent families may help to disentangle the effect of parental gender on children's use of their parents as safe havens and secure bases. As Kerns and colleagues (2015, p. 348) noted, if gay father or lesbian mother families "adopt complementary roles, then it might be that parents adopt more specialized roles as a way to differentiate family relationships." Moreover, it must be investigated whether gay fathers can provide as secure an environment for children born through surrogacy as families with mothers who conceived spontaneously or through assisted reproduction. Of particular interest is that one of the principal concerns regarding surrogacy families

is the quality of attachment relationships that surrogacy children form with their parents. Although a study with heterosexual surrogacy fathers found greater attachment quality between the surrogacy father and the child than between natural conception fathers and the child (Golombok, Murray, Jadv, MacCallum, & Lycett, 2004), in the case of surrogacy families headed by gay men, it has been suggested that the combination of the non-heterosexual orientation and the male gender of the parents, in addition to the child's conception through assisted reproduction (involving both surrogacy and egg donation), would decrease the likelihood of the child forming secure attachment relationships to the fathers (Golombok, 2015).

To date, the attachment of children born to non-heterosexual parents through assisted reproduction has only been explored in lesbian mother families that used donor insemination. A study based in the UK compared the attachment of children born to lesbian mothers following donor insemination with that of children raised by a single heterosexual mother and that of children raised by two heterosexual parents at age 6; the children were then followed-up at age 19 (Golombok & Badger, 2010; Golombok, Tasker, & MacCallum, 1997). At age 6, children in lesbian mother and heterosexual single mother families showed greater security of attachment (as measured by the Separation Anxiety Test) than their counterparts in two-parent heterosexual families (Golombok et al., 1997). At 19 years, there was no difference between the three family types in total attachment scores (as measured by the Inventory of Peer and Parent Attachment) (Golombok & Badger, 2010).

However, these findings cannot necessarily be extrapolated to families headed by gay men, because children born to gay fathers through surrogacy are different from children born to lesbian mothers through donor insemination for a

number of reasons, and these differences may lead to increased difficulty forming secure attachment to parents. Not only are the children of gay fathers raised by men, rather than women, but historically, fathers have been less involved in child care and mothers are widely considered better suited to parenting than are fathers (Golombok & Tasker, 2010). A further influencing factor may be children's feelings about having been relinquished by the surrogate, especially in cases in which she is their genetic mother, when contact between the family and the surrogate has dropped off, and when the surrogate received a large sum of money for her service.

The Present Study

The present investigation involved a multimethod (i.e., drawing on interviews, questionnaires, and observational measures) and multi-informant (i.e., using parents and children) study of the quality of attachment that children born through surrogacy form with their gay fathers during middle childhood. Factors associated with attachment security and children's use of their parents as both safe havens and secure bases in the absence of parental gender criteria were also examined. Lesbian mothers and their children (born through donor insemination) were chosen as the comparison group in order to control for both the presence of same-sex parents in the home and the use of assisted reproduction to conceive.

Together with attachment theory, explained above (Bowlby, 1969/1982; Cassidy & Shaver, 2016), dual process theory (Gawronski & Creighton, 2013) formed the theoretical framework for the study, since it states that instruments differ in the extent to which they tap into strategic or automatic processes (Bosmans &

Kerns, 2015). In line with Waters and Cummings (2000), who argued that the secure base construct is key to capturing attachment, all attachment measures should reflect whether individuals are able to organize their interpersonal experiences and behavior in order to use a figure as a safe haven and secure base. Consequently, both interview and questionnaire measures to assess child attachment can be useful for revealing the characteristics of each measure that are relevant to attachment theory. Specifically, measures of strategic processes, such as self-report questionnaires, allow individuals to influence outcomes. Thus, they provide insight into the aspects of attachment that children are aware of and reflect the way in which children wish to present their attachment representations, both to themselves and to others. In middle childhood, measurement of strategic processes can be especially valuable, as children at this age tend to be concrete thinkers and may be more likely than adolescents to report actual experiences. In addition, relative to preschoolers, children in middle childhood may be better able to compare their experiences with those of others and thus may have a more realistic view of their relationships (Bosmans & Kerns, 2015). Measures of automatic processes, such as interviews, focus on outcomes beyond an individual's strategic control (e.g., a child cannot decide whether to recount autobiographical memories in a coherent way or to focus attention more strongly on one of the parents).

The following hypotheses were tested:

(1) Children with gay fathers would show more insecure attachment patterns than a comparison group of children with lesbian mothers. Whilst there is no empirical support for concerns that children born through donor insemination will not form secure attachments to their lesbian mothers (Golombok & Badger,

2010; Golombok et al., 1997), both the circumstances of birth through surrogacy (Golombok, 2015) and the historical emphasis on mothers as primary attachment figures (Biblarz & Stacey, 2010) raise questions about the attachment of children raised in gay father families.

(2) Parental gender would be less predictive of children's attachment security than parental willingness to serve as an attachment figure and the quality of parent-child interaction. This hypothesis was based on research showing that the most significant aspects for children's attachment security are parental characteristics such as warmth, responsiveness, and sensitivity, and that these characteristics are equally important for both fathers and mothers (Fagan et al., 2014; Lamb, 2010, 2013; Lamb & Lewis, 2011; Pleck, 2010).

(3) Children's perceptions of their reliance on parents would be distributed according to the parental care role (i.e., primary caregiver vs. secondary caregiver), with children preferentially using primary caregivers as safe havens and secondary caregivers as secure bases. This hypothesis was based on research on heterosexual two-parent families in which children were found to preferentially go to mothers – usually the primary caregivers – for safe haven support and fathers – usually the secondary caregivers – for secure base support (Kerns et al., 2015).

Method

Procedure

In the context of a larger, in-depth study of child adjustment and parenting in surrogacy families headed by gay men (see Chapter 1), children older than 6 years and their parents were administered additional questionnaire and interview measures to assess child-parent attachment. Families were assessed at home

between January and September 2017 by three of the five researchers trained in the study techniques. Study approval was obtained from the Institution Ethics Committee, and written informed consent was obtained from all adult participants. Parents gave consent for their children to participate. Where possible, children gave written consent to take part; failing this, verbal assent was gained. Each participant was reminded that his or her responses would be confidential and that participation in all or part of the study could be terminated at any time; such information was conveyed to the children in an age-appropriate manner, both prior to and during participation. The parent who spent the most time with the child was labeled the “primary caregiver” and the parent who spent more time in employment and slightly less time with the child was labeled the “secondary caregiver.” In the 17 (24.3%) families in which this distinction was not straightforward, labels were randomly assigned.

Participants

The sample comprised 33 children born through gestational surrogacy and their 66 gay fathers, and a comparison group of 37 children born through sperm donation and their 74 lesbian mothers. Children were aged between 6 and 12 years ($mean_{age} = 8.3$ years, $SD = 1.6$). Multiple recruitment strategies were used to recruit as diverse a sample as possible, through the association of same-sex parents, Rainbow Families ($n = 25$, 35.7%); same-sex parent web groups and forums ($n = 22$, 31.4%); events at which same-sex parents were in attendance ($n = 9$, 12.9%); and snowballing ($n = 14$, 20%). The inclusion criteria for both gay father and lesbian

mother families were that the couple had lived together since the child's birth, and resided in Italy.

Socio-demographic information for each group is presented in Table 1. The two groups of families were matched for children's demographic variables, so that the age of the children did not differ by family type, $F(1,68) = < .01$, $p = .98$, with a mean age of 8 years and 3 months. There were similar proportions of boys and girls, $\chi^2(1) = .06$, $p = .80$, and a similar proportion of siblings, $\chi^2(2) = .14$, $p = .93$, in each family type. Parent age differed significantly between family type, $F(1,138) = 10.50$, $p < .01$, with gay fathers older ($mean_{age} = 47.05$ years) than lesbian mothers ($mean_{age} = 41.68$ years). There was no difference between family types in parental marital status, $\chi^2(2) = .77$, $p = .68$; the length of the couple's relationship, $\chi^2(2) = .66$, $p = .72$; parents' ethnicity, $\chi^2(2) = .04$, $p = .84$; parents' educational attainment, $\chi^2(2) = .56$, $p = .46$; or the geographical area in which they lived, $\chi^2(2) = 1.23$, $p = .54$. Household income differed significantly between family type, $F(1,68) = 19.36$, $p < .001$, with gay father families earning more. There were also significant differences between family types in parents' work status, $\chi^2(1) = 12.36$, $p < .01$, with more gay fathers in full-time employment, and parents' occupation, $\chi^2(1) = 4.49$, $p < .05$, with more gay fathers holding professional or managerial occupations.

Table 1 *Sociodemographic Information and Study Measures by Family Type (n = 70)*

	Gay father families (n = 33)	Lesbian mother families (n = 37)	$\chi^2(df)$	p
	n (%)	n (%)		
Child's gender			.06(1)	.80
Boys	15 (45.6)	19 (51.3)		
Girls	18 (54.5)	18 (48.7)		
Number of siblings			.14(1)	.93
0	13 (39.4)	15 (40.5)		
1	18 (54.5)	19 (51.3)		
2 or more	2 (6.1)	3 (8.2)		
Parents' ethnicity (Caucasian)	60 (90.9)	69 (93.2)	.04(1)	.84
Parents' residence			1.23(2)	.54
North	14 (42.4)	11 (29.7)		
Centre	16 (48.5)	22 (59.5)		
South	3 (9.1)	4 (10.8)		
Parents' educational level (bachelor's degree or higher)	51 (77.2)	52 (70.3)	.56(1)	.46
Parents' occupation (professional/managerial)	55 (83.3)	49 (66.2)	4.49(1)	.03
Parents' work status (full-time)	66 (100)	59 (79.7)	12.94(1)	.003
Length of couple's relationship			.66(2)	.72
Less than 10 years	9 (27.3)	10 (27.1)		
11-15 years	8 (24.2)	12 (32.4)		
More than 15 years	16 (48.5)	15 (40.5)		
Marital status			.77(2)	.68
Civil partnership in Italy	18 (54.5)	22 (59.5)		
Only married/civil partnership abroad	9 (27.3)	11 (29.7)		
Unmarried/ no civil partnership	6 (18.2)	4 (10.8)		

Genetic parenthood			1.73(1)	.19	
Primary caregiver	16 (48.5)	28 (75.7)			
Secondary caregiver	12 (36.3)	9 (24.3)			
Do not disclose	3 (9.1)	0			
Do not know	2 (6.1)	0			
	<i>M (SD)</i>	<i>M (SD)</i>	<i>F(df)</i>	<i>p</i>	<i>η²</i>
Child's age at visit (in months)	99.39 (20.85)	99.27 (18.49)	<.01(1,68)	.98	<.01
Parent's age (in years)	47.05 (6.14)	41.68 (4.74)	10.50(1,68)	.002	.20
Household income (€)	123681.82 (67014.90)	70540.54 (28541.73)	19.36(1,68)	.000	.22
Attachment security to primary caregiver	3.24 (.51)	3.28 (.54)			
Attachment security to secondary caregiver	2.98 (.56)	3.26 (.50)			
Parent-child interaction					
Positive control-Pc	5.12 (1.22)	5.08 (1.16)			
Positive control-Sc	4.79 (1.36)	4.65 (1.25)			
Warmth-Pc	5.03 (1.26)	5.30 (1.39)			
Warmth-Sc	4.30 (1.40)	4.89 (1.41)			
Responsiveness-Pc	5.21 (1.11)	4.84 (1.38)			
Responsiveness-Sc	4.73 (1.35)	4.78 (1.55)			
Negative control-Pc	2.45 (.87)	2.24 (.92)			
Negative control-Sc	2.70 (.98)	2.16 (.90)			
Rejection-Pc	2.36 (.96)	2.19 (.94)			
Rejection-Sc	2.58 (1.06)	2.24 (.92)			
Parental willingness to serve as AF-Pc	5.93 (.84)	6.01 (.84)			
Parental willingness to serve as AF-Sc	5.78 (1.04)	5.98 (.88)			

Note. Chi square test was reported with the Yates' continuity correction. FFI = Friends and Family Interview. SS = Security Scale. Pc = Primary caregiver. Sc = Secondary caregiver.

Measures

Attachment representations. Children took part in the *Friends and Family Interview* (FFI; Kriss, Steele, & Steele, 2012; Steele et al., 2015) – a semi-structured interview designed to assess representations of attachment in children aged 8 to 16 years. The measure has also been successfully used with younger children (i.e., aged 7 years) who have been born through assisted reproduction (Zadeh et al., 2017) or adopted (Abrines et al., 2012; Barcons et al., 2014; Pace, 2014). The measure was used to obtain information about the child’s relationship with both parents, and was adapted from the original version (which used the terms “mother” and “father”) to best represent the child’s family configuration (i.e., the words “mother” and “father” were replaced with the parents’ names). In particular, the *safe haven* dimension, referring to the child’s perception of a parent’s availability for emotional support, was investigated through questions that probed what the young person did when they were upset, what their most and least favorite aspects of each parent were, and under what conditions they separated from each parent. The *secure base* dimension, referring to the extent to which the child perceived each parent as providing the necessary support to bolster the young person’s autonomy, was investigated through questions that probed the interests of the child, as well as those investigating the young person’s behavior when trying something new. Children were also asked about their coping strategies and their perceived social support systems, including their parents, friends, and others, but results related to these variables are not presented here.

The interviews were coded according to the FFI Rating and Classification System (Steele et al., 2015) by a certified FFI coder trained by Howard Steele. One-third of the transcripts ($n = 23$) were double-coded, blind to family type, by a second

certified FFI coder. Percent agreement was 81% ($k = .77, p < .001$). Where there was disagreement, a third independent coder categorized the transcript, and final agreement was reached through discussion with all three coders. Each of the four attachment patterns was rated individually – as the FFI relies on a dimensional, rather than a categorical, approach (Kriss et al., 2012; Steele et al., 2015) – using a 4-point scale ranging from 1 (*no evidence*) to 2 (*mild evidence*), 3 (*moderate evidence*), and 4 (*marked evidence*). The scale's attachment patterns are as follows: (a) *secure-autonomous*, (b) *insecure-dismissing*, (c) *insecure-preoccupied*, and (d) *disoriented-disorganized*. These patterns are considered central indicators of the internal working models a child has acquired on the basis of early experiences with caregiver(s) (Bowlby, 1969/1982; Kriss et al., 2012; Steele et al., 2015).

The model also accommodates a categorical approach to data analysis, with the attachment strategy receiving the highest score (≥ 3 points) in the transcript considered the dominant pattern. Secure-autonomous attachment patterns are associated with high coherence, high adaptive coping, the capacity for needing others and exploring important relationships, flexibility to change views on others and events, acceptance of imperfections in the self and others, and acceptance of the failings of parents and family members. Insecure-dismissing patterns correspond with a self-portrayal as strong, minimal expression of hurt feelings, minimization of negative experiences, abstract descriptions of experiences, a focus on the concrete elements of relationships, and either idealization of parents or an emphasis on the negative aspects of parent behavior. Insecure-preoccupied patterns are associated with high levels of anger and characterized by rote responses that are persistently tied to parents, oscillating evaluations of parents, and excessive

blaming of parents or one's self. Disoriented-disorganized patterns are associated with low narrative coherence, high self-derogation, contradictory strategies, dissociated states of mind, and references to frightening experiences that remain unresolved (Steele et al., 2015).

Perceptions of security. Children completed a 21-item modified version of the Security Scale Questionnaire (SS; Kerns et al., 2015) for each parent living in the household, to assess their attachment security to each parent. Attachment security describes the degree to which children perceive an attachment figure as responsive and available (e.g., whether a child worries that a parent will not be there when needed), their tendency to rely on the attachment figure in times of stress (e.g., whether the child goes to the parent when upset), and their reported ease and interest in communicating with the attachment figure (e.g., whether a child likes to tell a parent what she or he is thinking and feeling). The original version (Kerns et al., 2001; for the Italian version, see Marci et al., 2017) was a 15-item, single dimension that measured children's overall perception of security in the parent-child relationship using Harter's (1982) "Some kids... Other kids..." format. For each question, children were asked to indicate which statement was more characteristic of them and then to indicate whether the statement was *really true* (1) or *sort of true* (4) for them. In the present study, to avoid order effects in testing, half of the sample was asked to answer questions referring to the secondary caregiver before answering questions referring to the primary caregiver; the other half of the sample followed the opposite pattern.

In the original 15-item SS, almost all items referred to *safe haven support* (e.g., a child's tendency to go to a parent when upset), with the exception of a single

item that referred to the parent allowing the child to do things on his or her own (vs. with parental interference). Thus, six new items were designed by Kerns and colleagues (2015) to assess *secure base support*, in order to supplement the single secure base support item on the original questionnaire. The resulting subscale now assesses whether children feel more confident after talking to a parent; believe a parent wants to hear their opinion, even when the parent disagrees; believe a parent will encourage them to be themselves or to try new things; believe a parent lets them make decisions; and feels sure a parent is proud of him or her. The new questions are presented in the same Harter's (1982) format, with the remaining 14 items from the original SS constituting the new *safe haven* subscale (e.g., "Some kids feel their mom really understands them BUT other kids feel like their mom really does not understand them"). As in the original version, in the revised version, each item is scored from 1 to 4, with higher scores indicating more secure child–parent attachment. Item scores are averaged so that children receive a total score on a continuous dimension of attachment security. Cronbach's alphas of the 21-item SS referring to child–mother attachment (due to time constraints, information about father–child attachment was not collected) revealed good internal consistency of the scales (safe haven support: .88; secure base support: .73). Cronbach's alphas for this study were .85 and .71 for safe haven support and secure base support, respectively.

Parental willingness to serve as an attachment figure. Both parents for each family separately completed the 91-item Block (1965) Childrearing Practices Q-set (CRP), which measures a parent's childrearing practices and beliefs. Each parent read and sorted cards into seven piles of 13 cards each, ranging from "most

characteristic” (Pile 7) to “least characteristic” (Pile 1) of their childrearing practices and beliefs. Items were scored according to the piles in which they were placed. Kerns and colleagues (1996, 2001) identified ten CRP items that were face-valid indices of parental willingness to serve as an attachment figure for the child. Sample items from the cluster are “I respect my child’s opinions and encourage him/her to express them,” “I feel a child should be given comfort and understanding when she/he is scared or upset,” and “I make sure my child knows that I appreciate what she/he tries to accomplish.” A parent’s score for this variable is an average of the parent’s scores across the ten items, after reverse scoring items, as needed. Kerns and colleagues (1996) reported a scale Cronbach’s alpha of .73 for mothers. In the present study, Cronbach’s alphas were .72 and .71 for mothers and fathers, respectively.

Parent–child interaction. Within each family, each parent–child dyad participated in an observational assessment of parent–child interaction. In order to avoid practice effects, the Etch-A-Sketch task (Stevenson-Hinde & Shouldice, 1995) was used with the primary caregiver and the Co-Construction task (Steele et al., 2007) was used with the secondary caregiver. In the 17 (24.3%) families in which both parents shared parenting equally, tasks were randomly assigned. The Etch-A-Sketch is a drawing tool with two dials that allow one person to draw vertically and the other to draw horizontally. Parent and child were asked to copy a picture of a house, each using one dial only, with clear instructions not to use the other dial. With the Co-Construction task, the parent and child were given a set of wooden building blocks and instructed to build something together using as many blocks as possible. The Etch-A-Sketch and Co-Construction sessions were video-

recorded and coded using the Parent–Child Interaction System (PARCHISY; Deater-Deckard & Petrill, 2004) in order to assess the construct of mutuality – that is, the extent to which the parent and child engaged in positive dyadic interaction characterized by warmth, mutual responsiveness, and cooperation.

The following variables were rated on a 7-point scale ranging from 1 (*no instances*) to 7 (*constant, throughout interaction*): (a) *positive control* assessed the extent to which the parent used praise, explanation, and open-ended questions with the child; (b) *negative control* assessed the extent to which the parent used criticism, physical control of the dials or the child’s hand/arm/body; (c) *warmth* assessed the extent to which the parent used smiles, laughter, and a warm tone of voice; (d) *rejection* assessed the extent to which the parent used frowns and a cold/harsh voice; and (e) *parent’s responsiveness to child* assessed the extent to which the parent responded immediately and contingently to the child’s comments, questions, and behavior. To establish interrater reliability, half of the video recordings ($n = 70$) were randomly selected and coded by a second rater. The intraclass correlations (Cohen’s Kappa, $p < .001$) for positive control, negative control, warmth, rejection, and parent’s responsiveness to child were .84, .79, .81, .72, and .86, respectively.

Data Analysis

Power Analyses

Power analyses were conducted to determine the power levels for the analyses of principal interest. Alpha levels were set to .05. Following Cohen’s recommendations (1988) for measuring small, medium, and large effect sizes, f^2 levels were set to .10, .30, and .50, respectively, for bivariate correlations and chi-

square tests; .10, .25, and .40, respectively, for MANOVA and mixed ANCOVA. For bivariate correlations ($n = 70$), power reached .99 for large effects, .73 for medium effects, and .13 for small effects. For chi-square tests with three degrees of freedom between the two family groups ($n = 70$), power reached .95 for large, .54 for medium, and .09 for small effects. For MANOVA with four outcome variables between the two family groups ($n = 70$), power reached .99 for large, .91 for medium, and .50 for small effects. For mixed ANCOVA ($n = 140$), power reached .99 for large, .89 for medium, and .17 for small effects. We concluded that, while our analyses were not sufficiently powered to detect small effects (e.g., $d = .20$), they were adequately powered to detect medium (e.g., $d = .50$) and large (e.g., $d = .80$) effects.

Data Analytic Plan

SPSS version 24 was used to conduct all analyses. To investigate the distribution of child–parent attachment patterns (Hypothesis 1), a chi-square test and MANOVA, using parental gender as the between group variable, were performed using the categorical classifications and dimensional scores of the FFI, respectively.

To test the hypothesis that parental gender, parental willingness to serve as an attachment figure, and quality of parent–child interaction would predict children’s security of attachment as measured by the SS (Hypothesis 2), HLM analyses (Kenny et al., 2006) were performed. HLM accounts for both within-family and between-family correlations in outcome scores, and adjusts the error variance for the interdependence of partner outcomes within the same family,

resulting in more accurate standard errors and associated hypothesis tests. This procedure is also particularly recommended for research on dyads that can be considered indistinguishable, such as same-sex parents (Kenny et al., 2006; Smith, Sayer, & Goldberg, 2013). For these analyses, there were 140 parents and 70 children nested within 70 families. Dichotomous variables were effects coded (parental gender: gay father = -1, lesbian mother = 1; child gender: boy = -1; girl = 1), so that estimates for other predictors would cross categories. All continuous variables were grand mean centered to reduce collinearity. Effects that were significant at $p < .05$ were interpreted.

First, we performed unconditional mixed ANOVAs with random effects with the outcome variables of interest (i.e., child's attachment security, parental willingness to serve as an attachment figure, positive control, parental warmth, parental responsiveness, negative control, parental rejection) and no predictors. The intraclass correlation coefficient (Cohen's kappa, $p < .001$) from the unconditional model, which provided a measure of variability at Level 2 (the family level), was .33 (range = .08–.72), meaning that 33% of the variation in outcome variables scores was between families. This exceeded the cutoff value of 25% suggested to require HLM (Guo, 2005).

To assess the way in which children used their parents as safe havens and secure bases (Hypothesis 3), two mixed ANCOVA 2 (family type: gay father family vs. lesbian mother family) \times 2 (caregiver type: primary vs. secondary) \times 2 (attachment dimension: safe haven vs. secure base), with the first two factors between subjects and the last factor within subjects on attachment scores, as

measured by both the FFI and the SS, were performed. Child's age was used as a covariate.

Results

Children's Attachment Patterns as a Function of Family Type

The findings relating to children's attachment patterns are presented in Table 2. Children's attachment patterns did not differ by family type, $\chi^2(3) = 1.34$, $p = .72$, with about half of children ($n = 15$, 45.5% in gay father families; $n = 17$, 46% in lesbian mother families) showing a secure state of mind with respect to attachment. Thirteen (39.4%) children in gay father families and 14 (37.8%) children in lesbian mother families showed an insecure-dismissing state of mind with respect to attachment, and the remaining children ($n = 4$, 12.1% in gay father families; $n = 6$, 16.2% in lesbian mother families) showed an insecure-preoccupied state of mind with respect to attachment. Finally, one child (3%) showed a disoriented-disorganized state of mind with respect to attachment to his gay fathers.

Likewise, dimensional scores of attachment did not differ across family types, $F(4, 65) = 1.00$, $p = .41$, $\eta^2 = .06$, with moderate evidence of security ($M = 2.80$, $SD = 1.05$ in gay father families; $M = 2.78$, $SD = 1.08$ in lesbian mother families), mild evidence of both avoidance ($M = 2.08$, $SD = 1.10$ in gay father families; $M = 2.11$, $SD = 1.05$ in lesbian mother families) and preoccupation ($M = 1.56$, $SD = .79$ in gay father families; $M = 1.70$, $SD = 1.03$ in lesbian mother families), and no evidence of disorganization ($M = 1.29$, $SD = .48$ in gay father families; $M = 1.12$, $SD = .30$ in lesbian mother families).

Table 2 *Distribution of Children's Attachment Patterns as Measured with the Friends and Family Interview by Family Type (n = 70)*

	Full sample (n = 70)	Gay father families (n = 33)	Lesbian mother families (n = 37)	$X^2/F(df)$	<i>p</i>	η^2
Categorical classification	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	1.34(3)	.72	/
Secure-autonomous	32 (45.7)	15 (45.5)	17 (46)			
Insecure-dismissing	27 (38.6)	13 (39.4)	14 (37.8)			
Insecure-preoccupied	10 (7.3)	4 (12.1)	6 (16.2)			
Disoriented-disorganized	1 (1.4)	1 (3)	0			
Dimensional scores	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	1.00(4,65)	.41	.06
Security	2.79 (1.06)	2.80 (1.05)	2.78 (1.08)	<.01(1,68)	.94	<.01
Avoidance	2.09 (1.07)	2.08 (1.10)	2.11 (1.05)	.02(1,68)	.90	<.01
Preoccupation	1.64 (.92)	1.56 (.79)	1.70 (1.03)	.41(1,68)	.52	<.01
Disorganization	1.20 (.40)	1.29 (.48)	1.12 (.30)	3.06(1,68)	.08	.04

Factors Associated with Children's Security of Attachment

Associations among dimensional scores of FFI-rated attachment, SS-rated attachment security, variables related to parent-child interaction, and parental willingness to serve as an attachment figure are shown in Table 3. HLM analyses indicated that the predictors of attachment security were high parental willingness to serve as an attachment figure, $b = .19$, $t(127) = 4.97$, $p < .001$, high parental warmth, $b = .09$, $t(99) = 4.69$, $p < .001$, high parental responsiveness, $b = .10$, $t(130) = 4.43$, $p < .001$, low parental negative control, $b = -.08$, $t(106) = -2.80$, $p < .001$, low parental rejection, $b = -.10$, $t(122) = -3.18$, $p < .001$, and the child's younger age, $b = <-.01$, $t(71) = -2.40$, $p < .05$. These effects could not have arisen due to multicollinearity, because most predictors were not significantly related (see Table 2); for the few that were significantly related, tolerance and VIF values of collinearity were within acceptable levels (Tabachnick & Fidell, 2012). Parental positive control slightly predicted child's attachment security, $b = .04$, $t(117) = 1.95$, $p = .053$, while parental gender did not yield significant effects, $b = .03$, $t(66) = .74$, $p = .46$ (see Table 4).

Table 3 Partial Correlations Between FFI and SS Dimensions, and Predictors of Child's Attachment Security, After Controlling for Child's Age

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. FFI Secure	1	-.35**	-.33**	-.34**	.39**	.42***	.26*	.38**	.35**	.31*	.30*	.44***	-.08	.04	-.16	-.07	.45***	.52***
2. FFI Dismissing		1	-.55***	-.17	-.30*	-.33**	-.11	-.13	-.15	-.15	-.06	-.27*	.05	.13	.06	.22	-.03	-.11
3. FFI Preoccupied			1	.16	.08	.06	-.07	-.06	-.08	.01	-.28*	-.09	.10	-.22†	.07	-.04	-.35	-.28
4. FFI Disorganized				1	-.24†	-.25*	-.21†	-.38**	-.21†	-.31**	.03	-.16	.22†	.18	.09	-.18	-.27*	-.27*
5. SS Attachment security-Pc					1	.52***	.49***	.19	.46***	.28*	.42***	.26*	-.36**	-.17	-.48***	-.08	.49***	.31**
6. SS Attachment security-Sc						1	.23†	.37	.14	.67***	.31*	.60***	-.20	-.50***	-.26*	-.44***	.33**	.51***
7. Parental positive control-Pc							1	.23†	.43***	.22†	.26*	.06	-.08	-.06	-.12	.20	.19	.20
8. Parental positive control-Sc								1	.22†	.32**	.12	.39**	-.05	.03	.02	-.09	.17	.36**
9. Parental warmth-Pc									1	.13	.21†	.11	-.15	.04	-.20†	.36**	.19	.14
10. Parental warmth-Sc										1	.12	.48***	-.25*	-.39**	-.22†	-.25*	.27*	.35**
11. Parental responsiveness-Pc											1	.47***	.00	-.04	-.07	-.09	.30*	.25*
12. Parental responsiveness-Sc												1	-.05	-.23†	-.08	-.21†	.28*	.26*
13. Parental negative control-Pc													1	.10	.44***	-.04	-.28*	-.18
14. Parental negative control-Sc														1	.12	.47***	-.04	-.14
15. Parental rejection-Pc															1	.20	-.23†	-.20†
16. Parental rejection-Sc																1	-.05	-.21
17. Willingness serve AF-Pc																	1	.70***
18. Willingness serve AF-Sc																		1

Note. FFI = Friends and Family Interview. SS = Security Scale. AF = Attachment Figure. Pc = Primary caregiver. Sc = Secondary caregiver. † < .10. * < .05. ** < .01. *** < .001.

Table 4 Changes of Children's Security of Attachment Predicted by Parental Gender, Parental Willingness to Serve as an Attachment Figure, and Quality of Interaction following the Bootstrapping Procedure

	Child's attachment security									
	Original sample ($n = 140$)						Bootstrapping ($n = 1,000$)			
Fixed Effects	b	SE	$t(df)$	p	$Lower\ CI$	$Upper\ CI$	SE	p	$Lower\ CI$	$Upper\ CI$
Intercept	<.01	.34	.14(63)	.89	-.06	-.07	.02	.78	-.05	.05
Gay fathers	.03	.35	.74(66)	.46	-.04	-.10	.02	.20	-.02	.07
Child age	<-.01	<.01	-2.40(71)	.02	-.01	<-.01	<.01	.002	-.01	<-.01
Willingness to serve as AF	.19	.04	4.97(127)	.000	.11	.26	.04	.002	.	.
Parental positive control	.04	.02	1.95(117)	.05	<-.01	.09	.03	.22	-.01	.08
Parental negative control	-.08	.03	-2.80(106)	.000	-.14	-.02	.04	.05	-.16	<-.01
Parental warmth	.09	.02	4.69(99)	.000	.05	.13	.03	.017	.03	.15
Parental responsiveness	.10	.02	4.43(130)	.000	.05	.14	.03	.008	.04	.15
Parental rejection	-.10	.03	-3.18(122)	.002	-.16	-.04	.05	.067	-.19	.02
Random Effects	σ^2	SE	Z	p	$Lower\ CI$	$Upper\ CI$	SE	p	$Lower\ CI$	$Upper\ CI$
Residual	.05	.01	5.58	.000	.03	.07	.01	.79	.	.
Intercept	.06	.01	3.73	.000	.03	.10	.02	.001	.	.

Note. Intercept at level 1 = the overall level of the outcome variable in lesbian mother families. Level 2 was included to account for parents nesting into children (two parents reported for each child), but no predictors were tested. Gay fathers = degree to which the score differed between gay father families and lesbian mother families. AF = Attachment Figure. CI = 95% Confidence Interval.

Utilization of Parents as Safe Havens and Secure Bases

Associations of safe haven and secure base supports are shown in Table 5, while means and standard deviations of the variables of interest are shown in Table 6. No order effect of testing was found. With regard to the utilization of parents as safe haven and secure base supports, as measured by the FFI, after controlling for child's age, the analysis yielded a two-way interaction between caregiver type and attachment dimension, $F(1,135) = 66.93, p < .001, \eta p^2 = .33$. A simple effect analysis showed that, irrespective of family type, the primary caregiver was used more as a safe haven than a secure base, and the mean difference was significant, $F(1,135) = 76.43, p < .001$. In contrast, the secondary caregiver was used more as a secure base than a safe haven, and the mean difference was significant, $F(1,135) = 8.00, p < .01$. Moreover, utilization of a parent as a safe haven was higher in the primary caregiver than in the secondary caregiver, with the mean difference significant, $F(1,135) = 12.18, p < .01$; utilization of a parent as a secure base was higher in the secondary caregiver than the primary caregiver, with the mean difference again significant, $F(1,135) = 21.47, p < .001$ (see Figure 1).

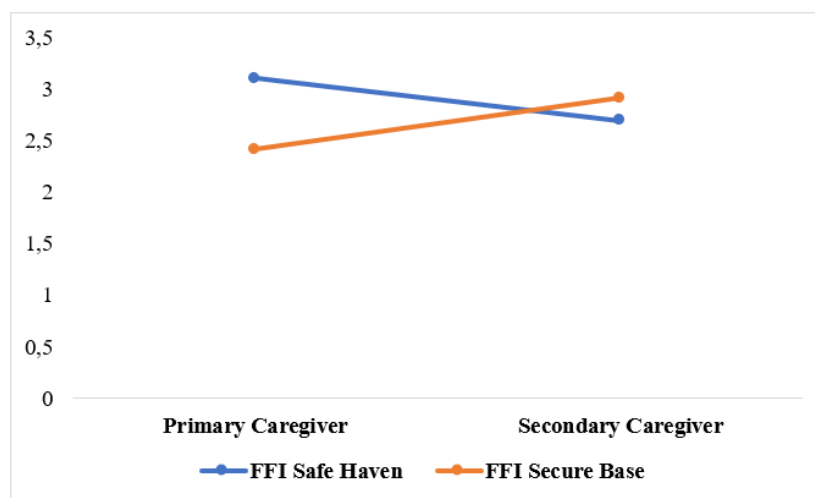


Figure 1. FFI safe haven and secure base by caregiver type, regardless of family type.

With regard to the utilization of parents as safe haven and secure base supports, as measured by the SS, after controlling for child's age, the analysis again yielded a two-way interaction between caregiver type and attachment dimension, $F(1,135) = 13.56, p < .001, \eta p^2 = .09$. A simple effect analysis showed that the primary caregiver was used more as a safe haven, relative to the secondary caregiver, with a significant mean difference, $F(1,135) = 6.42, p < .05$; the secondary caregiver was used more as a secure base, relative to the primary caregiver, with the mean difference again significant, $F(1,135) = 7.15, p < .01$.

Of note, there was a three-way interaction between family type, caregiver type, and attachment dimension, $F(1,135) = 4.68, p < .05, \eta p^2 = .03$. A simple effect analysis showed that, in both gay father families and lesbian mother families, the primary caregiver was used more as a safe haven relative to the secondary caregiver, with a significant mean difference, $F(1,135) = 5.42, p < .05$, and $F(1,135) = 5.09, p < .05$, respectively. However, the mean difference between primary and secondary caregivers according to family type on secure base scores was not significant for gay father families, $F(1,135) = 1.51, p = .22$, or for lesbian mother families, $F(1,135) = 3.17, p = .08$. Moreover, in lesbian mother families, the primary caregiver was used more as a safe haven than as a secure base, with a significant mean difference, $F(1,135) = 6.25, p < .05$, and the secondary caregiver was used more as a secure base than as a safe haven, again with a significant mean difference, $F(1,135) = 12.39, p < .01$. This interaction was not significant in gay father families, with respect to either the primary caregiver, $F(1,135) = 1.26, p = .26$, or the secondary caregiver, $F(1,135) = .12, p = .72$. Finally, the secondary caregiver was used more as a secure base support in lesbian mother families than in gay father

families, $F(1,135) = 8.14, p < .01$. None of the other interactions resulted in a significant difference, with $F(1,135) = .53, p = .47$, for the use of the primary caregiver as more of a safe haven in both family types; $F(1,135) = .87, p = .35$, for the use of the secondary caregiver as more of a safe haven in both family types; and $F(1,135) = .02, p = .89$, for the use of the primary caregiver as more of a secure base in both family types.

All analyses were repeated excluding the 17 families in which the distinction between the primary and secondary caregivers was not straightforward, and the same significant effects were attained (see Figures 2–3).

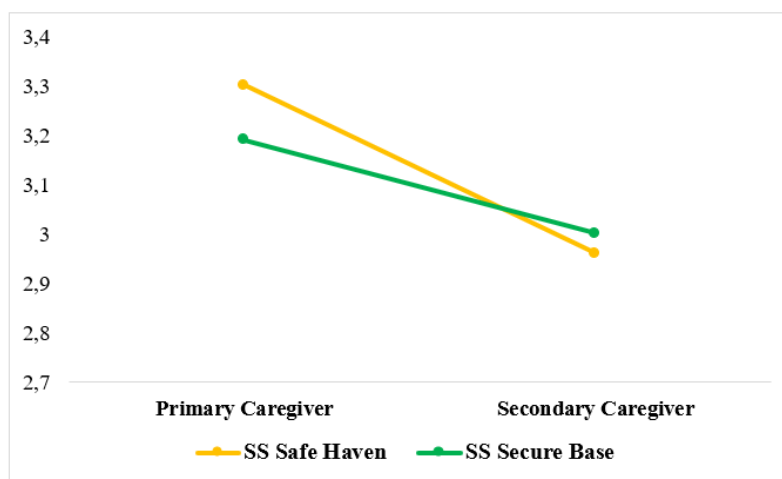


Figure 2. *SS safe haven and secure base by caregiver type in gay father families.*

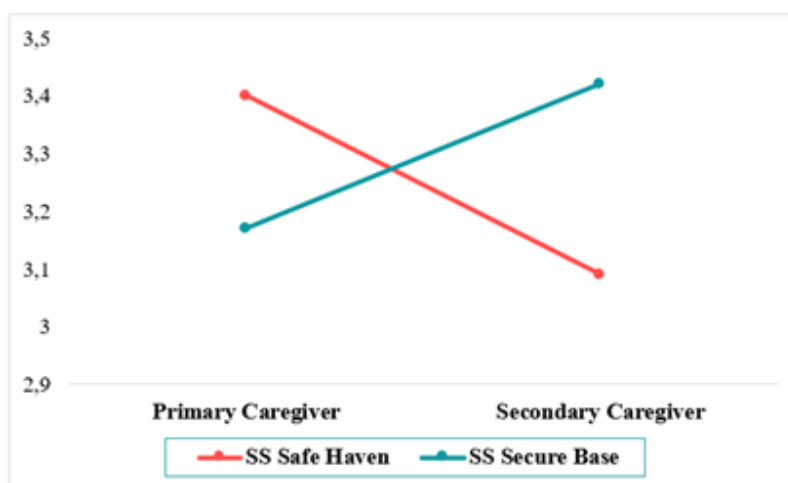


Figure 3. *SS safe haven and secure base by caregiver type in lesbian mother families.*

Table 5 Associations of Safe Haven and Secure Base Within a Measure and Across Measures, After Controlling for Child's Age

Variable	1	2	3	4	5	6	7	8
FFI								
1. Safe haven-Pc	1	.41***	.57***	.43***	.46***	.28*	.43***	.20
2. Safe haven-Sc		1	.37**	.48***	.13	.41**	.17	.38**
3. Secure base-Pc			1	.41***	.34*	.27*	.37*	.25*
4. Secure base-Sc				1	.31*	.36*	.30*	.40**
SS								
5. Safe haven-Pc					1	.43***	.56***	.43***
6. Safe haven-Sc						1	.26*	.56***
7. Secure base-Pc							1	.43***
8. Secure base-Sc								1

Note. Items in bold signify correlations between safe haven and secure base support within the same relationship. FFI = Friends and Family Interview. SS = Security Scale. Pc = primary caregiver. Sc = secondary caregiver. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 6 Means and Standard Deviations by Parental Gender and Type of Caregiver on Safe Haven and Secure Base as Measured by FFI and SS

Parental gender	Type of caregiver	Attachment dimension	<i>M</i>	<i>SD</i>	Attachment dimension	<i>M</i>	<i>SD</i>
Gay fathers	Primary caregiver	FFI Safe Haven	3.11	.74	SS Safe Haven	3.30	.50
	Secondary caregiver		2.53	.68		2.96	.57
	Total		2.81	.76		3.13	.56
Lesbian mothers	Primary caregiver		3.09	.73		3.40	.56
	Secondary caregiver		2.82	.70		3.09	.66
	Total		2.96	.72		3.25	.63
Total	Primary caregiver		3.10	.73		3.35	.53
	Secondary caregiver		2.69	.70		3.03	.62
	Total		2.89	.74		3.19	.60
Gay fathers	Primary caregiver	FFI Secure Base	2.41	.71	SS Secure Base	3.19	.62
	Secondary caregiver		2.80	.57		3.00	.65
	Total		2.61	.67		3.09	.64
Lesbian mothers	Primary caregiver		2.40	.59		3.17	.68
	Secondary caregiver		3.00	.63		3.42	.51
	Total		2.70	.68		3.29	.61
Total	Primary caregiver		2.41	.64		3.17	.65
	Secondary caregiver		2.91	.61		3.22	.61
	Total		2.66	.67		3.20	.63

Note. FFI = Friends and Family Interview. SS = Security Scale.

Bootstrapping Simulation

Because our sample ($n = 140$ parents and 70 children in 70 families) was not sufficiently large to detect small effects and the HLM power analyses could not be performed prior to data collection because the covariance structure was not known, we used bootstrapping to understand the stability of our results within a larger simulated sample ($n = 1,000$ parents and 500 children in 500 families). The bootstrapping results showed that repeated samples of $n < 1,000$ would not be likely to detect different statistically significant effects from those detected by our sample. The only exception to this related to the effect of parental rejection on children's security of attachment, which was found likely to become non-significant with a larger sample (see Table 4).

Discussion

The present study was the first to explore the quality of attachment of children conceived by surrogacy in gay father families. Findings indicated that about half of the children were securely attached to their fathers during middle childhood. Although it would be premature to reflect on the implications of this finding before it has been replicated in a more diverse sample of gay father families, concerns voiced about the potential negative impact of both being born through surrogacy and being raised by gay men on child attachment security (Golombok, 2015) do not seem to be supported by this preliminary evidence.

In both family types, about 39% of children were classified as “dismissing.” This finding is in line with the distribution of attachment in middle childhood reported by Bakermans-Kranenburg and Van IJzendoorn (2009b), and might have

been particularly influenced by the limited narrative coherence of the youngest children interviewed. This hypothesis seems corroborated by the strong correlations between both child's age and an FFI secure classification, $r = .61$, $p < .001$, and child's age and an FFI dismissing classification, $r = -.51$, $p < .001$. The nature of this latter association also suggests that the FFI dismissing classification is unlikely to reflect the activation of avoidant defense mechanisms in the oldest children (Ammaniti et al., 2004) that may, in this period, be adaptive, as they allow a close relationship with parents to be maintained and relieve the anger or anxiety that are typical of this phase (Main & Hesse, 1990).

Of interest, several children classified as "dismissing" answered vaguely or shiftily (i.e., "I don't know," "I don't remember") at several points in the interview, when asked to produce specific examples to support their answers. Whether this reflected a mode of distancing from parents that minimized the importance and impact of attachment relationships in their own lives, or whether, in contrast, it was affected by the limited verbal skills and ability to coherently verbalize one's own mental states in early middle childhood (aged 6–8 years) – the developmental stage of the children in this study – should be addressed in future research. However, along with the developmental aspect of the dismissing classification (Ammaniti et al., 2004), there is also a cultural variant in attachment classifications, with European samples usually displaying more dismissing attachments than North American samples (Ammaniti, Speranza, & Fedele, 2005; Bakermans-Kranenburg & van IJzendoorn, 2009a).

In line with the literature is the finding that parental gender and sexual orientation were not associated with children's security of attachment (Golombok

& Badger, 2010; Golombok et al., 1997). However, factors found to influence children's attachment styles were aspects of the parent-child interaction related to parental responsiveness, warmth, negative control, and rejection, as well as parental willingness to serve as an attachment figure (Kerns, Brumariu, & Seibert, 2011; Moss, St.-Laurent, Dubois-Comtois, & Cyr, 2005; Scott, Riskman, Woolgar, Humayun, & O'Connor, 2011). These findings are particularly promising, as they suggest developmental consistency from infancy to middle childhood (Ainsworth et al., 1978; Ammaniti et al., 2005; Kerns & Brumariu, 2016).

The research highlighted that, during the transition to middle childhood, attachment styles are more shaped by genotype-by-environment interactions (whereby children with different genotypes respond differently to the same environmental factors) than by pure environmental influences (Del Giudice, 2014), and that children's awareness of gender-related social dynamics increase (Bosmans & Kerns, 2015). Investigating these aspects in other-sex parent families and comparing them with same-sex parent families would be interesting, as children's socialization follows different pathways according to family type, with children raised by same-sex parents usually socialized in gender-flexible, if not gender-unrelated, ways (Biblarz & Stacey, 2010). Moreover, even within same-sex parent families, gender socialization differs, with gendered norms challenged more by lesbian mothers than by gay fathers (Averett, 2016), and gender flexibility encouraged more in girls than in boys (Biblarz & Stacey, 2010). Whether all of these factors account for the effects of gene-environment interactions on attachment outcomes in children and lead to changes in attachment patterns from middle childhood onward would ideally be addressed by a longitudinal study.

Studies of attachment in middle childhood employing both questionnaire measures and doll-play observation tasks with children raised in heterosexual two-parent families have detected higher avoidance in boys and higher preoccupation in girls, across cultures (Chen & Chang, 2012; Del Giudice, 2009); however, similar studies using interviews have typically failed to reveal significant sex differences (Bakermans-Kranenburg & van Ijzendoorn, 2009b; Del Giudice, 2009; Kerns et al., 2011; Toth, Lakatos, & Gervai, 2013; Venta, Shmueli-Goetz, & Sharp, 2014). In the present study, the small sample size did not enable an investigation of this aspect. Studies with a larger sample would help to clarify whether this also occurs in same-sex parent families and if the interaction between child's gender and parental gender may have any relevance in explaining the quality of attachment in child–parent dyads.

In both family types, the primary caregiver was used more as a safe haven and the secondary caregiver was used more as a secure base, though children reported good levels of both types of support from both parents. This result confirms our hypothesis suggesting that, even though parents may adopt complementary roles, both are fundamental attachment figures who transmit their internal model of relationships independently from each other's actions (Fonagy, Steele, Steele, Higgitt, & Target, 1994). In this way, the child develops and maintains distinguishable mental representations about the expectations of a relationship with each caregiver, and these might be combined into an integrated view of attachment relationships as the child matures. By extension, this result also sheds new light on the dynamics at play in heterosexual parent families, in which it is generally believed that the different utilization of parents traces parental gender criteria, with

mothers used more as safe havens and fathers more as secure bases (Bretherthon, 2010). Rather, it is reasonable that the adoption of complementary roles – rather than parental gender, per se – explains the different utilization of parents as attachment figures, resulting in a somewhat unique and special relationship between each parent and his or her child (Kerns et al., 2015).

Of note, the utilization of primary caregivers and secondary caregivers as safe havens and secure bases, respectively, was higher in lesbian mother families than in gay father families, but only when assessed with the SS. This is unsurprising if considered in light of the different child care experiences that characterize the two family types. While in gay father families child care is not based on the physical experience of carrying and breastfeeding a child, parental role differentiation is still present (as shown by our results), but it is more nuanced than in lesbian mother families, in which the biological mother is usually more involved in child care compared to the non-biological mother (Goldberg & Perry-Jenkins, 2007; Patterson, 1995; Tornello, Kruczowski, & Patterson, 2015).

Because this difference across family types was detected only when “safe haven” and “secure base” were rated by children on the questionnaire – but not when children were interviewed – it is conceivable that children’s perceptions of, and experiences with, biological and non-biological mothers might have influenced their perception of a mother as more of a source of comfort when they were distressed, or, conversely, more of a secure base from which to explore. It may also be the case that mothers’ expectations of their child, on the basis of their biological or non-biological relationship, might have conditioned children’s perception of a mother as more of a safe haven or secure base. However, further investigation,

ideally using both types of instruments, is needed before firm conclusions on the influences of the gestational experience and biological relatedness on children's use of parents as attachment figures can be drawn.

The findings of this study have implications for the measurement of attachment during middle childhood. While it is theoretically recommended that multiple and contemporaneous assessments of attachment be incorporated into a study in order to examine whether the different approaches in fact iterate a common construct, whilst also checking for discriminant validity (Kerns et al., 2005), in practice this rarely occurs (Bosmans & Kerns, 2015). In line with dual process theory (Gawronski & Creighton, 2013), as proposed by Bosmans and Kerns (2015), to understand attachment research in middle childhood and the modest but significant correlations between the same constructs (i.e., safe haven and secure base) across attachment measures found in this ($r = .37-.46$) and earlier studies ($r = .35-.55$) (Kerns et al., 2015), we used both the FFI and the SS. In particular, the interview allowed us to both assess the internal working models (Bowlby, 1969/1982) that children would have barely consciously registered through self-report and to prevent the risk for response bias and social desirability. On the other hand, use of the SS questionnaire had an advantage (over the interview), in that it provided separate scores for attachment security to each caregiver.

Main, Kaplan, and Cassidy (1985) noted that one's ability to reflect on and change cognitive relationships emerges in adolescence. This has implications for the evaluation of attachment security in middle childhood, because attachment security may be affected by cognitive development, as partly suggested by the presence of more dismissing categorizations among the youngest children in this

study. Consequently, one could ask whether, at this age, criteria used to mark secure children's narratives should be extended to include positive descriptions of family relationships and coherence (Kerns et al., 2005). This would also imply that, for both categorical and continuous approaches to measuring attachment security, qualitative judgments should be made with respect to the developmental status of the individual (Maccoby & Feldman, 1972). Finally, given that the parent-child attachment relationship is related to parallel aspects in children's friendship relations and that peer relationships take on greater salience in middle childhood (Kerns & Brumariu, 2016; Kriss et al., 2012), it may be fruitful to examine components of the parent-child relationship that are expected to generalize to close relations with peers.

The findings of this study are based on correlational data, and this restricts our ability to draw causal conclusions. Although we hypothesized that child attachment security would be predicted by parental willingness to serve as an attachment figure and the quality of the parent-child interaction, due to the shift toward greater coregulation in the parent-child attachment relationship in middle childhood (Kerns & Brumariu, 2016), it is possible that children who were securely attached to their parents favored more positive and child-oriented parental behavior, and that this resulted in secure child-parent relationships. The bidirectionality of this effect should be explored through longitudinal studies. Furthermore, due to the specific legal policies on same-sex parenting in Italy, this study should be replicated in different socio-cultural contexts, possibly with a more diverse sample, to account for the potential influence that the wider social world may have on parent-child attachment relationships and children's views on the role of mothers and fathers. A

culturally sensitive approach would also help to distinguish universal and specific pathways to children's developmental outcomes. Finally, this study relied on 70 children with same-sex parents. However, power analyses revealed that our sample size was sufficiently large to detect medium and large effect sizes, and the bootstrapping simulation revealed that, even if we had used a sample size large enough to detect small effects, it would have been unlikely to have led to different results relating to child attachment security as a function of family type and processes.

In conclusion, the findings of this study show that, irrespective of family type, most children can and do develop a secure state of mind with respect to attachment to their parents. This aligns with the wider results that neither parents' sexual orientation nor the use of surrogacy or donor insemination are predictive of children's maladjustment in same-sex parent families formed through assisted reproduction (Golombok, 2015; Golombok et al., 2017; Patterson, 2017; see also Chapter 1).

Chapter 4 Relationships with surrogates and egg donors, disclosure decisions, and children's views on their surrogacy origins

Introduction

An increasing number of gay men are creating families through surrogacy (Baiocco & Laghi, 2013; Carone et al., 2017a; Carone, Baiocco & Lingiard, 2017b; Norton, Hudson & Culley, 2013). Although surrogacy legislation differs between states, clinics and agencies have begun to favour and encourage gestational surrogacy arrangements over genetic surrogacy arrangements, because they are considered less emotionally risky (Blake et al., 2017). In gestational surrogacy arrangements, the surrogate has no genetic relationship to the child and fathers may select an egg donor with whom they might have contact in the future (an open-identity donor) or one with whom they want little or no contact (an anonymous donor), although the possibility of achieving complete anonymity is in doubt (Harper, Kennett & Reisel, 2016).

In a 'commercial surrogacy' arrangement, the surrogate is typically paid by the intended parent(s) and an agency facilitates contact and draws up the contract between parties. In some US states (e.g., California, Florida) such arrangements are available to gay men. Alternatively, gay men may engage in surrogacy in Canada, the UK, Belgium, and the Netherlands. In these nations, only reasonable expenses may be paid to the surrogate, and it is illegal for individuals to advertise that they are in need of – or willing to act as – a surrogate; further, surrogacy agreements are not legally binding. Such arrangements are referred to as 'altruistic surrogacy'. In many other countries, including Italy, Spain, France, and Germany, surrogacy is

illegal for everyone, irrespective of sexual orientation or marital status, and people who wish to become parents must use transnational surrogacy services.

Gay fathers who wish to form a family through surrogacy must engage with the process of in-vitro fertilisation (IVF). IVF has generated much debate over the last years, both within and outside the scientific community (Jadva, 2016). One of the main concerns regarding families created through surrogacy – particularly when IVF is involved – is that an ongoing relationship with the surrogate and/or the egg donor could undermine the parent–child relationship, because childbirth and genetic relatedness are typically given primacy in family relationships (Golombok, 2015). In gay father families, the surrogate–child relationship is of particular interest, as it is assumed that the child may view the surrogate as a mother and suffer when there is no relationship or a relationship limited by geographical distance (Golombok, 2015; Lingiardi & Carone, 2016b). However, such concerns lack empirical evidence.

Reproductive clinics place significant weight on the welfare of the child when considering whether treatment should be provided to particular clients (Pennings et al., 2007). Alongside, according to the ASRM Practice Committee (2017) guidelines, intended parents must prove capable of maintaining a respectful and caring relationship with the surrogate and must explore any plans relating to disclosure and future contact in a psychosocial consultation prior to treatment. Yet these aspects of the treatment process have been largely under-researched.

No studies have investigated how children born to gay fathers through surrogacy feel about their origins, the terms they use when talking about their surrogate and egg donor, or their understanding of their conception. The only study

of children's experiences of surrogacy involved interviews of 22 and 21 children (aged 7 to 10, respectively) who had been born to heterosexual parents (Jadva, Blake, Casey, & Golombok, 2012). At both ages, the majority showed some knowledge of the nature of their conception, as illustrated by their awareness of having been born to someone other than their mother. Most also reported that they liked their surrogate. At age 10, 67% felt indifferent about their surrogate conception.

Very little is known about the quality of families' relationships with the surrogate and egg donor, and whether these relationships continue as the children become old enough to fully understand the circumstances of their conception and birth. Parents may assume that contact with the surrogate or egg donor may help their children understand their origins (Jadva, 2016), but children may wish for a different level of contact or may only be interested in knowing these persons at a certain moment in their life (e.g., when genetics become a salient aspect of their identity formation). The few studies conducted in Spain (Smietana, Jennings, Herbrand, & Golombok, 2014), Italy (Carone et al., 2017a), and the US (Blake, Carone, Slutsky, Raffanella, Ehrardt, & Golombok, 2016; Dempsey, 2015; Greenfeld & Seli, 2011; Murphy, 2015) from the fathers' perspective found positive and friendly relationships between fathers and the surrogate in most cases.

Among the different methods of contact between families and surrogates, Skype was most common during pregnancy, and occasional emails, postcards, and photos were more common after the birth (Carone et al., 2017a; Murphy, 2015; Smietana et al., 2014). In contrast, parents have not been found to frequently engage in contact and/or a relationship with the egg donor. In a study of 40 American gay father

families formed through surrogacy (Blake et al., 2016), only 25% were found to have met the egg donor after the child's birth and only 31% had a relationship with her; however, 83% had met the surrogate and 85% had a relationship with her.

Fathers who start families through surrogacy need to explain their path to parenthood to their children. Compared with other forms of families created by third-party reproduction, surrogacy families are more open about the method of conception, irrespective of whether the parents are heterosexual (Jadva et al., 2012; Readings, Blake, Casey, Jadva, & Golombok, 2011) or gay (Blake et al., 2016; Carone et al., 2017a). In addition to disclosing the use of a surrogate and egg donor, gay couples may or may not tell their children which father has a genetic connection to the child. When children in the US study of surrogacy families headed by gay fathers were aged 5.5 years (Blake et al., 2016), 83% of the fathers had started the disclosure process, though some had not yet mentioned the use of donated eggs or disclosed whose sperm had been used. Research on children's developing understanding of genetic inheritance has shown that children have an implicit understanding of it by age 4; however, it is not until age 7 that they are able to explain this concept and understand the role of gametes (Williams & Smith, 2010).

The Present Study

The present study aimed to investigate the impact of surrogacy on gay father families, addressing three research questions:

(1) What is the nature of the families' relationships with the surrogate and egg donor?

(2) What and when do parents disclose to their children about their surrogacy origins?

(3) How do children understand – and feel about – their surrogacy conception?

Data were collected from the perspective of fathers and children.

Method

Procedure

Study approval was obtained from the Institution Ethics Committee. Three of the five researchers trained in the study techniques visited the families at home between January and July 2017. Semi-structured interviews were carried out with the fathers and children, separately. All interviews were digitally recorded.

Written informed consent was obtained from all adult participants. Parents gave their consent for their children to be interviewed, and edited the terminology beforehand to ensure it matched their personal discussions with the child. Where possible, children gave written consent to take part; failing this, verbal assent was gained. Each participant was reminded that responses would be confidential and that participation in all or part of the study could be terminated at any time; such information was conveyed to the children in an age-appropriate manner, both prior to and during participation.

The interviews focused on children's and parents' experiences of surrogacy, and lasted (on average) 90 minutes and one hour, respectively. Interviews were transcribed, anonymised through coding (e.g., the father was coded 'FA01', the older surrogacy child as 'SC01', and, if present, the younger surrogacy child as 'SC01_sib1'), and imported into the qualitative software program Atlas.ti. Fathers'

interviews were conducted with the father who identified as most involved with the child on a day-to-day basis (labelled 'father A'). This distinction was straightforward in most families ($n = 29, 72.5\%$), and in the remaining families ($n = 11, 27.5\%$), the 'father A' label was assigned randomly.

Participants

Data were collected as part of a larger investigation of father–child relationships and child psychological adjustment in gay father families created through surrogacy (see chapter 1). Forty families participated in the study, and all resided in Italy. The inclusion criteria were that the target child was aged between 3 and 9 years and had been conceived through surrogacy, and that the parents self-identified as gay and had been a couple since the child's conception.

Multiple strategies were used to recruit a diverse sample of families. First, the Italian Rainbow Family (an association of same-sex parent families) sent information about the study to its members ($n = 16, 40\%$); second, participants passed information about the study to other families who fit the study criteria and/or disseminated information about the study through social media ($n = 14, 35\%$); third, researchers posted advertisements on the websites of same-sex parent groups ($n = 7, 17.5\%$); and fourth, researchers recruited participants at events with gay fathers in attendance ($n = 3, 7.5\%$). Although it was not possible to determine the exact number of fathers who received/opened the initial email or were informed about the study, of the 55 families who contacted the research team, 40 agreed to take part (constituting a response rate of 72.7%).

The mean age of the fathers was 45.9 years ($SD = 6.59$) and the mean annual family income was €124,972 ($SD = 66,122$). Most fathers were Caucasian ($n = 75$, 93.8%) and the remaining identified as Latino/Hispanic ($n = 5$, 6.2%). Seventy-five percent of the fathers ($n = 60$) had a bachelor's or higher degree. Most lived in central Italy ($n = 19$, 47.5%) and the remaining families lived in the north ($n = 16$, 40%) and south ($n = 5$, 12.5%).

The target children were 22 boys (55%) and 18 girls (45%), with an average age of 5 years and 11 months ($SD = 2.3$). For this part of the study, all children older than 6 years ($n = 33$, $age_{range} = 6-12$ years) who were aware of the nature of their conception were invited to be interviewed about their experience of surrogacy. Thirty-one agreed to participate (boys = 16, 51.6%; girls = 15, 48.4%; $M_{age} = 8.3$ years, $SD = 1.7$), constituting a response rate of 93.9%. Interviews were not conducted with two children because the parents did not want their child to feel uncomfortable or confused.

All of the surrogacy arrangements had been gestational, with surrogates and egg donors previously unknown to the fathers (with the exception of one family, in which the surrogate was the non-genetic father's sister). Eleven fathers (27.5%) had never met, seen, or spoken with the donor, and had very little chance of contacting or meeting her in the future. The other donors ($n = 29$, 72.5%) were open-identity. Of the 29 families who had used an open-identity donor, 19 (65.5%) had met the donor, 8 (27.6%) had never met or only seen a photo of her, and 2 (6.9%) had spoken with her on the phone. Most of the surrogacy procedures had been conducted in the US ($n = 26$, 65%), with 10 (25%) conducted in Canada, 2 (5%) in Ukraine, 1 (2.5%) in Colombia, and 1 (2.%) in India.

Measures

Surrogacy Conception Interview. Children were asked about their views on their surrogacy conception, through questions informed by a previous study of children born to heterosexual parents through surrogacy (Jadva et al., 2012). The interview began as follows: 'Your dads told me that a woman [two women] helped them to have you. Can you tell me more about that?'

The following questions comprised: 'Can you remember when your dads first told you about this?', 'Do you remember how you felt when your dads told you?', 'How do you feel about it now?', 'Do you ever talk about this with your parents?', 'Do you ever talk about this with your friends?', 'How do you feel towards the woman who helped your dads?', 'Why do you think she helped your fathers create your family?', and 'Have you any questions you would like to ask her?'. Data were categorised as follows: (i) child's memory of when he/she was first told (yes, no); (ii) person(s) who disclosed the child's surrogacy origins (fathers, others); (iii) child's initial reaction to disclosure (positive, limited interest, confused, could not recall); (iv) child's current feelings about their birth (positive, limited interest, confused, do not know); (v) child's understanding of his/her surrogacy birth (no understanding, basic understanding, clear understanding). A rating of 'no understanding' was made when the child was unable to demonstrate any understanding of their surrogacy birth. A rating of 'some understanding' was made when the child mentioned terms and phrases that helped explain their conception, e.g. 'my daddies could not have me on their own', without referring to the use of two different women. A rating of 'clear understanding' was made if the child showed an accurate awareness of their conception; (vi) child's discussion with

parents (never, only when fathers name the surrogate/egg donor, spontaneously); (vii) child's discussion with friends (never, only when asked, spontaneously); (viii) child's feelings towards the surrogate/donor (gratitude, limited interest, curiosity, anger); (ix) terminology used when talking about the surrogate/donor (name, mummy tummy/egg mum/donor, kind lady, auntie/family friend, mum); (x) child's beliefs about the surrogate's and egg donor's main motivation for engaging in surrogacy (wanted to help create a family, wanted an extended family, needed money, do not know); (xi) questions for the surrogate/donor (no questions, questions about the conception process, questions about the surrogate/donor, questions about a relationship with the surrogate/donor).

Fathers through Surrogacy Interview. This section of the interview focused on fathers' experiences of surrogacy, using questions in accordance with previous studies of gay father surrogacy families (Blake et al., 2016; Carone et al., 2017a). Fathers were asked about their relationship with the surrogate and egg donor (including the frequency and method of contact) and their disclosure to their children, focusing on the moments and contents of such discussions.

Data were categorised as follows: (i) surrogate/egg donor met since child born (yes, no); (ii) surrogate/egg donor met in past year (yes, no); (iii) number of meetings in past year (1–2, 3 or more); (iv) methods of contact (phone, email, Skype/Facetime, text message/WhatsApp, Facebook friends, cards/gifts/flowers); (v) surrogate/egg donor met with fathers' family (yes, no, father B's sister); (vi) satisfaction with level of contact with surrogate/egg donor (mostly satisfied, neutral, mostly unsatisfied); (vii) quality of relationship with surrogate/egg donor (no relationship; in relationship: harmonious, neutral, negative); (viii) relationship

with surrogate/egg donor's family (no relationship; in relationship: met few times during the process, still in contact via social media, meet throughout the year, father B's sister); (ix) started the process of disclosure (yes, plan to tell in the next years); (x) age of child when first told (0–2 years, 2–4 years, 4–6 years); (xi) stages of disclosure (two dads need help to have a baby, babies carried in women's bellies/tummies, specific reference to surrogate; disclosure of donated egg: yes, plan to tell in the next years, do not know/if child will ask; disclosure of whose sperm was used: yes, plan to tell in the next years, do not know/if child will ask, no); (xii) materials used to disclose (use of children's books about families/reproduction, photos of the surrogate, homemade books/photo albums/videos).

Data analysis

A text-driven qualitative content analysis (Krippendorff, 2013) was used to develop inductive categories and to analyse participants' experiences in a way that best mirrored their own interpretations. The data were analysed by the first coder in a process comprising three stages. First, the author organised the data into an Excel spreadsheet (e.g., all quotations pertaining to 'children's feelings towards their surrogate' were copied into one cell). Second, a coding manual was created to describe the information in each cell. Third, the interviews were rated in accordance with the coding manual, and frequency counts were calculated. Half the transcripts ($n = 20$ father interviews; $n = 16$ child interviews) were recoded by a second researcher to calculate interrater reliability. The average measure of intraclass correlation was good ($\kappa = .88, p < .001$), with a 95% confidence interval from .78

to .95. Any questions or complexities that arose between the two coders were discussed during research team meetings until a consensus was reached.

Quotes illustrating the study findings are reported in Tables 1, 2, 3, and 4. Where appropriate, comparisons between the nature of fathers' relationships with the surrogate versus egg donor, and between children's views on their surrogate versus egg donor, were conducted using χ^2 or Fisher's exact tests. Differences in children's age according to the stages of disclosure were examined using the Kruskal–Wallis H test, whereas differences in children's age according to their level of understanding of conception were assessed through the Mann-Whitney test. The statistical software SPSS version 24 was used to conduct quantitative analysis and a $p < .05$ was considered statistically significant.

Results

Quality of the Relationships Between Families, Surrogates, and Egg Donors

As shown in Table 1, following the birth of the child, more parents had met with the surrogate ($n = 30, 75\%$) than the egg donor ($n = 9, 22.5\%$) ($\chi^2(1) = 22.06, p < .001$). However, there were no differences ($\chi^2(1) = 2.85, p = .09$) between families who had seen the surrogate in the past year ($n = 16, 40\%$) and those who had seen the egg donor ($n = 9, 22.5\%$). Of those who had seen the surrogate, most ($n = 9, 56.2\%$) had met her three times or more. Of those who had seen the egg donor, only two (22.2%) had met her three times or more.

At the time of the interview, fathers were more likely to be in contact with the surrogate ($n = 35, 87.5\%$) than the egg donor ($n = 15, 37.5\%$) ($\chi^2(1) = 21.33, p < .001$). Facebook was the main method of communication with both the surrogate

($n = 29$, 82.8%) and the egg donor ($n = 11$, 73.3%), followed by WhatsApp/text messages (with the surrogate: $n = 22$, 62.8%; with the egg donor: $n = 10$, 66.7%), cards/gifts/flowers on special occasions (with the surrogate: $n = 21$, 60%; with the egg donor: $n = 2$, 13.3%), and occasional emails (with the surrogate: $n = 20$, 57.1%; with the egg donor: $n = 6$, 40%).

Surrogates were more likely to have met the fathers' extended family ($n = 15$, 37.5%) than were egg donors ($n = 5$, 12.5%) ($\chi^2(1) = 7.04$, $p < .001$). Surrogates had met fathers' siblings, parents, and friends ($n = 6$, 40%), and attended weddings ($n = 6$, 40%) and/or baby showers ($n = 3$, 20%). Likewise, fathers were more likely to know the surrogate's family ($n = 30$, 75%) than the egg donor's family ($n = 7$, 17.5%) ($\chi^2(1) = 26.60$, $p < .001$). Of those who knew the surrogate's family, the majority had travelled with or visited them ($n = 13$, 43.3%) and the remaining had only met them a few times during the process ($n = 10$, 33.3%) or were still in contact via social media ($n = 6$, 20%). In contrast, only three families had met the egg donor's family during the process (42.9%), three families had chatted with them on Facebook (42.9%), and only one had met with them during the past years.

Fathers did not differ in their satisfaction with their level of contact with the surrogate versus the egg donor ($\chi^2(2) = 1.31$, $p = 0.51$). Most fathers were satisfied with their contact with the surrogate ($n = 21$, 52.5%), about one-third felt neutral ($n = 12$, 30%), and 7 were unsatisfied (17.5%) because they wanted more contact. Likewise, 16 fathers (40%) were satisfied with their contact with the egg donor, 16 felt neutral (40%), and the remaining 8 (20%) were unsatisfied because they wanted more contact or wished the egg donor was open-identity.

A difference was found between the quality of families' relationships with the surrogate versus the egg donor ($\chi^2(1) = 23.33, p < .001$). Most families with a relationship with the surrogate ($n = 35, 87.5\%$) described the relationship as harmonious ($n = 20, 57.1\%$), and the remaining families described it as distant, with little communication and/or apparent warmth ($n = 15, 42.9\%$). Conversely, most families with a relationship with the egg donor ($n = 15, 31\%$) described the relationship as distant ($n = 10, 66.7\%$), and the remaining families described it as harmonious ($n = 5, 33.3\%$). None of the families had a negative relationship with both the surrogate and the egg donor.

Table 1 *Family Relationships with Surrogates and Egg Donors*

	Surrogate <i>n</i> = 40	Egg donor <i>n</i> = 40	$\chi^2 /$ Fisher's exact test	Illustrative quotes
Met since child born			22.06(1)*	
Yes	30 (75%)	9 (22.5%)		“Probably three years ago [...] She and her husband came to our house in [place name] to know the child. He was almost 5, he was old enough to be able to interact a bit with them.” (SU)
No	10 (25%)	31 (77.5%)		
Seen in past year			2.85(1)	
Yes	16 (40%)	9 (22.5%)		“We haven't seen her probably for over a year now, physically.” (ED)
3 +	9 (56.2%)	2 (22.2%)		
1–2 times	7 (43.8%)	7 (77.8%)		
No	24 (60%)	31 (77.5%)		
Contact maintenance			21.33(1)*	
Contact	35 (87.5%)	15 (37.5%)		“We follow each other on Facebook, I email her and send her pictures probably several times a year. The frequency of other communications is decreasing.” (ED)
<i>Facebook friends</i>	29 (82.8%)	11 (73.3%)		
<i>Whatsapp/text message</i>	22 (62.8%)	10 (66.7%)		
<i>Cards/gifts/flowers</i>	21 (60%)	2 (13.3%)		
<i>Email</i>	20 (57.1%)	6 (40%)		
<i>Skype/FaceTime</i>	16 (45.7%)	4 (26.7%)		
<i>Phone</i>	9 (25.7%)	1 (6.7%)		
No contact	5 (22.5%)	25 (62.5%)		
Met fathers' families of origin			7.04(1)*	
Yes	15 (37.5%)	5 (12.5%)		“She and her daughters came to our civil partnership and they physically met our families.” (SU)
<i>Siblings, parents, friends</i>	6 (40%)	4 (80%)		
<i>Baby showers</i>	6 (40%)	1 (20%)		
<i>Weddings/civil partnerships</i>	3 (20%)	0		
No	24 (60%)	35 (87.5%)		
FB's sister	1 (2.5%)	0		

Satisfaction with level of contact				1.31(2)	“I’m satisfied, it’s what we wanted. If I felt that she wanted more contact we’d definitely do it more, but there’re no problems with the surrogate in the process or anything like that, it was great. I think we both are on the same page.” (Mostly satisfied, SU)
Mostly satisfied	21 (52.5%)	16 (40%)			
Neutral	12 (30%)	16 (40%)			
Mostly unsatisfied, wants more	7 (17.5%)	8 (20%)			
Quality of relationship with fathers				23.33(1)*	“I think there is a healthy distance between us. I don’t think I would want to have her too involved in [child’s name]’s life. So I think I want a good relationship though. And, uh, for [child’s name]’s sake. In case she expresses any curiosity about knowing who carried him…” (Distant relationship, SU)
No relationship	5 (15%)	25 (69%)			
Relationship	35 (85%)	15 (31%)			
<i>Harmonious</i>	20 (57.1%)	5 (33.3%)			
<i>Distant</i>	15 (42.9%)	10 (66.7%)			
<i>Negative</i>	0	0			
Relationship with SU/ED’s family				26.60(1)*	“She and her family come for spending holidays together about every two years.” (SU)
No relationship	10 (25%)	33 (82.5%)			
Known	30 (75%)	7 (17.5%)			
<i>Meetings during the year</i>	13 (43.3%)	1 (14.2%)			
<i>Met few times during the process</i>	10 (33.3%)	3 (42.9%)			
<i>Still in contact via social networks</i>	6 (20%)	3 (42.9%)			
<i>FB’s sister</i>	1 (3.3%)	0			

Note. In the illustrative quotes section, SU refers to the surrogate and ED refers to the egg donor. As some fathers engaged in multiple methods of contact maintenance, percentages do not equal 100. * $p < .001$.

Parental Disclosure of Origins

Most fathers ($n = 34$, 85%) had started to talk to their children about their origins, and the remaining planned to disclose in the next few years (table 2). Apart from two sets of families, all had started the disclosure process before the child's age of 4 ($n = 32$, 94.1%). Of the fathers who had begun to disclose, 29 (85.3%) had discussed the fact that two men needed help creating a family, 27 (79.4%) had explained that babies are carried in women's bellies, and about two-thirds had made specific reference to the surrogate ($n = 22$, 64.7%). Sixteen families ($n = 16$, 40%) had mentioned the use of a donated egg and only four (10%) had begun to disclose which father's sperm had been used in the child's conception. The Kruskal-Wallis H test showed that children's age significantly differed across the stages of disclosure ($\chi^2(3) = 11.85, p < .01$). Dunn's post-hoc tests revealed that children who were fully disclosed (i.e., the use of both a surrogate and an egg donor, as well as the fathers' genetic relatedness) ($mean\ rank = 35$) were significantly older ($p < .01$, adjusted using the Bonferroni correction) than children who were only aware of the use of a surrogate ($mean\ rank = 14.61$). To disclose, fathers used a variety of materials, including children's books ($n = 23$, 67.6%), homemade books, photo albums, and videos ($n = 18$, 52.9%), and photos of the surrogate ($n = 16$, 47%).

Table 2 *Decisions Over Disclosure*

The disclosure process	n (%)	Illustrative quotes
Started the process of disclosure	34 (85%)	
Plan to disclose in the next years	6 (15%)	“We’ve always talked very openly because [SU’s name], her husband and daughter will always be part of our life. So we, since he could understand anything, we’ve always talked about their role in our life, and as he gets older we add more colour and depth to the story.”
Age of child when first told		
0–2 years	11 (32.3%)	
2–4 years	21 (61.8%)	“It was probably when the kids were around 2.”
4–6 years	2 (5.9%)	
Stages of disclosure (n = 34 disclosed)		
Two dads need help to have a baby	29 (85.3%)	“Since he was born we explain about, like a tale, that we loved each but we couldn’t have baby on ourselves [...] so one kind lady, actually two, helped us.”
Babies carried in women’s bellies/ tummies	27 (79.4%)	“She has the understanding that she was in [SU’s name]’s tummy and she helped us in all of this.”
Specific reference to the surrogate	22 (64.7%)	“Since we’ve explained he was in her belly for several months, we also told who she is. We showed a picture of us with [SU’s name].”

Disclosure of the donated egg (<i>n</i> = 40)		
<i>Yes</i>	16 (40%)	“We’ve talked to her about the donor, but that’s quite difficult, just the language.”
<i>Plan to disclose in the next years</i>	19 (47.5%)	
<i>Don’t know/if child will ask</i>	5 (12.5%)	
<i>No</i>	0	
Disclosure of whose sperm was used (<i>n</i> = 40)		
<i>Yes</i>	4 (10%)	“Someday he’ll ask about the sperm for sure, and then we’ll have to give him his answers.”
<i>Plan to disclose in the next years</i>	9 (22.5%)	
<i>Don’t know/ if child will ask</i>	13 (32.5%)	
<i>No</i>	14 (35%)	
Materials used (<i>n</i> = 34 disclosed)		
Children’s books about families/reproduction	23 (67.6%)	“We got a book from the association of gay parents we are part of. It’s about different families [...] I was choosing something to read one day and [child] picked it up and read it and bought it back and said, ‘Look, look, this is a family just like ours. This is daddy and this is papa and this is me.’”
Homemade books/photo albums/videos	18 (52.9%)	“We’ve a birth book, we call it ‘our surrogacy storybook’, it collects the first months of their lives, and the hospital, and [surrogate] giving birth with us there.”
Photos of the surrogate in the house	16 (47%)	“We’ve always had a picture of us with [SU], with our arms around her when she’s like nine months pregnant with the boys. And we’re like, ‘That’s [SU’s name], the nice woman who helped us become a family. This is us when you were inside her belly.’”

Note. As some fathers disclosed multiple aspects of the process and used multiple materials to disclose, percentages do not equal 100.

Children's Views on Their Surrogacy Origins

All of the 31 children older than 6 years had been informed by their fathers of their surrogate's identity, whilst only 25 had been told about their egg donor. Most ($n = 17$, 54.8%) showed a clear understanding of the nature of their conception, as illustrated through an awareness that their fathers had been helped by one woman who had donated an egg and another woman who had carried them in her tummy. The Mann-Whitney test showed that the older the children, the higher the level of understanding they had reached ($U = 37$, $p < .01$). About half of the children ($n = 15$, 48.4%) discussed their conception with their fathers only when their fathers named the surrogate and/or the egg donor, and two-thirds ($n = 21$, 67.7%) discussed surrogacy when friends asked questions about their family arrangement.

About three-quarters of the children ($n = 24$, 77.4%) remembered the moment at which they were first told about their conception (table 3). Among these children, about one-third ($n = 10$, 41.7%) remembered feeling positive (i.e., curious or special) in that moment, eight (33.3%) remembered showing limited interest, four (16.7%) could not recall, and two (8.3%) were confused because they did not understand the question. When children were asked about their current feelings about having been surrogacy-conceived, most ($n = 19$, 61.3%) expressed limited interest, 11 (35.5%) felt positive, and 1 (3.2%) was unsure how he felt.

As shown in table 4, the children differed in their feelings towards their surrogate versus their egg donor (Fisher's exact test, $p < .01$), with more children feeling grateful towards their surrogate ($n = 22$, 71%) and expressing limited interest in their donor ($n = 11$, 44%). However, two children (8%) felt angry that

their donor was not in contact with the family, and a further two children (8%) wanted to know their donor. Likewise, the children explained their surrogate's and egg donor's roles using different terms (Fisher's exact test, $p < .001$). More children considered their surrogate an 'auntie' ($n = 17, 54.8\%$) and called their egg donor a 'kind lady' ($n = 12, 48\%$) and/or 'donor' ($n = 6, 24\%$).

Children had differing questions about their surrogate versus their egg donor (Fisher's exact test, $p < .05$). More children wanted to know about their surrogate's life and family ($n = 16, 51.6\%$) and had no particular questions for their egg donor ($n = 14, 56\%$). However, four children (16%) had questions about a future relationship with their egg donor, even though she had no contact with their fathers. Conversely, children's beliefs about their surrogate's versus egg donor's motivations for undertaking surrogacy did not differ (Fisher's exact test, $p = .21$). Most believed that their surrogate ($n = 19, 61.3\%$) and egg donor ($n = 17, 68\%$) had both wanted to help create a family.

Table 3 *Children's Experiences and Understanding of Their Surrogacy Origins*

	<i>n</i> = 31 (%)	Illustrative quotes
Remember when first told		
Yes	24 (77.4%)	“Mmm, I’m not sure, I’d say no, I don’t remember that.” (6-year-old boy)
No	7 (22.6%)	
Who disclosed		
Fathers	31 (100%)	“We’re in the kitchen around the table and daddy started telling me a story of two sailors who needed the help of a woman.” (7-year-old girl)
Others	0	
Response to disclosure (<i>N</i> = 24)		
Positive	10 (41.7%)	“I was a bit confused, confused and surprised because, uhm, I did not remember that [SU’s name] gave me birth when I was 2 or 3 years.” (Feeling confused, 7-year-old girl)
<i>Special</i>	5 (50%)	
<i>Curious</i>	5 (50%)	
Limited interest	8 (41.7%)	
Could not recall	4 (16.7%)	
Confused	2 (8.3%)	
Current feelings about having been surrogacy-conceived		
Limited interest	19 (61.3%)	“I’m a special boy [...] I’ve two daddies, and I came out from the belly of [SU’s] name who is not my mum. Everyone come out from his mother’s belly, but not me. That’s incredible!” (Feeling positive/special, 11-year-old boy)
Positive	11 (35.5%)	
<i>Special</i>	8 (72.7%)	
<i>Curious</i>	3 (27.3%)	
Confused	0	
Don’t know	1 (3.2%)	
Children’s understanding	17 (54.8%)	
Clear understanding	14 (45.2%)	“Daddy went to the doctor who had three rooms [...] In one he took the egg and put it in a bag, in another room he took the seed and put it in another bag. Then they went to the third room and put both together in [SU’s name]’s tummy [...] They waited for nine months and then I arrived. My daddies were lucky because the egg and the seed combined at the first attempt.” (Clear understanding, 12-year-old boy)
Some understanding	0 (%)	
None		

Discussion with parents		
Only when fathers name her	15 (48.4%)	“When she comes here to visit us and then she leaves, my daddies, especially [father’s name], ask me if I have any question [...] Maybe they want to be sure that all is clear to me, I don’t know why.” (10-year-old boy)
Only when they meet	7 (22.6%)	
Never	5 (16.1%)	
Spontaneously	4 (12.9%)	
Discussion with friends		
Only when they are asked	21 (67.7%)	“They don’t believe that I have two daddies and I was born from the [SU’s name]’s belly who live in the US [...] they are always asking, it’s so booring to explain!” (9-year-old girl)
Never	8 (25.8%)	
Spontaneously	2 (6.5%)	

Table 4 *Children's Views on Their Surrogate and Egg Donor*

	Surrogate <i>n</i> = 31 (%)	Egg donor <i>n</i> = 25 (%)	Fisher's exact test <i>P</i> = .002	Illustrative quotes
Feelings				
Gratitude	22 (71%)	10 (40%)		"I'm here because she made me, but she is not my first thought of the day and actually even the last one [...] uhm, because we live far away and we have met 3 to 4 times. How can she affect my life?" (Limited interest SU, 10-year-old boy)
Limited interest	9 (29%)	11 (44%)		
Curiosity	0	2 (8%)		
Anger	0	2 (8%)		
Main terminology used to define her role			<i>P</i> = .006	
Auntie/family friend	17 (54.8%)	3 (12%)		"She is auntie [SU's name] and her two children are my cousins." (Auntie, 7-year-old boy)
Kind lady	6 (19.4%)	12 (48%)		
Called by name	3 (9.7%)	3 (12%)		"Since a couple of months in the cafeteria my friends and I are daydreaming about the fact that I could have a mum somewhere and brothers around the world! Because she may probably have donated to other families, she could be married, and I like it. Although probably it is not so, I like to think about it." (Mum ED, 11-year-old girl)
Mummy tummy/Egg mum/Donor	3 (9.7%)	6 (24%)		
Mum	2 (6.4%)	1 (4%)		
Questions			<i>P</i> = .03	
About her life and family	16 (51.6%)	5 (20%)		"I would like to know how they did me if they didn't have sex [...] how they put me in [SU's name]'s tummy" (Questions about the conception process SU, 8-year-old boy)
None	10 (32.3%)	14 (56%)		
About the conception process	4 (12.9%)	2 (8%)		
About a relationship with her	1 (3.2%)	4 (16%)		
Beliefs about her motivation			<i>P</i> = .21	
She wanted to help create a family	19 (61.3%)	17 (68%)		"Because she understood how important having a family was for my daddies and she decided to help them." (She wanted help create a family ED, 7-year-old boy)
She wanted an extended family	7 (22.6%)	1 (4%)		
She needed money	2 (6.5%)	4 (16%)		
Don't know	3 (9.6%)	3 (12%)		

Discussion

This study was the first to investigate the children of gay fathers' experience and understanding of surrogacy from their own perspective. The findings show that in almost all families surrogacy was disclosed to the children by the time they reached age 4. Initially, disclosure explained the non-traditional family structure and need of a woman's belly, and details related to the donated egg and – more rarely – which father's sperm was used were added as the child grew older.

Most children showed a clear understanding of surrogacy in middle childhood. This finding contrasts with data from children aged 7 to 10 born to heterosexual parents using gamete donation (Blake, Casey, Readings, Jadvá, & Golombok, 2010; Blake, Casey, Jadvá, & Golombok, 2014) or surrogacy (Jadvá et al., 2012), which show that the children had only some understanding of their birth. The present study's findings not only support the view that surrogacy may be easier for children to understand than gamete donation (Readings et al., 2011), but also that the immediate exposure of children in gay father families to the diversity of their family (i.e., a family structure with two dads and no mother) means that their origins are explained early and they have more time to integrate this information.

Of note, disclosure rates relating to the use of a donated egg (40%) and genetic relatedness (10%) were very low, compared to the disclosure rates relating to the use of a surrogate (85%). There are several possible explanations for this. First, a vague suggestion of the egg donor's role was often incorporated into discussions about the gay fathers' need for two women to conceive. Second, at the child's age of 6 (the mean age of the target child), fathers' explanations of surrogacy (i.e., 'two dads need help to have a baby', 'babies are carried in women's bellies')

did not necessitate a sophisticated understanding of human reproduction and the role of gametes. Third, a number of fathers reported that their intention to become parents mattered more than genetic relatedness, though this finding stands in contrast to those of studies showing that genetic connection to the child is greatly valued by gay fathers using surrogacy (Blake et al., 2017; Carone et al., 2017a; Dempsey, 2013; Murphy, 2013). Finally, the very low rate of disclosure regarding which father's sperm was used might suggest that fathers did not feel comfortable sharing this information with their children. Among the non-disclosing fathers, 60% intended to eventually disclose their use of an egg donor and 55% intended to eventually disclose whose sperm had been used. However, it cannot be known whether this intention to disclose will translate into actual disclosure in the future. Prior to disclosing this additional information, the parents may feel that they have disclosed the nature of their child's conception, but the child will not know the full story.

Consistent with most of the 10-year-old children of heterosexual parents who were interviewed by Jadvá and colleagues (2012) and the findings of studies with gamete donation families (Blake et al., 2010; Zadeh, Freeman, & Golombok, 2017), the majority of children in the present study expressed limited interest in their surrogacy conception. This suggests that surrogacy was not at the forefront of their thoughts. This finding may be particular to the Italian context, where public discussion of assisted reproduction is rare or occurs only in contexts in which children are less involved (e.g., tv debates, newspapers). However, because several children with limited interest claimed that they had not extensively thought about it, it is likely that they lacked the adequate vocabulary to explain their feelings in

detail. Finally, loyalty to their fathers may have prevented some children from admitting personal struggles with their conception (Vanfraussen, Ponjaert-Kristoffersen, & Brewaeys, 2001).

Contrary to concerns that children of gay fathers find it difficult to deal with their origins (Golombok et al., 2015; Lingiardi & Carone, 2016a), none of the children in this study showed negative feelings towards their surrogacy conception during middle childhood. Some children even felt grateful that a surrogate and egg donor had helped their fathers create a family; others were not particularly interested. These feelings were also mirrored by the terms children used to define them, with most considering the surrogate as an 'auntie' and the egg donor as a 'kind lady', their 'egg mum' or 'just a donor'.

Understanding the factors that contribute to children's narratives about surrogates and egg donors is challenging. While age of disclosure has been found to be relevant to children's perceptions of the donor and donor conception (Hertz, Nelson, & Kramer, 2013; Jadva, Freeman, Kramer, & Golombok, 2009), in this study all children were disclosed to at a young age. Children's representations of and feelings towards their surrogate and egg donor may have instead been more influenced by their parents' explanations. Most of the fathers used children's books and/or homemade books, photo albums, and videos when disclosing, and described the surrogate and egg donor in terms such as 'belly', 'tummy', 'little eggs', 'generous helpers', 'kind ladies', and 'aunties'.

Three children used the term 'mum' when referring to their surrogate ($n = 2$) and egg donor ($n = 1$). However, studies of donor-conceived children have shown that children's use of terms such as 'dad' or 'father' does not imply their desire to

develop a father–child relationship with that person (Jadva et al., 2009; Scheib, Riordan, & Rubin, 2005; Zadeh et al., 2017b). In this light, the view commonly assumed by the public debate that children who are conceived through surrogacy will want or miss a maternal relationship with their surrogate and/or egg donor (Golombok, 2015) is misleading. Rather, in this study, children's use of the term 'mum' was likely influenced by the multiple heteronormative social contexts with which they interacted daily (e.g., school, the media), that express views on how families are and should be constructed and thus confront them with words that they try to integrate into their narratives. The children were at an extremely influential age, and it is reasonable to assume that peers may have influenced their dominant narratives of family life. In this sense, amendments to the school syllabus that explain family diversity and teaching resources about same-sex parent families and human reproduction may be helpful (Guasp, 2010).

Given the debate over the terminology parents should adopt when discussing their child's conception with their child (Beeson, Darnovsky, & Lippman, 2015; Daniels & Thorn, 2001) and the idea that family communication about conception is bidirectional between parents and children (Van Parys, Wyverkens, Provoost, De Sutter, Pennings, & Buysse, 2016), future research should address fathers' and children's co-construction of the surrogacy conception narrative as children age. It is perhaps not until adolescence – a period at which identity issues become of prime concern – that children are able to form their own views about the nature of their conception. Without such data, firm conclusions on children's meaning-making of their conception cannot be drawn.

Despite the view that surrogacy arrangements are more likely to end positively when they are entered into on an altruistic basis (Brazier, Campbell, & Golombok, 1998), this study suggests that even commercial surrogacy arrangements can facilitate a successful father–surrogate relationship. In line with previous research on gay father surrogacy families (Blake et al., 2016; Carone et al., 2017a; Dempsey, 2015; Greenfeld & Seli, 2011; Murphy, 2015; Smietana et al., 2014), this study found that fathers were more likely to maintain a relationship with the surrogate than the egg donor. In the majority of cases, the quality of the father–surrogate relationship was harmonious; most surrogates met the child after the birth and some also met the fathers' family and friends. Further, many fathers connected with their surrogate's husband and children, spending holidays with them and establishing friendships.

Conversely, only 31% of the fathers had a relationship with the egg donor. This discrepancy could be explained by inherent differences in the egg donor and surrogate role: intended fathers and surrogates have the opportunity to develop a relationship over many months (from the matching process to the child's birth), whereas egg donors do not. Fathers may also express different preferences in their choice of surrogate and egg donor, and this may affect the nature of their relationship with these persons in the future. Other studies have shown that fathers are more likely to be interested in potential future contact with the surrogate than the egg donor, and more likely to be interested in the egg donor's medical history and physical appearance than the surrogate's (Dempsey, 2015; Greenfeld & Seli, 2011; Murphy, 2015; Smietana et al., 2014).

However, although the egg donor was generally invisible in the gay father families, over 70% of the fathers had deliberately chosen an egg donor with whom there was some chance of future contact. It is therefore possible that as the children grow up and have a better understanding of – and more curiosity about – their origins, contact with the egg donor may occur or become more frequent. If and how this will occur will be worthy of further investigation.

The convenience nature of this sample must be taken into account when interpreting the findings, as it is possible that families with fathers who had a particularly positive experience may have been more likely to participate in the research. Further, in collecting data for this study, the researchers were challenged to navigate sensitive issues such as gay fathers' decisions over disclosure. The interviewers were trained to be aware of the sensitivity of certain questions, and the interviews involved detailed questioning about the surrogacy experience in order to limit the risk of socially desirable responding. Future research would benefit from a longitudinal approach, to avoid the bias of retrospective recall. This study does, however, align with the larger literature on families created by surrogacy, finding that relationships between parents, children, and surrogates are rarely problematic when children are in early and middle childhood (Blake et al., 2016; Carone et al., 2017a; Jadvá et al., 2012). Although a variety of recruitment procedures were used to diversify the sample, the gay father surrogacy families were necessarily unique in terms of income, given the high cost of the surrogacy procedure. As the number of gay father surrogacy families grows over time, future researchers should optimise recruitment strategies to increase the likelihood of generating a representative sample.

Obtaining information from young children is difficult due to their limited vocabulary, comprehension, and attention span. The researchers were trained to respond to children's cues of discomfort in the interviews and to not ask expansive responses when these appeared. A possible limitation of the study is that, in nine cases, children belonged to the same family. This may have biased the results, as it is possible that these children had similar experiences. However, as not all children within each family gave the same responses, it is likely that children within the same family had different experiences of surrogacy.

Prior to this study, the voice of children born to gay fathers through surrogacy had not been heard. These findings have important implications for psychologists and fertility counsellors, as they provide an in-depth examination of gay fathers' relationships with surrogates and egg donors, their disclosure decisions, and their children's views on their origins. Fathers should be more particular when choosing an egg donor in order to ensure a chance of future contact with her, should their children be interested in this when they are older. Future research on factors influencing children's request for contact with – or interest in – the surrogate and/or egg donor (e.g., older age, strategy of attachment to their fathers) and their feelings in the event that contact is not possible will be important to adequately prepare families for such events.

Conclusions

So what can be concluded about the development of children in gay father families formed through surrogacy? The main findings of each study are presented below:

Main findings of the research project	
<i>Factors associated with children's psychological adjustment</i>	The only differences between gay father and lesbian mother families indicated higher levels of stigmatization and lower levels of internalizing problems in children of gay fathers, as reported by parents. However, internalizing problems in both groups scored within the normal range and the effect of family type on higher levels of internalizing problems was not confirmed by the ratings of teachers and the child psychiatrist. No differences in child externalizing problems, parenting quality, or parent-child relationships emerged across family types. Factors associated with children's behavioral problems were the child male gender, high stigmatization, and negative parenting; child internalizing problems were predicted by stigmatization, low family income, and being raised in a lesbian mother family. Finally, gay fathers did not tend to underestimate their children's adjustment outcomes relative to teachers.
<i>Children's gender-typed play behavior</i>	Irrespective of family type, boys showed significantly more masculine activities and preferences than girls during their play, yet the perceived play behavior of boys and girls in gay father families were less similar than the perceived play behavior of boys and girls in lesbian families. Furthermore, boys in gay father families demonstrated more masculine play behavior than boys in lesbian mother families, and girls in gay father families demonstrated more feminine play behavior than girls in lesbian mother families.
<i>Children's attachment security and their utilization of parents as safe havens and secure base supports</i>	In total, 45.5% of children with gay fathers were classified (with the Friends and Family Interview, FFI) as secure, 39.4% as insecure-dismissing, 12.1% as insecure-preoccupied, and 3% as disoriented-disorganized, and no differences were found between family types. These findings are in line with the distribution of attachment in middle childhood reported by Bakermans-Kranenburg and Van IJzendoorn (2009). High levels of parental warmth, responsiveness, and willingness to serve as an attachment figure, and low levels of parental negative control and rejection, as well as the child's younger age – but not family type – predicted attachment security. In both family types, children reported greater safe haven support from primary caregivers and greater secure base support from secondary caregivers, using both the FFI and the Security Scale Questionnaire.

*Children's feelings
about, and
understandings of,
their surrogacy
origins*

Most children ($n = 17$, 54.8%) showed a clear understanding of the nature of their conception, with greater understanding associated with older age. When children were asked about their current feelings about having been surrogacy-conceived, most ($n = 19$, 61.3%) expressed limited interest, 11 (35.5%) felt positive, and 1 (3.2%) was unsure how he felt. The children differed in their feelings towards their surrogate versus their egg donor, with more children feeling grateful towards their surrogate and expressing limited interest in their donor. Likewise, more children considered their surrogate an "auntie" ($n = 17$, 54.8%) and called their egg donor a "kind lady" ($n = 12$, 48%) and/or "donor" ($n = 6$, 24%).

It is important to note that this research project focused on the effects for children of having been born to gay fathers through surrogacy compared to the effects for children of having been born to lesbian mothers through donor insemination. The study was an attempt to move away from a heterosexist research focus (Biblarz & Stacey, 2010) in order to learn more about the peculiarities that may characterize same-sex parent families. The project thus explored the impact of parental gender – and the relative impact of family structure and family processes – on children's socio-emotional and gender development, as well as their security of attachment to parents. The sample, comprising both gay and lesbian families, enabled the lack of a genetic and/or gestational relationship between one parent and the child to be investigated, while controlling for the effects of the parents' sexual orientation and the number of parents in the family.

The fact that some family processes were associated with more negative outcomes for children meant that family structure, deriving from the parents' non-heterosexual orientation, did not have a direct impact on children's psychological adjustment. Consequently, the findings should warn policy-makers against making assumptions about people with access to fertility treatments on the basis of gender or sexual orientation. Similarly, healthcare professionals who encounter same-sex

parent families should not mistakenly assume that problems presented by a child with gay fathers or lesbian mothers are necessarily connected with parental sexual orientation. In this sense, to prevent heterosexism – that is, the assumption that all families have heterosexual parents – all aspects of work with children and families should consider whether gay and lesbian parents are being excluded. For instance, this should involve a review of language (e.g., information leaflets or posters) to ensure that a wide enough range of family forms is included (Tasker, 2005). On the other hand, practitioners should bear in mind that parents and children may feel that they are being asked to justify all aspects of their family life, or that they are being asked questions that would not have been put to heterosexual parents or their children (e.g., questions about marital status or a parent's genetic relationship to the child).

In many ways, our study findings align with those from the growing body of research on same-sex parent families suggesting that family processes such as warmth, the parent–child relationship, and the quality of parenting, as well as the quality of the wider social environment, are more predictive of children's socio-emotional development than family structure (Goldberg, 2010; Golombok, 2015; Lamb, 2012; Patterson, 2017). Another contribution is the finding that parent gender may be less important in parenting than often assumed (Biblarz & Stacey, 2010; Fagan et al., 2014). At the same time, our research highlighted the significance of variables that are often associated with the experiences of lesbian and gay parents, such as stigma (Bos & Gartrell, 2010; Bos & van Balen, 2008).

While social and political climates relating to the rights of sexual minorities in Italy are shifting (Lingiardi, 2016), the stigmatization experienced by same-sex

parents is real, and should be a central consideration in family policy and practice (Ioverno et al., 2017; Taurino, 2016). Although children in surrogacy families headed by gay fathers do not show adjustment problems, certain aspects of this family type may present difficulties for children. In the present study, some children who showed limited interest in their surrogate and/or donor – and more generally, their method of conception – may gain interest in adolescence or beyond. Similarly, they might feel distressed when learning the identity of their genetic father, or experience stigma at school. In light of these potential scenarios, the provision of psychological support for gay and lesbian people embarking on assisted reproduction using surrogacy or donated gametes, and programs designed to inform schools about the needs of children with same-sex parents and to counter homophobia, will likely enhance the well-being of children in these emerging family forms.

In terms of wider theoretical perspectives, the findings of this empirical research project highlight the value of a developmental systems approach (Overton, 2015), which considers the complex interactions between children, families, and their wider social world when understanding the internal processes of same-sex parent families (e.g., children's socio-emotional well-being, gender-typed behavior, security of attachment to parents, and views on their surrogacy origins, as well as parenting quality and parent-child interaction). Future studies should consider children's temperament and personality characteristics, as these may affect the way in which children cope with their family environment. In fact, very little is known about individual differences in children's responses to growing up in such "modern families" (Golombok, 2015), in which parents' sexual orientation and family

arrangement deviate from the norm of two heterosexual parents who are both genetically related to their children. Furthermore, from a life-span perspective, it is important to stress that particular challenges (e.g., identity issues related to having been surrogacy-conceived) may arise at specific developmental transitions and become integrated into one's sense of identity.

Looking ahead, nationally representative surveys would enable us to establish the generality of the present study's conclusions on the effects of same-sex parenting on children's development (e.g., their socio-emotional well-being, gender development, and quality of attachment), which were somewhat limited by the sample size and convenience sampling. A large dataset would also enable us to control for fixed effects in order to establish whether developmental outcome deficits might shrink once the variation in socio-demographic factors is controlled for. We should also perform additional research on the intersectionality of child's gender, parental sexual orientation, class, ethnicity, and the socio-legal context, as this may help explain the variability within same-sex parent families (Tasker, 2010).

In this research, little attention was paid to the positive consequences for children of having been raised in gay father surrogacy families. A change of perspective to focus on the positive aspects of being raised in a same-sex parent family might inspire a fruitful new line of research that, in turn, could shed light on the strengths and protective factors on which children in these family forms may rely. Finally, national variation in the socio-legal context, with the introduction of same-sex marriages (e.g., in the US and most European countries) and civil partnership legislation (e.g., in the UK), call for research on the influence of this

context on gay and lesbian parents, especially when legislation recognizes a couple's civil rights, but not the non-genetic parent's relationship with the child (as in Italy). Whether this situation results in a greater risk of psychological difficulties in parent-child relationships merits urgent examination. All in all, the possible influence of parental gender and non-heterosexual orientation on children's outcomes merits further exploration, preferably through mixed-method designs and with larger and more diverse samples.

We once assumed genetic ties among family members (Golombok, 2015), but as lesbian and gay couples continue to have children via donor insemination and surrogacy, an increasing number of children of same-sex couples will be genetically linked to only one parent. Future research into the influence of having only one parent with a genetic relationship with the child on family interactions and relationships would add to our knowledge of the variations within same-sex parent families. This, in combination with longitudinal research tracking the developmental trajectories of the families we visited in this study, is a future advancement of this research project.

References

- Abraham, E., Hendler, T., Shapira-Lichter, I., Kanat-Maymon, Y., Zagoory-Sharon, O., & Feldman, R. (2014). Father's brain is sensitive to childcare experiences. *Proceedings of the National Academy of Sciences of the United States of America*, *111*, 9792–9797. doi: 10.1073/pnas.1402569111
- Abrines, N., Barcons, N., Marre, D., Brun, C., Fornieles, A., & Fumadó, V. (2012). ADHD-like symptoms and attachment in internationally adopted children. *Attachment and Human Development*, *14*, 405–423. doi: 10.1080/14616734.2012.691656
- Ainsworth, M. D. S. (1989). Attachments beyond infancy. *American Psychologist*, *44*, 709–716. doi: 10.1037/0003-066X.44.4.709
- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the strange situation*. Hillsdale, NJ: Erlbaum.
- Ammaniti, M., Speranza, A. M., & Fedele, S. (2005). Attachment in infancy and in early and late childhood. In K. A. Kerns & Richardson R. A. (Eds.), *Attachment in middle childhood* (pp. 115–136). New York, NY: Guilford Press.
- Ammaniti, M., Van IJzendoorn, M. H., Speranza, A. M., & Tambelli, R. (2000). Internal working models of attachment during late childhood and early adolescence: An exploration of stability and change. *Attachment and Human Development*, *2*, 328–46. doi: 10.1080/14616730010001587
- Antill, J. K., Russell, G., Goodnow, J. J., & Cotton, S. (1993). Measures of children's sex typing in middle childhood. *Australian Journal of Psychology*, *45*, 25–33. doi: 10.1080/00049539308259115

- Armesto, J. C. (2002). Developmental and contextual factors that influence gay fathers' parental competence: A review of the literature. *Psychology of Men & Masculinity, 3*, 67–78. doi: 10.1037//1524-9220.3.2.67
- Armuand, G., Lampic, C., Skoog-Svanberg, A., Wånggren, K., & Sydsjö, G. (2017). Survey shows that Swedish healthcare professionals have a positive attitude towards surrogacy but the health of the child is a concern. *Acta Paediatrica*, 1–9. Advance online publication. doi: 10.1111/apa.14041
- Arnott, B., & Meins, E. (2007). Links among antenatal attachment representations, postnatal mind-mindedness, and infant attachment security: A preliminary study of mothers and fathers. *Bulletin of the Menninger Clinic, 71*, 132–149. doi: 10.1521/bumc.2007.71.2.132
- Aspland, H., & Gardner, F. (2003). Observational measures of parent-child interaction. *Child and Adolescent Mental Health, 8*, 136–144. doi: 10.1111/1475-3588.00061
- Averett, K. (2016). The gender buffet: LGBTQ parents resisting heteronormativity. *Gender & Society, 30*, 189–212. doi: 10.1177/0891243215611370
- Baiocco R., & Laghi, F. (2013). Sexual orientation and the desires and intentions to become parents. *Journal of Family Studies, 19*, 90–98. doi: 10.5172/jfs.2013.19.1.90
- Baiocco, R., Santamaria, F., Ioverno, S., Fontanesi, L., Baumgartner, E., Laghi, F., & Lingiardi, V. (2015). Lesbian mother families and gay father families in Italy: Family functioning, dyadic satisfaction, and child well-being. *Sexuality Research and Social Policy, 12*, 202–212. doi:10.1007/s13178-015-0185-x

- Bakermans-Kranenburg, M. J., & van IJzendoorn, M. H. (2009a). The first 10,000 Adult Attachment Interviews: Distributions of adult attachment representations in clinical and non-clinical groups. *Attachment & Human Development, 11*, 223–263. doi: 10.1080/14616730902814762
- Bakermans-Kranenburg, M. J., & van IJzendoorn, M. H. (2009b). No reliable gender differences in attachment across the lifespan. *Behavioral and Brain Sciences, 32*, 22–23. doi: 10.1017/S0140525X0900003X
- Bakermans-Kranenburg, M. J., van IJzendoorn, M. H., & Juffer, F. (2003). Less is more: Meta-analyses of sensitivity and attachment interventions in early childhood. *Psychological Bulletin, 129*, 195–215. doi:10.1037/0033-2909.129.2.195
- Bandura, A. (1977). *Social learning theory*. London: Prentice Hall.
- Bandura, A. (1986). The explanatory and predictive scope of self-efficacy theory. *Journal of Social and Clinical Psychology, 4*, 359–373. doi: 10.1521/jscp.1986.4.3.359
- Barcons, N., Abrines, N., Brun, C., Sartini, C., Fumadó, V., & Marre, D. (2014). Attachment and adaptive skills in children of international adoption. *Child & Family Social Work, 19*, 89–98. doi: 10.1111/j.1365-2206.2012.00883.x
- Baumrind, D. (1995). Commentary on sexual orientation: Research and social policy implications. *Developmental Psychology, 31*, 130–136. doi:10.1037/0012-1649.31.1.130
- Beeson, D. R., Jennings, P. K., & Kramer, W. (2011). Offspring searching for their sperm donors: how family type shapes the process. *Human Reproduction, 26*, 2415–2424. doi: 10.1093/humrep/der202

- Beijersbergen, M. D., Bakermans-Kranenburg, M. J., Van IJzendoorn, M. H., & Juffer, F. (2008). Stress regulation in adolescents: Physiological reactivity during the adult attachment interview and conflict interaction. *Child Development, 79*, 1707–1720. doi: 10.1111/j.1467-8624.2008.01220.x
- Bem, S. L. (1981). Gender schema theory: A cognitive account of sex typing. *Psychological Review, 88*, 354–364. doi: 10.1037/0033-295X.88.4.354
- Berger, B. E., Ferrans, C. E., & Lashley, F. R. (2001). Measuring stigma in people with HIV: Psychometric assessment of the HIV stigma scale. *Research in Nursing and Health, 24*, 518–529. doi:10.1002/nur.10011
- Berkowitz, D., & Ryan, S. (2011). Bathrooms, baseball, and bra shopping: Lesbian and gay parents talk about engendering their children. *Sociological Perspectives, 54*, 329–350. doi: 10.1525/sop.2011.54.3.329
- Biblarz, T. J., & Stacey, J. (2010). How does the gender of parents matter? *Journal of Marriage and Family, 72*, 3–22. doi:10.1111/j.1741-3737.2009.00678.x
- Blake, L., Carone, N., Raffanella, E., Slutsky, J., Ehrhardt, A. A., & Golombok, S. (2017). Gay fathers' motivations for and feelings about surrogacy as a path to parenthood. *Human Reproduction, 32*, 860–867. doi:10.1093/humrep/dex026
- Blake, L., Carone, N., Slutsky, J., Raffanella, E., Ehrhardt, A. A., & Golombok, S. (2016). Gay father surrogacy families: relationships with surrogates and egg donors and parental disclosure of children's origins. *Fertility and Sterility, 106*, 1503–1509. doi: 10.1016/j.fertnstert.2016.08.013
- Blake, L., Casey, P., Jadv, V., & Golombok, S. (2014). "I was quite amazed": Donor conception and parent–child relationships from the child's perspective. *Children & Society, 28*, 425–437. doi: 10.1111/chso.12014

- Blake, L., Casey, P., Readings, J., Jadv, V., & Golombok, S. (2010). “Daddy ran out of tadpoles”: How parents tell their children that they are donor conceived, and what their 7-year-olds understand. *Human Reproduction, 25*, 2527–2534. doi: 10.1093/humrep/deq208
- Block, J. H. (1965). *The child-rearing practices report (CRPR): A set of Q-Sort items for the description of parental socialization attitudes and values*. Unpublished manuscript, University of California, Berkeley.
- Bögels, S., Stevens, J., & Majdandžić, M. (2011). Parenting and social anxiety: Fathers’ versus mothers’ influence on their children’s anxiety in ambiguous social situations. *Journal of Child Psychology and Psychiatry, 52*, 599–606. doi: 10.1111/j.1469-7610.2010.02345.x
- Bornstein, M. H. (Ed.). (2002). *Handbook of parenting* (2nd ed.). Mahwah, NJ: Erlbaum.
- Bos, H. M. W., & Sandfort, T. (2010). Children’s gender identity in lesbian and heterosexual two-parent families. *Sex Roles, 62*, 114–126. doi:10.1007/s11199-009-9704-7
- Bos, H. M., Kuyper, L., & Gartrell, N. K. (2017). A population-based comparison of female and male same-sex parent and different-sex parent households. *Family Process, 1–17*. Advance online publication. doi: 10.1111/famp.12278
- Bos, H., & Gartrell, N. (2010). Adolescents of the USA National Longitudinal Lesbian Family Study: Can family characteristics counteract the negative effects of stigmatization? *Family Process, 49*, 559–572. doi:10.1037/a0012711

- Bos, H., & van Balen, F. (2008). Children in planned lesbian families: Stigmatization, psychological adjustment and protective factors. *Culture, Health & Sexuality, 10*, 221–236. doi:10.1080/1369105070160702
- Bosmans, G., & Kerns, K. A. (2015). Attachment in middle childhood: Progress and prospects. In G. Bosmans & K. A. Kerns (Eds.), *Attachment in middle childhood: Theoretical advances and new directions in an emerging field. New Directions for Child and Adolescent Development, 148*, 1–14. doi:10.1002/cad.20100
- Bowlby, J. (1951). *Maternal care and mental health*. World Health Organization, Geneva.
- Bowlby, J. (1958). The nature of the child's tie to his mother. *International Journal of Psychoanalysis, 29*, 1–23.
- Bowlby, J. (1969/1982). *Attachment and loss: Attachment* (Vol. 1). New York: Basic Books.
- Bowlby, J. (1973). *Attachment and loss: Separation* (Vol. 2). New York: Basic Books.
- Bowlby, J. (1979). *The making and breaking of affectional bonds*. London: Tavistock.
- Bowlby, J. (1988). *A secure base*. New York: Basic Books.
- Brazier, M., Campbell, A., & Golombok, S. (1998). *Surrogacy. Review for health ministers of current arrangements for payments and regulation. Report of the review team*. London, UK: Department of Health.
- Bretherton, I. (2010). Fathers in attachment theory and research: A review. *Early Child Development and Care, 180*, 9–23. doi:10.1080/03004430903414661

- Bussey, K., & Bandura, A. (1999). Social cognitive theory of gender development. *Psychological Review*, *106*, 676–713. doi: 10.1037/0033-295X.106.4.676
- Caldera, Y., & Sciaraffa, M. (1998). Parent-toddler play with feminine toys: Are all dolls the same? *Sex Roles*, *39*, 657–668. doi:10.1023/A:1018851932580
- Carneiro, F. A., Tasker, F., Salinas-Quiroz, F., Leal, I., & Costa, P. A. (2017). Are the fathers alright? A systematic and critical review of studies on gay and bisexual fatherhood. *Frontiers in Psychology*, *8*, 1636. doi: 10.3389/fpsyg.2017.01636
- Carone, N. (2016). *In origine è il dono. Donatori e portatrici nell'immaginario delle famiglie omogenitoriali*. Milano: il Saggiatore.
- Carone, N., Baiocco, R., & Lingiardi, V. (2017a). Italian gay fathers' experiences of transnational surrogacy and their relationship with the surrogate pre- and post-birth. *Reproductive BioMedicine Online*, *34*, 181–190. doi: 10.1016/j.rbmo.2016.10.010
- Carone, N., Baiocco, R., & Lingiardi, V. (2017b). Single fathers by choice using surrogacy: why men decide to have a child as a single parent. *Human Reproduction*, *32*, 1871–1879. doi: 10.1093/humrep/dex245
- Carone, N., Baiocco, R., Ioverno, S., Chirumbolo, A., Lingiardi, V. (2017). Same-sex parent families in Italy: Validation of the Coparenting Scale-Revised for lesbian mothers and gay fathers. *European Journal of Developmental Psychology*, *14*, 367–379. doi: 10.1080/17405629.2016.1205478
- Carone, N., Baiocco, R., Manzi, D., Antonucci, C., Caricato, V., Pagliarulo, E., & Lingiardi, V. (2017). Surrogacy families headed by gay men: Relationships with surrogates and egg donors, fathers' decisions over disclosure, and children's

- views on their surrogacy origins. *Human Reproduction*, 1–10. Advance online publication. doi: 10.1093/humrep/dex362.
- Cassidy, J., & Shaver, P. R. (Eds.) (2016). *Handbook of attachment: Theory, research, and clinical applications* (3rd ed.). New York, NY: Guilford Press.
- Chen, B.-B., & Chang, L. (2012). Adaptive insecure attachment and resource control strategies during middle childhood. *International Journal of Behavioral Development*, 36, 389–397.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Earlbaum Associates.
- Cohen, L. J., & Campos, J. J. (1974). Father, mother, and stranger as elicitors of attachment behaviors in infancy. *Developmental Psychology*, 10, 146–154. doi: 10.1037/h0035559
- Collins, W. A., Maccoby, E. E., Steinberg, L., Hetherington, E. M., & Bornstein, M. H. (2000). Contemporary research on parenting: The case for nature and nurture. *American Psychologist*, 55, 218–232. doi:10.1037//0003-066X.55.2.218
- Committee on Psychosocial Aspects of Child and Family Health (2013). Promoting the well-being of children whose parents are gay or lesbian. *Pediatrics*, 131, 827–830. doi: 10.1542/peds.2013-0376
- Connell A. M., Goodman S. H. (2002). The association between psychopathology in fathers versus mothers and children's internalizing and externalizing behavior problems: A meta-analysis. *Psychological Bulletin*, 128, 746–773. doi: 10.1037/0033-2909.128.5.746

- Cox, M. J., Owen, M. T., Henderson, V. K., & Margand, N. A. (1992). Prediction of infant-father and infant-mother attachment. *Developmental Psychology, 28*, 474–483. doi:10.1037/0012-1649.28.3.474
- Crosbie-Burnett, M., & Klein, D. M. (2009). The fascinating story of family theories. In J. H. Bray & M. Stanton (Eds.), *The Wiley-Blackwell handbook of family psychology* (pp. 37–52). Oxford, UK: Blackwell Publishing Ltd. doi: 10.1002/9781444310238.ch3
- Crouch, S. R., Waters, E., McNair, R., Power, J., & Davis, E. (2014). Parent-reported measures of child health and wellbeing in same-sex parent families: A cross-sectional survey. *BMC Public Health, 14*, 635. doi: 10.1186/1471-2458-14-635
- Daniels, K. R., & Thorn, P. (2001). Sharing information with donor insemination offspring: a child-conception versus a family-building approach. *Human Reproduction, 16*, 1792–1796. doi: 10.1093/humrep/16.9.1792
- Dawson, A., Pike, A., & Bird, L. (2016). Associations between parental gendered attitudes and behaviours and children's gender development across middle childhood. *European Journal of Developmental Psychology, 13*, 452–471. doi: 10.1080/17405629.2015.1109507
- de Wolff, M. S., & van IJzendoorn, M. H. (1997). Sensitivity and attachment: A meta-analysis on parental antecedents of infant attachment. *Child Development, 68*, 571–591. doi:10.1111/j.1467-8624.1997.tb04218.x
- Deater-Deckard, K., & Petrill, S. A. (2004). Parent-child dyadic mutuality and child behavior problems: an investigation of gene-environment processes. *Journal of*

- Child Psychology and Psychiatry*, 45, 1171–1179. doi:10.1111/j.1469-7610.2004.00309.x
- Del Giudice, M. (2009). Sex, attachment, and the development of reproductive strategies. *Behavioral and Brain Sciences*, 32, 1–21. doi: 10.1017/S0140525X09000016
- Del Giudice, M. (2014). Middle childhood: An evolutionary-developmental synthesis. *Child Development Perspectives*, 8, 193–200. doi: 10.1111/cdep.12084
- Dempsey, D. (2015). Relating across international borders. Gay men forming families through overseas surrogacy. In M. C. Inhorn, W. Chavkin & J.-A. Navarro (Eds.), *Globalized fatherhood* (pp. 267–290). Oxford, UK: Berghahn Books.
- Di Folco, S., & Zavattini, G. C. (2014). La relazione d’attaccamento padre-bambino: Una rassegna della letteratura. *Giornale Italiano di Psicologia*, 1, 159–190. doi: 10.1421/77211
- Fagan, J., Day, R., Lamb, M., & Cabrera, N. J. (2014). Should researchers conceptualize differently the dimensions of parenting for fathers and mothers? *Journal of Family Theory & Review*, 6, 390–405. doi:10.1111/jftr.12044
- Farr, R. H. (2017). Does parental sexual orientation matter? A longitudinal follow-up of adoptive families with school-age children. *Developmental Psychology*, 53, 252–264. doi: 10.1037/dev0000228
- Farr, R. H., & Patterson, C. J. (2013). Coparenting among lesbian, gay, and heterosexual couples: Associations with adopted children’s outcomes. *Child Development*, 84, 1226–1240. doi:10.1111/cdev.12046

- Farr, R. H., Bruun, S. T., Doss, K. M., & Patterson, C. J. (2017). Children's gender-typed behavior from early to middle childhood in adoptive families with lesbian, gay, and heterosexual parents. *Sex Roles*, 1–14. Advance online publication. doi:10.1007/s11199-017-0812-5
- Farr, R. H., Forssell, S. L., & Patterson, C. J. (2010). Parenting and child development in adoptive families: Does parental sexual orientation matter? *Applied Developmental Science*, 14, 164–178. doi:10.1080/15504281003705436
- Fearon, R. M. P., & Belsky, J. (2016). Precursors of attachment. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (3rd ed., pp. 291–313). New York, NY: Guilford Press.
- Fedewa, A. L., Black, W. W., & Ahn, S. (2015). Children and adolescents with same-gender parents: A meta-analytic approach in assessing outcomes. *Journal of GLBT Family Studies*, 11, 1–34. doi:10.1080/1550428X.2013.869486
- Ferrari, F. (2015). *La famiglia inattesa. I genitori omosessuali e i loro figli*. Sesto San Giovanni, MI: Mimesis.
- Fonagy, P., Steele, M., Steele, H., Higgitt, A., & Target, M. (1994). The theory and practice of resilience (The Emmanuel Miller Memorial Lecture 1992). *Journal of Child Psychology and Psychiatry*, 35, 231–257. doi: 10.1111/j.1469-7610.1994.tb01160.x
- Freeman, N. K. (2007). Preschoolers' perceptions of gender appropriate toys and their parents' beliefs about genderized behaviors: Miscommunication, mixed messages, or hidden truths? *Early Childhood Education Journal*, 34, 357–366. doi:10.1007/s10643-006-0123x

- Frith, L. & Blyth, E. (2014). Assisted reproductive technologies in the US: Is more regulation needed? *Reproductive BioMedicine Online*, 29, 516–522. doi: 10.1016/j.rbmo.2014.06.018
- Frost, D. M., Parsons, J. T., & Nanin, J. E. (2007). Stigma, concealment and symptoms of depression as explanations for sexually transmitted infections among gay men. *Journal of Health Psychology*, 12, 636–640. doi:10.1177/1359105307078170
- Fulcher, M., Sutfin, E., & Patterson, C. J. (2008). Individual differences in gender development: Associations with parental sexual orientation, attitudes, and division of labor. *Sex Roles*, 58, 330–341. doi:10.1007/s11199-007-9348-4
- Gates, G. J. (2015). Marriage and family: LGBT individuals and same-sex couples. *The Future of Children*, 25, 67–87.
- Gato, J., & Fontaine, A. M. (2013). Anticipation of the sexual and gender development of children adopted by same-sex couples. *International Journal of Psychology*, 48, 244–253. doi:10.1080/00207594.2011.645484
- Gawronski, B., & Creighton, L. A. (2013). Dual process theories. In D. E. Carlston (Ed.), *The Oxford handbook of social cognition* (pp. 282–312). New York, NY: Oxford University Press.
- Goldberg, A. E. (2010). *Lesbian and gay parents and their children: Research on the family life cycle*. Washington, DC: American Psychological Association.
- Goldberg, A. E., & Garcia, R. L. (2016). Gender-typed behavior over time in children with lesbian, gay, and heterosexual parents. *Journal of Family Psychology*, 30, 854–865. doi:10.1037/fam0000226

- Goldberg, A. E., & Gartrell, N. K. (2014). LGB-parent families: The current state of the research and directions for the future. *Advances in Child Development and Behavior, 46*, 57-88. doi: 10.1016/B978-0-12-800285-8.00003-0
- Goldberg, A. E., & Perry-Jenkins, M. (2007). The division of labor and perceptions of parental roles: Lesbian couples across the transition to parenthood. *Journal of Social and Personal Relationships, 24*, 297–318. doi: 10.1177/0265407507075415
- Goldberg, A. E., & Smith, J. Z. (2013). Predictors of psychological adjustment in early placed adopted children with lesbian, gay, and heterosexual parents. *Journal of Family Psychology, 27*, 431–442. doi:10.1037/a0032911
- Goldberg, A. E., Kashy, D. A., & Smith, J. Z. (2012). Gender-typed play behavior in early childhood: Adopted children with lesbian, gay, and heterosexual parents. *Sex Roles, 67*, 503–515. doi: 10.1007/s11199-012-0198-3
- Golombok, S. (2015). *Modern families. Parents and children in new family forms*. Cambridge, UK: Cambridge University Press. doi: 10.1017/CBO9781107295377
- Golombok, S. (2017). Parenting in new family forms. *Current Opinion in Psychology, 15*, 76–80. doi: 10.1016/j.copsyc.2017.02.004
- Golombok, S., & Badger, S. (2010). Children raised in mother-headed families from infancy: a follow-up of children of lesbian and single heterosexual mothers, at early adulthood. *Human Reproduction, 25*, 150–157. doi: 10.1093/humrep/dep345
- Golombok, S., & Fivush, R. (1994). *Gender development*. Cambridge: Cambridge University Press.

- Golombok, S., & Rust, J. (1993a). The measurement of gender role behaviour in pre-school children: A research note. *Journal of Child Psychology and Psychiatry*, *34*, 805–811. doi: 10.1111/j.1469-7610.1993.tb01072.x
- Golombok, S., & Rust, J. (1993b). The Pre-School Activities Inventory: A standardized assessment of gender role in children. *Psychological Assessment*, *5*, 131–136. doi:10.1037/1040-3590.5.2.131.
- Golombok, S., & Tasker, F. (2010). Gay fathers. In M. Lamb (Ed.), *The role of the father in child development* (5th ed., pp. 319–340). Hoboken, NJ: John Wiley & Sons.
- Golombok, S., Blake, L., Casey, P., Roman, G., & Jadvá, V. (2013). Children born through reproductive donation: A longitudinal study of psychological adjustment. *Journal of Child Psychology and Psychiatry*, *54*, 653–660. doi:10.1111/jcpp.12015
- Golombok, S., Blake, L., Slutsky, J., Raffanella, E., Roman, G. D., & Ehrhardt, A. (2017). Parenting and the adjustment of children born to gay fathers through surrogacy. *Child Development*, 1–11. Advance online publication. doi: 10.1111/cdev.12728
- Golombok, S., Ilioi, E., Blake, L., Roman, G., & Jadvá, V. (2017). A longitudinal study of families formed through reproductive donation: Parent-adolescent relationships and adolescent adjustment at age 14. *Developmental Psychology*, 1–12. Advance online publication. doi: 10.1037/dev0000372
- Golombok, S., MacCallum, F., Murray, C., Lycett, E., & Jadvá, V. (2006). Surrogacy families: Parental functioning, parent–child relationships and

- children's psychological development at age 2. *Journal of Child Psychology and Psychiatry*, 47, 213–222. doi:10.1111/j.1469-7610-2005.01453.x
- Golombok, S., Mellish, L., Jennings, S., Casey, P., Tasker, F., & Lamb, M. E. (2014). Adoptive gay father families: Parent–child relationships and children's psychological adjustment. *Child Development*, 85, 456–468. doi:10.1111/cdev.12155
- Golombok, S., Murray, C., Jadvá, V., Lycett, E., MacCallum, F., & Rust, J. (2006). Non-genetic and non-gestational parenthood: Consequences for parent–child relationships and the psychological well-being of mothers, fathers and children at age 3. *Human Reproduction*, 21, 1918–1924. doi:10.1093/humrep/de1039
- Golombok, S., Murray, C., Jadvá, V., MacCallum, F., & Lycett, E. (2004). Families created through surrogacy arrangements: Parent–child relationships in the first year of life. *Developmental Psychology*, 40, 400–411. doi: 10.1037/0012-1649.40.3.400
- Golombok, S., Perry, B., Burston, A., Murray, C., Mooney-Somers, J., Stevens, M., & Golding, J. (2003). Children with lesbian parents: A community study. *Developmental Psychology*, 39, 20–33. doi: 10.1037/0012-1649.39.1.20
- Golombok, S., Readings, J., Blake, L., Casey, P., Marks, A., & Jadvá, V. (2011). Families created through surrogacy: Mother–child relationships and children's psychological adjustment at age 7. *Developmental Psychology*, 47, 1579–1588. doi:10.1037/a0025292
- Golombok, S., Rust, J., Zervoulis, K., Croudace, T., Golding, J., & Hines, M. (2008). Developmental trajectories of sex-typed behavior in boys and girls: A

- longitudinal general population study of children aged 2.5–8 years. *Child Development*, 79, 1583–1593. doi:10.1111/j.1467-8624.2008.01207.x
- Golombok, S., Rust, J., Zervoulis, K., Golding, J., & Hines, M. (2012). Continuity in sex-typed behavior from preschool to adolescence: A longitudinal population study of boys and girls aged 3–13 years. *Archives of Sexual Behavior*, 41, 591–597. doi: 10.1007/s10508-011-9784-7
- Golombok, S., Tasker, F., & Murray, C. (1997). Children raised in fatherless families from infancy: Family relationships and the socioemotional development of children of lesbian and single heterosexual mothers. *Journal of Child Psychology and Psychiatry*, 38, 783–792. doi: 10.1111/j.1469-7610.1997.tb01596.x
- Goodman, A., Lamping, D. L., & Ploubidis, G. B. (2010). When to use broader internalising and externalising subscales instead of the hypothesised five subscales on the Strengths and Difficulties Questionnaire (SDQ): Data from British parents, teachers and children. *Journal of Abnormal Child Psychology*, 38, 1179–1191. doi:10.1007/s10802-010-9434-x
- Goodman, R. (1994). A modified version of the Rutter parent questionnaire including extra items on children's strengths: A research note. *Journal of Child Psychology and Psychiatry*, 35, 1483–1494. doi:10.1111/j.1469-7610.1994.tb01289.x
- Goodman, R. (1997). The Strengths and Difficulties Questionnaire: A research note. *Journal of Child Psychology and Psychiatry*, 38, 581–586. doi:10.1111/j.1469-7610.1997.tb01545.x

- Greenfeld, D. A., & Seli, E. (2011). Gay men choosing parenthood through assisted reproduction: medical and psychosocial considerations. *Fertility and Sterility*, *95*, 225–229. doi: 10.1016/j.fertnstert.2010.05.053
- Gregory, A. M., & Eley, T. C. (2007). Genetic influences on anxiety in children: What we've learned and where we're heading. *Clinical Child and Family Psychology Review*, *10*, 199–212. doi:10.1007/s10567-007-0022-8
- Grossmann, K., Grossmann, K. E., Fremmer-Bombik, E., Kindler, H., Scheuerer-Englisch, H., & Zimmermann, P. (2002). The uniqueness of the child-father attachment relationship: Fathers' sensitive and challenging play as a pivotal variable in a 16-year longitudinal study. *Social Development*, *11*, 301–337. doi:10.1111/1467-9507.00202
- Grossmann, K., Grossmann, K. E., Kindler, H., & Zimmermann, P. (2008). A wider view of attachment and exploration: The influence of mothers and fathers on the development of psychological security from infancy to young adulthood. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (2nd ed., pp. 857–879). New York, NY: Guilford Press.
- Guasp, A. (2010). *Different families*. London, UK: Stonewall.
- Guo, S. (2005). Analyzing grouped data with hierarchical linear modeling. *Children and Youth Services Review*, *27*, 637–652. doi: 10.1016/j.childyouth.2004.11.017
- Halpern, H. P., & Perry-Jenkins, M. (2016). Parents' gender ideology and gendered behavior as predictors of children's gender-role attitudes: A longitudinal exploration. *Sex Roles*, *74*, 527–542. doi: 10.1007/s11199-015-0539-0

- Harper, J. C., Kennett, D., & Reisel, D. (2016). The end of donor anonymity: How genetic testing is likely to drive anonymous gamete donation out of business. *Human Reproduction, 31*, 135–140. doi: 10.1093/humrep/dew065
- Harris, M. B., & Turner, P. H. (1986). Gay and lesbian parents. *Journal of Homosexuality, 12*, 101–113. doi: 10.1300/J082v12n02_07
- Harter, S. (1982). The perceived competence scale for children. *Child Development, 53*, 87–97. doi: 10.2307/1129640
- Hertz, R., Nelson, M. K., Kramer, W. (2013). Donor conceived offspring conceive of the donor: The relevance of age, awareness, and family form. *Social Science & Medicine, 86*, 52–65. doi: 10.1016/j.socscimed.2013.03.001
- Hines, M. (2004). *Brain gender*. Oxford, UK: Oxford University Press.
- Hines, M. (2010a). Sex-related variation in human behavior and the brain. *Trends in Cognitive Sciences, 14*, 448–456. doi: 10.1016/j.tics.2010.07.005
- Hines, M. (2010b). Gendered behavior across the lifespan. In M. Lamb & A. Freund (Eds.), *Handbook of life-span development. Social and emotional development* (Vol. 2, pp. 341–378). Hoboken, NJ: John Wiley & Sons.
- Iervolino, A. C., Hines, M., Golombok, S. E., Rust, J., & Plomin, R. (2005). Genetic and environmental influences on sex-typed behavior during the preschool years. *Child Development, 76*, 826–840. doi: 10.1111/j.1467-8624.2005.00880.x
- Ioverno, S., Carone, N., Lingiardi, V., Nardelli, N., Pagone, P., Pistella, J., Salvati, M., Simonelli, A., & Baiocco, R. (2017). Assessing prejudice toward two-father parenting and two-mother parenting: The beliefs on same-sex parenting scale. *Journal of Sex Research, 1–12*. Advance online publication. doi: 10.1080/00224499.2017.1348460

- Jacklin, C. N., DiPietro, J. A., & Maccoby, E. E. (1984). Sex-typing behavior in child/parent interaction. *Archives of Sexual Behavior, 13*, 413–425. doi: 10.1007/BF01541427
- Jadva, V. (2016). Surrogacy: Issues, concerns and complexities. In S. Golombok, R. Scott, J. B. Appleby, M. Richards & S. Wilkinson (Eds.), *Regulating reproductive donation* (pp. 126–139). Cambridge, UK: Cambridge University Press. doi: 10.1017/CBO9781316117446.007
- Jadva, V., Blake, L., Casey, P., & Golombok, S. (2012). Surrogacy families 10 years on: Relationship with the surrogate, decisions over disclosure and children's understanding of their surrogacy origins. *Human Reproduction, 27*, 3008–3014. doi: 10.1093/humrep/des273
- Jadva, V., Freeman, T., Kramer, W., & Golombok, S. (2009). The experiences of adolescents and adults conceived by sperm donation: Comparisons by age of disclosure and family type. *Reproductive BioMedicine Online, 24*, 1909–1919. doi: 10.1093/humrep/dep110
- Jadva, V., Hines, M., & Golombok, S. (2010). Infants' preferences for toys, colors, and shapes: Sex differences and similarities. *Archives of Sexual Behavior, 39*, 1261–1273. doi: 10.1007/s10508-010-9618-z
- Kenny, D. A., Kashy, D. A., & Cook, W. L. (2006). *Dyadic data analysis*. New York, NY: Guilford Press.
- Kerns, K. A., & Brumariu, E. (2016). Attachment in middle childhood. In J. Cassidy & P. Shaver (Eds.), *Handbook of attachment* (3rd ed., pp. 349–365). New York, NY: Guilford Press.

- Kerns, K. A., Aspelmeier, J. E., Gentzler, A. L., & Grabill, C. M. (2001). Parent–child attachment and monitoring in middle childhood. *Journal of Family Psychology, 15*, 69–81. doi: 10.1037//0893-3200.15.1.69
- Kerns, K. A., Klepac, L., & Cole, A. (1996). Peer relationships and preadolescents' perceptions of security in the child-mother relationship. *Developmental Psychology, 32*, 457–466. doi: 10.1037/0012-1649.32.3.457
- Kerns, K. A., Mathews, B. L., Koehn, A. J., Williams, C. T., & Siener-Ciesla, S. (2015). Assessing both safe haven and secure base support in parent–child relationships. *Attachment & Human Development, 17*, 337–353. doi: 10.1080/14616734.2015.1042487
- Kerns, K. A., Schlegelmilch, A., Morgan, T. A., & Abraham, M. M. (2005). Assessing attachment in middle childhood. In K. Kerns & R. A. Richardson (Eds.), *Attachment in middle childhood* (pp. 46–70). New York, NY: Guilford Press.
- Kochanska, G., Aksan, N., Prisco, T. R., & Adams, E. E. (2008). Mother-child and father-child mutually responsive orientation in the first 2 years and children's outcomes at preschool age: Mechanisms of influence. *Child Development, 79*, 30–44. doi:10.1111/j.1467-8624.2007.01109.x
- Krippendorff, K. (2013). *Content analysis: An introduction to its methodology* (3rd ed.). Thousand Oaks, CA: Sage Publications.
- Kriss, A., Steele, H., & Steele, M. (2013). Measuring attachment and reflective functioning in early adolescence: An introduction to the friends and family interview. *Research in Psychotherapy: Psychopathology, Process and Outcome, 15*, 87-95. doi: 10.7411/RP.2012.009

- Kwon, K.-A., Jeon, H.-J., Lewsader, J. T., & Elicker, J. (2012). Mothers' and fathers' parenting quality and toddlers' interactive behaviors in dyadic and triadic family contexts. *Infant and Child Development, 21*, 356–373. doi:10.1002/icd.1746
- Lamb, M. E. (2010). *The role of the father in child development* (5th ed.). Hoboken, NJ: John Wiley & Sons.
- Lamb, M. E. (2013). The changing faces of fatherhood and father–child relationships. From fatherhood as status to father as dad. In M. Fine & F. D. Fincham (eds.), *Handbook of family theories* (pp. 87–102). New York : Routledge.
- Lamb, M. E. , & Lewis, C. (2011). The role of parent–child relationships in child development. In M. H. Bornstein & M. E. Lamb (eds.), *Developmental science* (6th ed., pp. 469–518). New York: Psychology Press.
- Lamb, M. E. (1976). Twelve-month-olds and their parents: Interaction in a laboratory playroom. *Developmental Psychology, 12*, 237–244. doi: 10.1037/0012-1649.12.3.237
- Lamb, M. E. (1977a). Mother–infant and father–infant interaction in the first year of life. *Child Development, 48*, 167–181. doi: 10.2307/1128896
- Lamb, M. E. (1977b). The development of mother–infant and father–infant attachments in the second year of life. *Developmental Psychology, 13*, 637–648. doi: 10.1037/0012-1649.13.6.637
- Lamb, M. E. (2012). Mothers, fathers, families, and circumstances: Factors affecting children's adjustment. *Applied Developmental Science, 16*, 98–111. doi: 10.1080/10888691.2012.667344

- Leaper, C. (2002). Parenting girls and boys. In M. H. Bornstein (Ed.), *Handbook of parenting: Children and parenting* (2nd ed., Vol. 1, pp. 189–225). Mahwah, NJ: Erlbaum.
- Lerner, R. M., Lewin-Bizan, S., & Warren, A. (2001). Concepts and theories of human development. In M. Bornstein & M. Lamb (Eds.). *Foundations of developmental science* (pp. 3–49). New York: Taylor & Francis.
- Lingiardi, V. (2016). *Citizen gay. Affetti e diritti*. Milano: il Saggiatore.
- Lingiardi, V., & Carone, N. (2016a). Famiglie contemporanee: Nuove concezioni, vecchi pregiudizi. Risposta ai commenti. *Giornale Italiano di Psicologia*, *43*, 181–191. doi: 10.1421/83638
- Lingiardi, V., & Carone, N. (2016b). Lesbian mothers, gay fathers: An inconceivable conception? *Giornale Italiano di Psicologia*, *43*, 57–79. doi: 10.1421/83618
- Lingiardi, V., Baiocco, R., & Nardelli, N. (2012). Measure of internalized sexual stigma for lesbians and gay men: A new scale. *Journal of Homosexuality*, *59*, 1191–1210. doi: 10.1080/00918369.2012.712850
- MacCallum, F., & Golombok, S. (2004). Children raised in fatherless families from infancy: A follow-up of children of lesbian and single heterosexual mothers at early adolescence. *Journal of Child Psychology and Psychiatry*, *45*, 1407–1419. <http://dx.doi.org/10.1111/j.1469-7610.2004.00324.x>
- Maccoby, E. E. (1998). *The two sexes: Growing up apart, coming together*. Cambridge, MA: Belknap Press/Harvard University Press.

- Maccoby, E. E., & Feldman, S. S. (1972). Mother-attachment and the stranger-reactions in the third year of life. *Monographs of the Society for Research in Child Development*, *37*, 1–86. doi: 10.2307/1165693
- Main, M., & Hesse, E. (1990). Parents' unresolved traumatic experiences are related to infant disorganized status: Is frightened and/or frightening parental behavior the linking mechanism? In M. T. Greenberg, D. Cicchetti & E. M. Cummings (Eds.), *Attachment in the preschool years: Theory, research, and intervention* (pp. 161–182). Chicago, IL: University of Chicago Press.
- Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood and adulthood: A move to the level of representation. *Monographs of the Society for Research in Child Development*, *50*, 66–104. doi: 10.2307/3333827
- Marci, T., Lionetti, F., Moscardino, U., Pastore, M., Calvo, V., & Altoé, G. (2017). Measuring attachment security via the Security Scale: Latent structure, invariance across mothers and fathers and convergent validity. *European Journal of Developmental Psychology*, 1–12. Advance online publication. doi: 10.1080/17405629.2017.1317632
- Martin, C. L., & Ruble, D. N. (2010). Patterns of gender development. *Annual Review of Psychology*, *61*, 353–381. doi: 10.1146/annurev.psych.093008.100511
- Mischel, W. (1966). A social learning view of sex differences in behavior. In E. E. Maccoby (Ed.), *The development of sex differences* (pp. 56–81). Stanford, CA: Stanford University Press.

- Moss, E., Cyr, C., Bureau, J.-F., Tarabulsky, G., & Dubois-Comtois, K. (2005). Stability of attachment during the preschool period. *Developmental Psychology, 41*, 773–783. doi: 10.1037/0012-1649.41.5.773
- Murphy, D. A. (2015). *Gay men pursuing parenthood through surrogacy: Reconfiguring kinship*. Sydney, AU: UNSW Press.
- Norton, W., Hudson, N., Culley, L. (2013). Gay men seeking surrogacy to achieve parenthood. *Reproductive BioMedicine Online, 27*, 271–279. doi: 10.1016/j.rbmo.2013.03.016
- Overton, W. F. (2015). Process and relational-developmental systems. In R. M. Lerner, W. F. Overton, & P. C. Molenaar (Eds.), *Theory and Method: Vol. 1. Handbook of child psychology and developmental science* (7th ed.) (pp. 9–62). Hoboken, NJ: John Wiley & Sons.
- Pace, C. S. (2014). Assessing attachment representations among adoptees during middle childhood and adolescence with the Friend and Family Interview (FFI): Clinical and research perspectives. *Frontiers in Psychology, 5*, 1–4. doi: 10.3389/fpsyg.2014.01114
- Patterson, C. J. (1995). Families of the lesbian baby boom: Parents' division of labor and children's adjustment. *Developmental Psychology, 31*, 115–123. doi: 10.1037/0012-1649.31.1.115
- Patterson, C. J. (2017). Parents' sexual orientation and children's development. *Child Development Perspectives, 11*, 45–49. doi: 10.1111/cdep.12207
- Pennings, G., DeWert, G., Shenfield, F., Cohen, J., Tarlatzis, B., & Devroey, P. (2007). ESHRE Task Force on Ethics and Law 13: The welfare of the child in

- medically assisted reproduction. *Human Reproduction*, 22, 2585–2588. doi: 10.1093/humrep/dem237
- Pleck, J. H. (2010). Fatherhood and masculinity. In M. E. Lamb (ed.), *The role of the father in child development* (5th ed., pp. 58–93). Hoboken, NJ: John Wiley & Sons.
- Practice Committee of the American Society for Reproductive Medicine and Practice Committee of the Society for Assisted Reproductive Technology (2017). Recommendations for practices utilizing gestational carriers: A committee opinion. *Fertility and Sterility*, 107, e3–e10. doi: 10.1016/j.fertnstert.2016.11.007
- Quinton, D., & Rutter, M. (1988). *Parenting breakdown: The making and breaking of intergenerational links*. Aldershot, UK: Avebury Gower.
- Readings, J., Blake, L., Casey, P., Jadv, V., & Golombok, S. (2011). Secrecy, disclosure and everything in-between: Decisions of parents of children conceived by donor insemination, egg donation and surrogacy. *Reproductive BioMedicine Online*, 22, 485–495. doi: 10.1016/j.rbmo.2011.01.014
- Ruble, D. N., Martin, C. L., & Berenbaum, S. A. (2006). Gender development. In N. Eisenberg, W. Damon, & R. M. Lerner (Eds.), *Handbook of child psychology. Social, emotional, and personality development* (6th ed., Vol. 3, pp. 858–932). Hoboken, NJ: John Wiley & Sons.
- Rust, J., Golombok, S., Hines, M., Johnston, K., & Golding, J. (2000). The role of brothers and sisters in the gender development of preschool children. *Journal of Experimental Child Psychology*, 77, 292–303. doi: 10.1006/jecp.2000.2596

- Rutter, M. (2007). Proceeding from observed correlation to causal inference: The use of natural experiments. *Psychological Science, 2*, 377–395. doi: 10.1111/j.1745-6916.2007.00050.x
- Rutter, M., Cox, A., Tupling, C., Berger, M., & Yule, W. (1975). Attainment and adjustment in two geographic areas: I. The prevalence of psychiatric disorder. *British Journal of Psychiatry, 126*, 493–509.
- Rutter, M., Pickles, A., Murray, & Eaves, L. (2001). Testing hypotheses on specific environmental causal effects on behavior. *Psychological Bulletin, 127*, 291–324. doi: 10.1037/0033-2909.127.3.291
- Scheib, J. E., Riordan, M., & Rubin, S. (2005). Adolescents with open-identity sperm donors: Reports from 12–17 year olds. *Human Reproduction, 20*, 239–252. doi: 10.1093/humrep/deh581
- Schoppe-Sullivan, S. J., Diener, M., L., Mangelsdorf, S. C., Brown, G. L., McHale, J. L., & Frosch, C. A., (2006). Attachment and sensitivity in family context: The roles of parent and infant gender. *Infant and Child Development, 15*, 367–385. doi: 10.1002/icd.449
- Scott, S., Riskman, J., Woolgar, M., Humayun, S., & O'Connor, T. G. (2011). Attachment in adolescence: Overlap with parenting and unique prediction of behavioural adjustment. *Journal of Child Psychiatry and Psychology, 52*, 1052–1062. doi: 10.1111/j.1469-7610.2011.02453.x
- Smietana, M., Jennings, S., Herbrand, C., & Golombok, S. (2014). Family relationships in gay father families with young children in Belgium, Spain and the United Kingdom. In T. Freeman, S. Graham, F. Ebtehaj, & M. Richards (Eds.), *Relatedness in assisted reproduction. Families, origins and*

- identities* (pp. 192–211). Cambridge, UK: Cambridge University Press. doi:10.1017/CBO9781139814737.014
- Smith, J. Z., Sayer, A. G., & Goldberg, A. E. (2013). In A. E. Goldberg & K. R. Allen (Eds.), *LGBT-parent families: Innovations in research and implications for practice* (pp. 307–324). New York, NY: Springer.
- Solomon, G. E. A., Johnson, S. C., Zaitchik, D., & Carey, S. (1996). Like father, like son: Young children's understanding of how and why offspring resemble their parents. *Child Development*, *67*, 151–171. doi:10.1111/j.1467-8624.1996.tb01726.x
- Stacey, J., & Biblarz, T. J. (2001). (How) does the sexual orientation of parents matter? *American Sociological Review*, 159–183.
- Steele, H., Steele, M., & Kriss, A. (2015). *The Friends and Family Interview (FFI) Rating and Classification System*. Unpublished Manuscript. New York, NY: Center for Attachment Research, New School for Social Research.
- Steele, M., Hodges, J., Kaniuk, J., Steele, H., D'Agostino, D., Blom, I., Hillman, S., & Henderson, K. (2007). Intervening with maltreated children and their adoptive families: Identifying attachment facilitative behaviors. In D. Oppenheim & D. F. Goldsmith (Eds.), *Attachment theory in clinical work with children: Bridging the gap between research and practice* (pp. 58–89). New York: Guilford Press.
- Stevenson-Hinde, J., & Shouldice, A. (1995). Maternal interactions and self-reports related to attachment classifications at 4.5 years. *Child Development*, *66*, 583–596. doi:10.1111/j.1467-8624.1995.tb00891.x

- Sutfin, E. L., Fulcher, M., Bowles, R. P., & Patterson, C. J. (2008). How lesbian and heterosexual parents convey attitudes about gender to their children: The role of gendered environments. *Sex Roles, 58*, 501–513. doi:10.1007/s11199-007-9368-0
- Tabachnick, B. G., Fidell, L. S., & Osterlind, S. J. (2012). *Using multivariate statistics*. New Jersey: Prentice Hall.
- Tasker, F. (2005). Lesbian mothers, gay fathers, and their children: A review. *Journal of Developmental & Behavioral Pediatrics, 26*, 224–240. doi:10.1097/00004703-200506000-00012
- Tasker, F. (2010). Same-sex parenting and child development: Reviewing the contribution of parental gender. *Journal of Marriage and Family, 72*, 35–40. doi:10.1111/j.1741-3737.2009.00681.x
- Taurino, A. (2016). *Due papà, due mamme. Sfatate i pregiudizi*. Molfetta, BA: la Meridiana.
- Thompson, R. A. (2006). The development of the person: Social understanding, relationships, conscience, self. In N. Eisenberg, W. Damon, & R. M. Lerner (Eds.), *Handbook of child psychology: Social, emotional, and personality development* (pp. 24–98). New York, NY: John Wiley & Sons.
- Tornello, S. L., Kruczkowski, S. M., & Patterson, C. J. (2015). Division of labor and relationship quality among male same-sex couples who became fathers via surrogacy. *Journal of GLBT Family Studies, 11*, 375–394. doi:10.1080/1550428X.2015.1018471

- Toth, I., Lakatos, K., & Gervai, J. (2013). Gender differences in children's responses to attachment story stems: True or artefacts? *Bulletin of the International Society for the Study of Behavioural Development*, *63*, 2–5.
- van IJzendoorn, M. H., & Bakermans-Kranenburg, M. J. (2010). Invariance of adult attachment across gender, age, culture, and socioeconomic status?. *Journal of Social and Personal Relationships*, *27*, 200-208. doi: 10.1177/0265407509360908
- van IJzendoorn, M. H., & De Wolff, M. S. (1997). In search of the absent father – meta-analyses of infant–father attachment: A rejoinder to our discussants. *Child Development*, *68*, 604–609. doi:10.1111/j.1467–8624.1997.tb04223.x
- Van Parys, H., Wyverkens, E., Provoost, V., De Sutter, P., Pennings, G., & Buysse, A. (2016). Family communication about donor conception: a qualitative study with lesbian parents. *Family Process*, *55*, 139–154. doi: 10.1111/famp.12112
- Vanfraussen, K., Ponjaert-Kristoffersen, I., & Brewaeys, A. (2001). An attempt to reconstruct children's donor concept: A comparison between children's and lesbian parents' attitudes towards donor anonymity. *Human Reproduction*, *16*, 2019–2025.
- Venta, A., Shmueli-Goetz, Y., & Sharp, C. (2014). Assessing attachment in adolescence: A psychometric study of the Child Attachment Interview. *Psychological Assessment*, *26*, 238–255. doi: 10.1037/a0034712
- Wainright, J. L., Russell, S. T., & Patterson, C. J. (2004). Psychosocial adjustment, school outcomes, and romantic relationships of adolescents with same-sex parents. *Child Development*, *75*, 1886–1898. doi: 10.1111/j.1467-8624.2004.00823.x

- Waters, E., & Cummings, E. (2000). A secure base from which to explore close relationships. *Child Development, 71*, 164–172. doi: 10.1111/1467-8624.00130
- West, C., & Zimmerman, D. H. (1987). Doing gender. *Gender and Society, 1*, 125–151. doi: 10.1177/0891243287001002002
- Williams, J. M., & Smith, L. A. (2010). Concepts of kinship relations and inheritance in childhood and adolescence. *British Journal of Developmental Psychology, 28*, 523–546. doi: doi:10.1348/026151009X449568
- Zadeh, S., Freeman, T., & Golombok, S. (2017a). “What does donor mean to a four-year-old?”: Initial insights into young children’s perspectives in solo mother families. *Children & Society, 31*, 194–205. doi: 10.1111/chso.12181
- Zadeh, S., Jones, C. M., Basi, T., & Golombok, S. (2017b). Children’s thoughts and feelings about their donor and security of attachment to their solo mothers in middle childhood. *Human Reproduction, 32*, 868–875. doi: 10.1093/humrep/dex016