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Adoptive Gay Father Families: A Longitudinal Study of Children's Adjustment at Early Adolescence

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Findings are presented from the second phase of a UK longitudinal study of 33 gay father, 35 lesbian mother, and 43 heterosexual parent families when their adopted children reached early adolescence. Participants predominantly lived in urban/suburban areas and were mostly white and well-educated. Standardized interviews, observations, and questionnaires of parental mental health, parent-child relationships, and adolescent adjustment were administered to parents, children, and teachers between 2016 and 2018. There were few differences between family types. However, adjustment problems had increased in all family types, with better parenting quality and parental mental health associated with fewer adjustment problems. The findings contribute to adoption policy and practice, and to theoretical understanding of the role of parental gender in child development.

In the United Kingdom, the proportion of children adopted by same-sex couples rose from just under 10% in March 2017 (Department for Education, 2017) to 12% in March 2018 (Department for Education, 2018). Moreover, data from the 2016 American Community Survey, conducted annually by the U.S. Census Bureau, has shown that more than 20% of families with same-sex parents are raising adopted children, compared to only 3% of families with heterosexual parents (Goldberg & Conron, 2018). It is not only the case that same-sex couples are more likely to adopt, but they have also been found to be more open to adopting a wider range of children, including those with special needs (Brodzinsky & Pertman, 2011). Considering the large number of children waiting to be adopted

(Department for Education, 2019), and the reticence of some adoption agencies to place children with gay couples (Goldberg, Frost, Miranda, & Kahn, 2019; Harris 2017), it is important to understand the consequences for children's psychological adjustment.

Adjustment of Adopted Children

It is well established that adopted children are more likely to have elevated rates of both internalizing (e.g., depression) and externalizing (e.g., aggression) problems and to be referred to mental health services than nonadopted children (Palacios & Brodzinsky, 2010). However, meta-analyses have shown that differences in psychological problems between adopted and nonadopted children are

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generally small, with the large majority of children functioning within the normal range (Askeland et al., 2017; Juffer & van IJzendoorn, 2005). Indeed, the differences between adopted and nonadopted children reflect severe adjustment difficulties (as indicated by very high total problem scores on standardized measures of adjustment) in a minority of adopted children, rather than greater adjustment difficulties in the majority of adoptees. For example, using data from a national sample of 715 U.S. adoptive families, Sharma, McGue, and Benson, (1998) found a 1:1 ratio between adopted and non-adopted adolescents at the midrange of the distribution for psychological problems, as measured by the Youth Self Report (Achenbach, 1991), yet at the upper range, this ratio increased to 3:1, indicating a higher proportion of adopted than nonadopted adolescents with severe adjustment difficulties. Miller, Fan, Christensen, Grotevant, and Dulmen (2000) similarly reported a higher proportion of adopted to nonadopted adolescents at the upper end of the continuum for behavioral problems.

Adopted children are a heterogeneous group, and the developmental trajectories of adopted children may be markedly different depending on an array of factors, including experiences both pre and postadoption. Children adopted from the child welfare system are more often in the clinical range for externalizing and internalizing problems than their privately adopted peers (Simmel, 2007). This is perhaps unsurprising, given the adverse early experiences that the majority of these children have endured. Before entering the care system, most children have suffered neglect and/or maltreatment, with neglect most frequently reported (Selwyn, 2017). A large body of research has documented the long-lasting harmful effects of childhood maltreatment. Maltreated children are at an increased risk of developing both externalizing and internalizing problems (Cicchetti & Toth, 2015), and in adulthood, are at an increased risk of mental health problems, alcohol and drug abuse, obesity, risky sexual behavior, and criminal behavior (Gilbert et al., 2009).

In addition to the birth family environment, the adoptive family environment may influence children's adjustment (Palacios & Brodzinsky, 2010). As with nonadopted children, studies of adopted children have demonstrated a link between family process variables, such as parental mental health and parenting quality, and children's psychological adjustment (Selwyn, Wijedasa, & Meakings, 2014). For example, extensive research has shown that a parenting style characterized by high warmth and

acceptance, and low levels of rejection, is associated with positive adjustment in both adopted and non-adopted adolescents (Khaleque & Rohner, 2002). The limited research examining the relative influence of pre and postadoption risk factors on children's adjustment has found that adjustment is more strongly associated with postadoption factors, such as the adoptive family's ability to cope with challenges, than with preadoption factors, such as maltreatment (Ji, Brooks, Barth, & Kim, 2010).

The adoptive family environment also influences children's attachment security, such that children placed with adoptive parents who are classified as secure, as assessed by the Adult Attachment Interview, are more likely to form secure attachment relationships with their adoptive parents (Hodges, Steele, Hillman, Henderson, & Kaniuk, 2003). In a recent study, Pace, Di Folco, Guerriero, Santona, and Terrone (2015) found 70% concordance between the attachment security of late-adopted adolescents, as assessed using the Friends and Family Interview (Steele & Steele, 2005), and their adoptive mothers, as assessed using the Adult Attachment Interview. It is important to note that preadoption risk factors may be more difficult to measure than postadoption factors, because full details of children's preadoptive adversities may either be unavailable (Ji et al., 2010), or not communicated accurately to adoptive parents (Gunnar & van Dulmen, 2007). Nonetheless, the findings suggest that a positive postadoption environment can promote resilience in adopted children from high-risk backgrounds, and that adopted children who experienced low levels of preadoption adversity may be at increased risk for adjustment difficulties should they reside in dysfunctional postadoption environments.

Adoption by Same-Sex Parents

The research literature on lesbian mother families, which began proliferating in the 1980s, has consistently shown that the children of lesbian mothers do not differ from the children of heterosexual parents in terms of their psychological adjustment or the quality of their relationships with their parents (Crowl, Ahn, Baker, & Baker, 2008; Fedewa, Black, & Ahn, 2015; Patterson, 2009, 2017). In addition, longitudinal studies have demonstrated that children of lesbian mothers continue to show comparable adjustment to children of heterosexual parents in adolescence (Bos & Gartrell, 2010; MacCallum & Golombok, 2004) and adulthood (Gartrell, Bos, &

Koh, 2018; Golombok & Badger, 2010; Tasker & Golombok, 1997).

Research on gay father families is more recent, and fewer studies have been conducted, as it is only since the millennium that a substantial number of gay couples have begun to raise children together (Riggs & Due, 2014). The findings from research on parenting and child adjustment in lesbian mother families cannot be generalized to gay father families as it is often presumed that women are more naturally suited to parenting than are men (Biblarz & Stacey, 2010). This belief prevails despite the large body of research indicating that the dimensions of parenting that are important for children's adjustment, such as warmth and sensitivity, are the same for mothers and fathers (Fagan, Day, Lamb, & Cabrera, 2014). A further difference between gay father and lesbian mother families is that, due to the absence of a mother in the family, children in gay father families and gay fathers themselves may experience greater stigmatization (Carone, Lingiardi, Chirumbolo, & Baiocco, 2018), a factor that may have a negative effect on parent well-being, parent-child relationships, and child adjustment (Rostosky & Riggle, 2017). However, a study by Golombok et al., (2017) found no differences in levels of reported stigma between gay fathers, whose children were conceived via surrogacy, and lesbian mothers, whose children were conceived via donor insemination.

Although a small number of gay father families have been created through surrogacy, with 82 gay couples granted legal parenthood in the United Kingdom in 2016 (Jadva, Prosser, & Gamble, 2018), and children in these families function well (Carone et al., 2018; Golombok et al., 2017), many planned gay father families have been formed through adoption (Brodzinsky & Pertman, 2011). The first systematic study of adoptive gay father families was carried out by Farr, Forssell, and Patterson, (2010a, 2010b) in the United States. Based on parent and teacher questionnaires, preschool children adopted in infancy by gay fathers were as well-adjusted as those adopted by lesbian or heterosexual parents, with no differences in parenting stress, parental discipline, or parental relationship satisfaction according to family type. In an observational assessment of family play, the gay couples were rated as less supportive, but also as less undermining, of each other than were the heterosexual couples (Farr & Patterson, 2013). When the children were followed up in middle childhood, there were again no differences in child adjustment by family type, yet, for the full sample, there was a significant

increase in behavior problems from early to middle childhood (Farr, 2017; Farr, Bruun, & Patterson, 2019). At both phases of the study, family processes were more important to child adjustment than was family type. At preschool age, child adjustment was predicted by parenting stress. At middle childhood, adjustment was again predicted by parenting stress, and also by earlier adjustment problems, indicating stability in adjustment problems over time. Similarly, Goldberg and Smith's (2013) study of early-placed adopted children in gay, lesbian, and heterosexual parent families found that child adjustment did not differ by family type, but was associated with low levels of parental preparation for the adoption, high levels of parental depression, and high levels of parental relationship conflict.

In the first phase of this study, conducted in the United Kingdom, the quality of parent-child relationships and children's adjustment was assessed using standardized interviews, observational measures of parent-child interaction, and questionnaires in 41 adoptive gay father families and comparison groups of 40 adoptive lesbian mother families and 49 adoptive heterosexual parent families, all with children aged between 3 and 9 years (Golombok et al., 2014). Where differences between family types were identified, the findings indicated more positive family functioning in gay father than in heterosexual parent families (Golombok et al., 2014). Specifically, the gay fathers had higher levels of psychological well-being, were more responsive, displayed higher levels of interaction and lower levels of disciplinary aggression, and showed greater warmth toward their children than the heterosexual parents did. In all family types, as expected with children adopted from the child welfare system, the children showed elevated rates of psychological disorder. However, the children of gay fathers exhibited lower levels of externalizing problems than those in heterosexual parent families.

Because adoption by gay men is quite a recent phenomenon, these findings may have resulted from more stringent screening of prospective gay adopters, and a tendency not to place the most troubled children with them. However, compared to the children adopted by heterosexual parents, the children in gay father families were older at the time of adoption and had experienced greater levels of neglect, both of which are established risk factors for adjustment difficulties (Palacios & Brodzinsky, 2010). Alternatively, perhaps only the most motivated and most well-adjusted gay couples passed the stringent adoption screening process. Certainly, the positive adjustment of the gay fathers, in terms

of low parental stress and depression, would attest to this. Irrespective of the explanation for the lower levels of externalizing problems shown by the children in gay father families, the findings indicated that the gay fathers provided a highly positive parenting environment for their children. In line with the results reported by Farr et al. (2010a, 2010b, 2019) and Farr (2017), parenting stress was predictive of child externalizing problems, regardless of family type.

Although existing studies are indicative of positive outcomes for children in adoptive gay father families, limited research has examined the psychological adjustment of older children and adolescents. According to Brodzinsky's (1987) model of adjustment to adoption, adoptive families face specific challenges at different stages of development. In middle childhood, from around 6 to 12 years, the key developmental task is understanding what it means to be adopted; children need to understand not only that they have gained a family, but also that they have lost a family. This experience of loss can lead to feelings of ambivalence about being adopted and, consequently, adjustment difficulties (Pinderhughes & Brodzinsky, 2019). Moreover, at adolescence, adoptees face unique challenges in the development of a secure identity, because many lack information about their birth families and the reasons for their relinquishment, and thus have difficulty in integrating the experience of being adopted into their life story and acquiring a coherent adoptive identity (Grotevant & Von Korff, 2011). In addition, although several studies have found more similarities than differences with regard to family interactions between adoptive and nonadoptive families (Lansford, Ceballo, Abbey, & Stewart, 2001; Rueter, Keyes, Iacono, & McGue, 2009), there may be higher levels of conflict between adopted adolescents and their parents than between nonadopted adolescents and their parents (Rueter et al., 2009). Considering the challenges that adoptees face at different developmental stages, it is important to continue to study adoptive gay father families into adolescence.

The Current Study

The aim of the current investigation was to follow-up the families from the first phase of the study described earlier when the children reached early adolescence, the time at which identity issues become particularly salient for adopted children

and when difficulties in parent-child relationships are most likely to arise (Grotevant & Von Korff, 2011; Pinderhughes & Brodzinsky, 2019). Based on the findings at Phase 1 (Golombok et al., 2014), it was hypothesized that the gay father families would show more positive outcomes in terms of parental mental health, parenting quality, and child adjustment at adolescence than the heterosexual parent families, but would not differ from the lesbian mother families. However, in light of the research literature showing that adopted children begin to show greater adjustment difficulties than nonadopted children in middle childhood (Gunnar & van Dulmen, 2007), it was predicted that adjustment difficulties would increase from Phase 1 to Phase 2 for the entire sample. The longitudinal nature of the study enabled the influence of both early and concurrent parental mental health, as well as parent-child relationship quality, on adolescent adjustment to be explored. The growing body of research showing that family structure is less predictive of child adjustment than the quality of family relationships (Golombok, 2015; Lamb, 2012; Patterson, 2009) led to the prediction that parental mental health and quality of parenting at Phase 1 and Phase 2 would be more strongly associated with child adjustment than family type. From a theoretical perspective, the study was grounded in a developmental systems approach (Overton, 2015), whereby bi-directional relations between the children, the family, and the wider social world are viewed as influential in development. More specifically, the study was guided by the theoretical and research literature on parenting which shows that the quality of children's relationships with their parents, as well as parental psychological well-being, are associated with child adjustment (Collins, Maccoby, Steinberg, Hetherington, & Bornstein, 2000).

Method

Participants

The original sample comprised 41 adoptive gay father families and comparison groups of 40 adoptive lesbian mother families and 49 adoptive heterosexual parent families, all with a child aged 3-9 years. The children were adopted via the UK child welfare system and had all been removed from their families due to maltreatment and/or neglect. The sample was recruited through UK adoption agencies that had placed children with same-sex parents and through support groups for

gay and lesbian adoptive families (see Golombok et al., 2014 for details of the initial recruitment of families to the study, and for details of children's preadoption histories). At Phase 1, the parents were asked for permission to contact them again for follow-up. The present phase of the study (Phase 2) took place between March 2016 and March 2018, when the children were aged between 10 and 14 years (57.7% boys; $M_{\text{age}} = 11.85$, $SD = 1.20$). These middle-class families lived throughout the United Kingdom (81% urban). The parents were predominantly university educated, White British, and all spoke English as a first language. The families were approached by telephone, letter, email and, for those who had changed address, social media. Phase 2 involved 33 gay father families, 35 lesbian mother families and 43 heterosexual parent families, representing 85% of the families seen at Phase 1. Of the 19 families who were lost to follow-up, 11 could not be traced, five actively withdrew, and the remaining three families were unable to participate due to other commitments. Excluding those families who could not be traced, the participation rate at Phase 2 was 93%. There were also no significant differences in demographic characteristics or study variables between families who participated at Phase 2 and those who did not, except for child age; the children in families that continued to participate at Phase 2 were significantly older at Phase 1 ($M = 74.93$ months, $SD = 17.70$) than children in families who did not ($M = 66.29$, $SD = 20.61$); $t(128) = 1.99$, $p = .048$.

As shown in Table 1, there were no differences between family types at Phase 2 in the age of the child, the length of the child's placement in the adoptive family, the number of preadoptive placements the child had experienced, and the number of siblings in the family. However, there was a significant difference between family types in the children's age at adoption, $F(2, 106) = 5.25$, $p = .01$, reflecting an older age at adoption among the children of gay fathers ($M = 41.13$ months, $SD = 19.25$) compared to the children of heterosexual parents ($M = 26.37$ months, $SD = 18.34$). There was also a significant difference in child gender between family types, $\chi^2(2) = 12.67$, $p = .01$, with the greatest proportion of boys in gay father families (81.8% boys) and the lowest in lesbian mother families (40.0% boys). In the heterosexual parent families, there was a similar proportion of boys and girls (53.5% boys).

In all family types, the parent who was most involved with the child on a day-to-day basis

according to parent reports at Phase 1, and agreed by two interviewers, was labelled Parent A and the coparent was labelled Parent B. For the 20% ($n = 26$) of parents who shared child care evenly, designations as Parent A and Parent B were assigned randomly. There was no difference between family types in the age of Parent A, but there was a significant difference in the age of Parent B, $F(2, 107) = 3.43$, $p = .04$, reflecting the younger age of Parent B in gay father ($M = 46.22$ years, $SD = 4.44$) compared to heterosexual parent ($M = 49.78$ years, $SD = 5.62$) families. For both Parent A and Parent B, there were no significant differences between family types in working status or highest qualification. There was a significant difference regarding Parent A's ethnic identity ($p = .03$), with significantly more white heterosexual parents than white lesbian mothers, but no difference between family types in the ethnic identity of Parent B. Because adoption policy in the United Kingdom stipulates that children should be placed with a parent of the same ethnicity as themselves, data on child ethnicity were not collected. However, from the available information, approximately 97% of the children was white and just 3% was nonwhite. There was no difference between family types regarding the type of neighborhood they resided, with most families living in urban or suburban areas.

There was a significant difference in family structure between family types, as significantly fewer children in lesbian mother families were living with both of their adoptive parents compared to children in either gay father or heterosexual parent families, Fisher's exact test; $p = .01$. Specifically, children in six lesbian mother families were no longer living with both of their adoptive parents (four due to separation and two due to parental bereavement). One heterosexual couple had separated and were sharing childcare. All the children in gay father families continued to live with both of their adoptive parents.

Procedure

Ethical approval for the study was granted by the Cambridge University Psychology Research Ethics Committee. In Phase 2, assessments were conducted by two trained researchers who visited family homes located all over the United Kingdom. The research visits to family homes were conducted between 2016 and 2018, and each research visit lasted approximately 3 hr. To reduce visit duration and participant fatigue, questionnaire

Table 1
Means, Standard Deviation, *F* and *p* values for Demographic Information by Family Type

	Gay (G)		Lesbian (L)		Heterosexual (H)		<i>F</i>	<i>p</i>	G versus L <i>p</i>	G versus H <i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Age of child	11.77	1.10	12.23	1.40	11.60	1.05	2.83	.06	.11	.54
Age of child at adoption	41.13	19.25	36.85	23.9	26.37	18.34	5.25	.01	.40	.01
Length of placement	8.15	1.60	8.97	1.81	8.97	1.88	2.45	.09	.06	.05
Age of Parent A	46.85	6.23	48.59	7.12	49.21	5.50	1.38	.26	.25	.11
Age of Parent B	46.22	4.44	48.13	6.99	49.78	5.62	3.42	.04	.18	.01
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%			χ^2	<i>p</i>
Child gender									12.67	.01
Male	27	81.8	14	40	23	53.5				
Female	6	18.2	21	60	20	46.5				
									Fisher's exact value	<i>p</i>
No. of preadoptive placements									3.91	.38
0		1	3.1	1	2.9	1	2.3			
1		20	62.5	16	47.1	29	67.4			
2		11	34.4	17	50	13	30.2			
Siblings									8.04	.20
0		8	24.2	9	26.5	7	16.7			
1		13	39.4	20	58.8	27	64.3			
2+		12	36.3	5	14.7	8	19.1			
Parent A qualification									0.24	1
High school		7	21.9	8	24.2	9	22			
Vocational		4	12.5	4	30.8	5	12.2			
Higher education (e.g., degree)		21	65.6	21	63.6	27	65.9			
Parent B qualification									7.23	.12
High school		6	18.2	3	9.1	11	28.2			
Vocational		1	3	2	6.1	5	12.8			
Higher education (e.g., degree)		26	78.8	28	84.8	23	59			
Parent A employment									5.91	.21
Not working		4	12.1	3	9.1	9	21.4			
Part time		10	30.3	16	48.5	19	45.2			
Full time		19	57.6	14	42.4	14	33.3			
Parent B employment									2.77	.61
Not working		4	12.1	2	5.9	2	4.8			
Part time		7	21.2	10	29.4	8	19			
Full time		22	66.7	22	64.7	32	76.2			
Parent A ethnicity									6.23	.03
White		32	97	31	88.5	43	100			
Other		1	3	4	11.5	0	0			
Parent B ethnicity									6.22	.24
White		31	93.9	32	97	38	92.7			
Other		2	6.1	1	3	3	7.3			
Family structure										
Original adoptive family		33	100.0	29	82.9	42	97.7			
Other		0	0.0	6	17.1	1	2.3			.01

booklets were mailed to participants in advance, and parents and children were instructed to complete the questionnaires individually. At the beginning of each research visit, parents read the information sheet before giving informed written consent to participate in the study. For the child's participation, parents provided written consent, and each child was given their own study information and written assent forms. Each parent completed a 5-min, video-recorded observational task with their child. Then, one researcher interviewed Parent A, whereas the other researcher interviewed Parent B, and then the child. All interviews were audio recorded and completed individually. Most families completed their questionnaires in advance of the research visit, but when families did not have time to do so, the questionnaires were completed after the interview. During the research visit, families were also asked for permission to contact the child's teacher (usually the form teacher) via post or email. Teachers gave written informed consent and completed a questionnaire to provide an independent assessment of the children's adjustment.

The researchers were trained on conducting the interview, as well as the interview coding scheme, by a senior researcher with considerable experience of administering the interview to parents. The two trained researchers held coding meetings after each research visit and any coding discrepancies were discussed in depth to ensure coding was consistent across the 2-year data collection process. It was not possible for interviewers to be "blind" to family type, as data were obtained by interview on issues relating to the children's families. However, a section of the interview on the child's emotional and behavior problems was rated by a child psychiatrist who was unaware of the child's family background to provide an independent assessment of child adjustment.

Due to the length and nature of home visits, as well as the difficulties of the children, it was not possible to obtain complete data from each family member, and the proportion of missing data varied depending on the measure. Specifically, of the 111 families in Phase 2 the following data were obtained: 95% of the Parent A interviews, 93% of Parent B interviews, 94% of the Parent A Strengths and Difficulties Questionnaires (SDQ: Goodman, 2001), SDQs, 92% of the Parent B SDQs, 89% of the child SDQs, 83% of Parent A-child observations, 79% of Parent B-child observations, 86% of data on Parent A well-being, and 84% of data on Parent B well-being.

Measures

Parental Mental Health

At both phases of the study, the Edinburgh Depression Scale (EDS; Thorpe, 1993) and the Trait Anxiety Inventory (TAI; Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983) were administered to each parent to assess depression and anxiety, respectively. The EDS is a 10-item self-report scale, with higher scores indicating higher levels of depression. The EDS was originally developed to screen for symptoms of postnatal depression in women (Cox, Holden, & Sagovsky, 1987), but has since been validated with fathers, samples outside the postnatal period, and the general population (Matijasevich et al., 2014; Matthey, Barnett, Kavanagh, & Howie, 2001). At the current phase of the study, Cronbach's α was .84 for Parent A and .83 for Parent B. The TAI is a 20-item scale, with higher scores reflecting higher levels of anxiety. A meta-analytic review found the average reliability coefficients for both test-retest and internal consistency to be acceptable (Barnes, Harp, & Jung, 2002). Due to strong associations between the depression and anxiety scores (Parent A, $r = .79$; Parent B, $r = .69$), aggregates of the depression and anxiety scores for each parent were used to represent parental mental health at Phase 1 and Phase 2, separately, with higher scores indicating higher levels of mental health problems. At the current phase of the study, Cronbach's α was .92 for Parent A and .92 for Parent B.

Quality of Parenting

Parent interview

At both phases of the study each parent was interviewed separately using an adaptation of a semistructured interview designed to assess quality of parenting that has been validated against observational ratings of mother-child relationships in the home (Quinton & Rutter, 1988) and has been used successfully in previous studies of same-sex parent families (Golombok et al., 2014, 2017). Detailed accounts are obtained of the child's behavior and the parent's response to it, with particular attention to interactions involving warmth and control. A flexible style of questioning is used to elicit sufficient information for each variable to be rated according to a standardized coding scheme. The following variables were coded: (a) *expressed warmth* from 0 (*none*) to 5 (*high*) took account of the

parent's tone of voice, facial expressions, and gestures, in addition to what the parent said about the child; (b) *sensitive responding* from 0 (*none*) to 4 (*high*) represented the parent's ability to recognize and respond appropriately to the child's needs; (c) *quality of interaction* from 0 (*very poor*) to 4 (*very good*) was based on the extent to which the parent and child wanted to be with each other and showed each other affection; and (d) *criticism* from 0 (*none*) to 4 (*considerable*) assessed how critical the parent was of the child's behavior or character. The inter-rater reliabilities (intraclass correlation coefficients) were as follows: expressed warmth (Phase 1 = .75; Phase 2 = .68), sensitive responding (Phase 1 = .71; Phase 2 = .82), quality of interaction (Phase 1 = .77; Phase 2 = .85) and criticism (Phase 1 = .69; Phase 2 = .78).

Observational assessment

The Fictional Vacation Task (Grotevant & Cooper, 1985) was used to obtain an observational assessment of parent-child interaction. The child planned a 2-week holiday; 1 week was planned with Parent A and the second week with Parent B. The order of Parent A and Parent B was counter-balanced to avoid order effects. Each parent-child dyad was given the following instructions:

We'd like you to plan a 2-week holiday. Imagine that we gave you unlimited money and you could go anywhere you want and do anything you'd like to do. Each week of the holiday should be planned by two family members only. Plan out every day, thinking about the entire family. We'll give you about 5 min to plan each week.

The parent and child were given an A4 sized sheet of paper with an empty timetable for them to complete with their chosen activities. The sessions were video recorded and coded using the Parent Child Interaction Coding System (Deater-Deckard, Pylas, & Petril, 1997). The following variables were rated on a 7-point scale ranging from 1 (*no instances*) to 7 (*constant, throughout interaction*): (a) *child's responsiveness to parent* measured the extent to which the child responded immediately and contingently to the parent's comments, questions, or behaviors; (b) *parent's responsiveness to child* measured the extent to which the parent responded immediately and contingently to the child's comments, questions, or behaviors; (c) *dyadic reciprocity* measured the degree to which the dyad showed

positive affect, eye contact, and a "turn-taking" (conversation like) quality of interaction; and (d) *dyadic cooperation* measured the degree of agreement about whether and how to proceed with the task. The inter-rater reliabilities (intraclass correlation coefficients) were as follows: child responsiveness (.73), parent responsiveness (.61), dyadic reciprocity (.81), and dyadic cooperation (.61).

Child Adjustment

Strengths and Difficulties Questionnaire

The presence of child psychological problems was assessed using the SDQ (Goodman, 2001). At Phase 1, Parent A completed the SDQ, and at Phase 2, the SDQ was completed by both parents and the child. Following permission from the parents, the SDQ was also administered to teachers at Phase 1 and Phase 2. Teachers were informed that their responses would not be reported back to the child's family or school. Scores of externalizing problems and internalizing problems were calculated, with higher scores indicating higher levels of problems. The number of children with total SDQ scores above the cut-off point for psychiatric disorder as rated by parents, children, and teachers at Phase 2 was also calculated. The cut-off scores for the parents', children's, and teachers' questionnaires are 17, 20, and 16, respectively.

The SDQ has been shown to have good internal consistency, test-retest and inter-rater reliability, and concurrent and discriminative validity (Goodman, 2001). Based on an epidemiological sample of more than 10,000 children in the United Kingdom (Goodman, 2001), internal consistency was found to be .73, test-retest reliability after 4-6 months was .62 and, in terms of validity, scores above the 90th centile predicted a substantially raised probability of independently diagnosed psychiatric disorders. In a review of the reliability and validity of the SDQ based upon 48 studies involving more than 130,000 children, Stone, Otten, Engels, Vermulst, and Janssens, (2010) found the psychometric properties of the SDQ to be strong. In this study, internal consistency was high for both the externalizing (Parent A, Cronbach's $\alpha = .83$; Parent B, Cronbach's $\alpha = .86$; Teacher, Cronbach's $\alpha = .91$; and Child, Cronbach's $\alpha = .78$) and internalizing (Parent A, Cronbach's $\alpha = .80$; Parent B, Cronbach's $\alpha = .81$; Teacher Cronbach's $\alpha = .70$; and Child, Cronbach's $\alpha = .76$) scales.

Ratings of psychiatric disorder

The presence of child psychiatric disorder was assessed during the interview with Parent A at the current phase of the study using a standardized procedure (Rutter, Cox, Tupling, Berger, & Yule, 1975). Detailed descriptions were obtained of any emotional, behavioral, or developmental problems shown by the child. These descriptions of actual behavior, which included information about where the behavior was shown, severity of the behavior, frequency, precipitants, and course of the behavior over the past year, were transcribed verbatim and rated by a child psychiatrist who was unaware of the nature of the study. A high level of reliability ($r = .85$) between ratings made by social scientists and those made “blindly” by a child psychiatrist 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 mothers’ assessments of whether or not their children had emotional or behavioral difficulties (Rutter et al., 1975). Psychiatric disorder, when identified, was rated according to severity on a 3-point scale ranging from 0 (*no disorder*), 1 (*slight but definite*) to 2 (*definite or marked*), and type (emotional disorder, conduct disorder, mixed disorder, developmental disorder, Attention Deficit Hyperactivity Disorder, and other disorder).

Results

Analysis Plan

Multilevel modeling (MLM) was used to test the two research questions relating to differences between family types and factors predicting child adjustment, and a repeated measures analysis of variance (ANOVA) was used to address the question of whether child adjustment problems increased over time. For the comparisons between the gay father, lesbian mother, and heterosexual parent families, for a power of .80, the smallest d (standardized difference between means) that could be detected as statistically significant was around .30. Thus, power was adequate to detect moderate group differences.

Multilevel modeling allows for inclusion of multiple reports on the same outcomes and produces less biased standard errors for testing regression coefficients and is therefore seen as particularly useful for examining data collected from

indistinguishable dyads, such as same-sex parents (Smith, Sayer, & Goldberg, 2013). In this study, we tested two-level random intercept models to examine variation in outcomes accounted for by variance occurring within families (i.e., Level 1: differences between the two parents in a dyad) and variance occurring between families (i.e., Level 2: differences between families). In the model, the intercept at Level 1 reflects an average outcome score for each couple that is treated as randomly varying and is then used as an outcome variable at Level 2 (Geisser, 2013). In this study, Level 1 predictor variables included parent mental health and parenting quality (i.e., interview, and observational measures), and Level 2 variables included Phase 1 child externalizing and internalizing problems (as rated by Parent A, since the SDQ was obtained from Parent A only at Phase 1). Prior to examining the correlates and predictors of children’s adjustment problems, we examined the latent factor structure of ratings of parenting using Confirmatory Factor Analysis and then used nested model comparisons to examine the measurement invariance of each latent factor across time (Brown, 2015). To support interpretation of the final models, grand mean centering was used to center the couple- and child-level continuous variables in the models and we adopted Snijders and Bosker’s (1999) measure to estimate the proportion of variance explained, which is analogous to R^2 . MLM analyses were conducted in *Mplus* Version 8 using a maximum likelihood estimator with robust standard errors (Muthén & Muthén, 2012). Model fit was evaluated using Brown’s (2015) recommended criteria: root mean square error of approximation (RMSEA) $< .08$, comparative fit index (CFI) $> .90$ and Tucker–Lewis index (TLI) $> .90$. We used a full information approach so that all eligible families could be included. Model parameters and standard errors were estimated in *Mplus* using all available data. This approach is suitable for regression models and produces less biased estimates than traditional missing data handling procedures (Enders, 2001).

Parental Mental Health, Parenting Quality, and Child Adjustment by Family Type

Parental Mental Health

As illustrated in Table 2, no significant differences were found between family types in terms of parent mental health.

Table 2
Descriptive Statistics for Main Phase 2 Study Variables by Family Type

	Gay (G) M (SD)	Lesbian (L) M (SD)	Heterosexual (H) M (SD)	G versus L				G versus H			
				<i>b</i>	<i>SE</i>	<i>p</i>	<i>d</i>	<i>b</i>	<i>SE</i>	<i>p</i>	<i>d</i>
Mental health ^c	20.33 (5.34)	21.85 (7.70)	21.85 (7.94)	1.52	0.23	.89	.23	1.52	.21	.62	.22
Sensitivity ^a	2.74 (0.69)	2.82 (1.07)	2.58 (1.05)	0.08	0.18	.64	.09	-0.16	.16	.34	-.18
Warmth ^a	3.99 (0.92)	4.05 (1.46)	4.09 (1.38)	0.06	0.23	.78	.05	0.10	.21	.63	.08
Interaction quality ^a	2.86 (0.86)	2.88 (0.95)	2.72 (0.98)	0.02	0.16	.90	.02	-0.14	.15	.37	.15
Criticism ^a	1.88 (0.69)	1.94 (1.01)	1.91 (1.05)	0.07	0.17	.70	.07	0.03	.16	.87	.03
Parent responsiveness ^b	6.17 (0.63)	6.39 (0.95)	6.07 (0.92)	0.22	0.16	.16	.27	-0.10	.14	.49	-.12
Child responsiveness ^b	6.00 (0.86)	6.14 (1.30)	5.97 (1.31)	0.14	0.22	.52	.13	-0.03	.20	.87	-.03
Dyadic reciprocity ^b	3.91 (0.86)	3.91 (1.30)	3.48 (1.31)	0.00	0.22	.99	0	-0.43	.20	.03	-.38
Dyadic co-operation ^b	5.88 (1.15)	5.90 (1.72)	5.88 (1.77)	0.02	0.29	.94	.01	0.00	.27	.99	0
Externalizing ^c	8.22 (4.40)	8.18 (6.34)	8.96 (6.68)	-0.04	1.07	.97	.01	0.75	1.02	.46	.13
Internalizing ^c	5.16 (3.85)	6.68 (5.56)	5.40 (1.56)	1.52	0.94	.11	.32	0.24	.89	.79	.09

Note. Mental health = aggregate of parent anxiety and depression scores.

^aInterview ratings. ^bObservation ratings. ^cQuestionnaire ratings.

Parenting Quality

With respect to parenting quality, the only difference identified was between gay and heterosexual parent families in terms of the observational assessment. Specifically, greater levels of reciprocity were observed between gay fathers and their children than between heterosexual parents and their children ($b = -.43$, $p = .033$). However, there were no differences in parent responsiveness, child responsiveness or in cooperation. No differences were found in parenting quality as rated from the interview. The comparisons between gay and lesbian families showed no significant differences between family types.

Child Adjustment

As illustrated in Table 2, no significant differences were found between family types in terms of child externalizing or internalizing problems.

The proportion of children with a total SDQ score above cut-off for psychiatric disorder was calculated separately for the reports of Parent A, the teacher, and the child. There were no significant differences between gay father and heterosexual parent families in the proportion of children with psychiatric disorder according to parents, $\chi^2(1) = 0.02$, $p = .86$; teachers, $\chi^2(1) = 0.62$, $p = .43$; or children, $\chi^2(1) = 3.82$, $p = .05$, although the non-significant trend for children's scores reflected a lower proportion of children in gay father families with scores above cut-off. Neither did the gay father families differ from the lesbian mother

families on this variable according to parents, $\chi^2(1) = 0.02$, $p = .86$; teachers, $\chi^2(1) = 0.01$, $p = .93$; or children, $\chi^2(1) = 0.02$, $p = .88$. The proportions of children in gay father, lesbian mother and heterosexual parent families, respectively, with SDQ scores above cut-off were as follows: 32.3%, 30.3%, and 34.1% for parents' ratings; 22.7%, 24%, and 35.5% for teachers' ratings; and 12.5%, 13.8%, and 32.4% for children's ratings.

With respect to the child psychiatrist's ratings, there was no difference in the severity of psychiatric problems between gay father and heterosexual parent families (Fisher's exact = 3.38, $p = .17$) or between gay father and lesbian mother families (Fisher's exact = 0.39, $p = .93$). For the entire sample, 44.3% ($n = 47$) of the children was rated as having a marked problem, and 9.4% ($n = 10$) was rated as having a slight but definite problem. Of the 53.8% ($n = 57$) of the sample who were rated as having a psychiatric problem, 7.5% showed emotional problems, 3.8% showed conduct problems, 3.8% had developmental problems, 3.8% displayed attention deficit hyperactivity disorder, 2.8% showed other problems such as anorexia, and 32.1% displayed multiple problems, such as a mixture of emotional and conduct problems, or a combination of developmental and conduct problems.

Change in Adjustment Problems Over Time

A Repeated Measures ANOVA was conducted with phase (Phase 1 or Phase 2) and type of problem (externalizing or internalizing as reported by Parent A) as within subjects' factors, and family

type (gay father, lesbian mother, or heterosexual parent family) as the between subjects' factor. There was a significant main effect of time, $F(1, 97) = 32.19, p < .001$, such that children's psychological problems increased from Phase 1 (externalizing problems $M = 7.27, SD = 3.74$; internalizing problems $M = 3.54, SD = 3.23$) to Phase 2 (externalizing problems $M = 8.46, SD = 4.57$; internalizing problems $M = 5.74, SD = 4.04$). There was also a significant main effect of type of problem, $F(1, 97) = 82.36, p < .001$, such that children showed higher levels of externalizing problems than internalizing problems. In addition, there was a significant interaction between phase and type of psychological problem, $F(1, 97) = 7.00, p = .009$, such that children showed a greater increase in internalizing problems than externalizing problems from Phase 1 to Phase 2. The interaction between family type and phase was not significant, $F(2, 97) = .29, p = .75$. The interaction between phase, type of psychological problem, and family type was not significant, $F(2, 97) = .79, p = .46$.

Predictors of Child Adjustment

In the first instance, we explored associations between all the predictors and outcomes (see Table 3, Parent A, above the diagonal, and Parent B, below the diagonal—please note the correlations do not account for the inter-dependent nature of the data). Following this, we examined whether the different parenting dimensions measured within the observational assessment (parent and child responsiveness, dyadic reciprocity, and co-operation) and interview (sensitivity, warmth, quality of interaction, and criticism) reflected independent constructs or were indicative of a global underlying construct of parenting. In light of the weak associations between the observational measures, we pursued Confirmatory Factor Analysis to test whether the four interview measures loaded onto a single factor at each time point. Specifically, we specified a one-factor model in which total scores for warmth, quality of interaction, sensitivity, and (low) criticism loaded onto a single latent factor of "parenting quality" at Phase 1 and at Phase 2. This baseline model suggested configural invariance, that is, the same factor structure was constant over time, $RMSEA = .08, CFI = .94, TLI = .92$. The average factor loading for individual items was .71 and ranged between .55 and .89, with higher scores reflecting more positive parenting.

Next, following guidelines from Geiser (2013) and Brown (2015), we examined the measurement

invariance of each latent factor across time using nested model comparisons. A model parameter is seen as noninvariant, that is, it does not have an equivalent relationship to the latent factor, if it leads to a significant decrease in model fit, as indicated by a chi-square difference test. Comparisons of our models suggested that, although there was support for configural and metric invariance (i.e., equal factor loadings), the indicator intercepts were noninvariant across time, suggesting partial invariance. However, strong factorial invariance is not necessary when using latent factors as predictors (Geiser, 2013), and so in subsequent analyses we used the metric equality-constrained latent factor reflecting interview-rated parenting quality at Phase 1 and Phase 2 as predictors of child adjustment problems.

Externalizing Problems

We first regressed the externalizing scores at Phase 2 on to the within-couple predictors (i.e., Level 1), specifically parent mental health from both phases, the metric equality-constrained parenting quality latent factor at both phases, and parent-child interaction quality (Phase 2 parent responsiveness, child responsiveness, dyadic reciprocity and cooperation). To explore the unique predictors of externalizing problems at Phase 2, and to control for prior adjustment problems, at the between-family level (i.e., Level 2) we regressed Phase 2 externalizing scores on Phase 1 externalizing and internalizing scores. Parent mental health at Phase 1 and Phase 2, the observational scores, and externalizing and internalizing problem scores at Phase 1 and Phase 2 were permitted to covary. The model showed good fit, $RMSEA = .05, CFI = .94, TLI = .93$.

As illustrated in Table 4, positive parenting as assessed by the interview at Phase 2, standardized estimate [95% CI] = $-.26 [-.44, -.08]$ was negatively related to externalizing problems at Phase 2. In addition, poor parent mental health at Phase 2 was positively related to externalizing problems at Phase 2, standardized estimate [95% CI] = $.24 [.10, .38]$. The model indicated that variables at the within-couple level explained approximately 17% of the variance in adolescent externalizing problems. At the between-family level, greater externalizing but not internalizing problems at Phase 1 were a significant predictor of externalizing problems at adolescence, standardized estimate [95% CI] = $.61 [.41, .80]$. The inclusion of these variables at the between-couple level explained approximately 42% of the variance.

Table 3
Correlations Between Main Study Variables Parent A Below the Diagonal and Parent B Above the Diagonal

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.
1. Phase 2 mental health ^c	—	-.09	-.00	-.05	.02	.00	.03	-.12	-.02	-.08	-.14	.20	.07	.07	.09	.12	.03	-.11
2. Phase 2 sensitivity ^a	-.04	—	.44**	.30**	-.19	-.04	.01	.00	.04	.05	-.20	-.01	-.09	.00	.12	.00	.00	.07
3. Phase 2 warmth ^a	-.06	.62**	—	.65**	-.28**	-.01	.14	.01	-.14	.17	-.03	.02	-.08	-.23*	-.22**	-.02	-.08	.06
4. Phase 2 interaction ^a	-.07	.43**	.64**	—	-.37**	.06	.24*	.22*	-.10	.13	-.08	.16	-.12	-.19	-.15	-.04	-.09	-.04
5. Phase 2 criticism ^a	.10	-.37**	-.45**	-.48**	—	-.17	-.26*	-.26**	.21*	.03	-.07	-.18	.08	.36**	.23*	.15	.19	.15
6. Phase 1 sensitivity ^a	-.02	.29**	.11	.13	.02	—	.45**	.48**	.43**	-.04	.07	-.16	-.05	.03	.01	-.14	-.03	.09
7. Phase 1 warmth ^a	-.07	.26**	.39**	.39**	-.26**	.45**	—	.71**	.45**	.04	.01	-.09	-.05	-.10	-.07	-.11	-.20*	-.11
8. Phase 1 interaction ^a	-.12	.27**	.27**	.31**	-.18	.48**	.71**	—	.36**	.08	-.04	-.08	-.05	-.11	.02	-.22*	-.18	-.14
9. Phase 1 criticism ^a	.14	-.10	.00	-.19	.19	-.43**	-.45**	-.36**	—	.04	-.00	.04	-.00	.22*	.24*	.26**	.40**	.26**
10. Parent responsiveness ^b	-.05	.21**	.15	.14	-.18	.03	.20	.14	-.01	—	.02	-.16	.12	-.11	-.16	.05	.04	-.01
11. Child responsiveness ^b	-.04	-.06	-.00	.00	-.02	-.04	-.07	-.12	.14	.03	—	.21*	.40**	.07	.08	-.02	.04	.17
12. Dyadic reciprocity ^b	-.18	.19	.18	.25*	-.16	.20	.06	.10	-.05	-.01	.14	—	.26*	-.01	.22*	.03	-.09	-.04
13. Dyadic co-operation ^b	-.08	-.10	-.02	.09	-.05	.04	.07	-.03	.02	.04	.52**	.35**	—	-.01	.03	.08	-.04	-.10
14. Phase 2 externalizing ^c	.11	-.11	-.34**	-.31**	.47**	.00	-.09	-.13	.19	-.19	.08	-.16	.06	—	.59**	.00	.55**	.36**
15. Phase 2 internalizing ^c	.05	.07	-.16	-.18	.39**	.10	-.12	-.00	.19	-.02	-.02	-.11	-.09	.45**	—	.10	.25*	.41**
16. Phase 1 mental health ^c	.26**	.05	.04	-.11	-.03	-.06	-.19	-.23*	.18	-.06	-.00	-.13	-.09	.04	.11	—	-.02	.06
17. Phase 1 externalizing ^c	.15	-.04	-.15	-.15	.26**	-.03	-.20*	-.18	.40**	-.10	.15	-.06	.10	.61**	.34**	.14	—	.52**
18. Phase 1 internalizing ^c	.07	.09	-.03	-.07	.20*	.09	-.11	-.14	.26**	-.02	.24*	-.07	.09	.37**	.59**	.18	.52**	—

Note. Mental health = aggregate of parent anxiety and depression scores from Phase 2.

^aInterview ratings. ^bObservation ratings from Phase 2. ^cQuestionnaire ratings from Phase 2. * $p < .05$. ** $p < .01$.

Table 4
Multi-Level Model Parameter Estimates

	Phase 2: Externalizing problems			Phase 2: Internalizing problems		
	Est.	SE	Std. Est.	Est.	SE	Std. Est.
Within-couple						
Phase 1 mental health ^c	-.01	.03	-.02	.01	.04	.02
Phase 2 mental health ^c	.08	.03	.24*	.07	.03	.23*
Phase 1 positive parenting ^a	.30	.32	.10	-.00	.34	-.01
Phase 2 positive parenting ^a	-.61	.28	-.26*	-.41	.25	-.18
Parent responsiveness ^b	-.39	.26	-.14	-.06	.24	-.02
Child responsiveness ^b	.29	.23	.12	-.41	.24	-.19
Dyadic reciprocity ^b	-.23	.21	-.11	.11	.19	.05
Dyadic cooperation ^b	-.16	.17	-.09	.06	.17	.04
Between-couple						
Phase 1 externalizing ^c	.63	.12	.61***	.02	.12	.02
Phase 1 internalizing ^c	.10	.11	.08	.64	.10	.58***

Note. Mental health = aggregate of anxiety and depression scores.

^aPositive parenting = latent factor from parent interview. ^bObservation ratings. ^cQuestionnaire ratings. * $p < .05$. *** $p < .001$.

In sum, over and above stability in externalizing problems from Phase 1 to Phase 2, parents who showed a higher quality of parenting as assessed by interview at Phase 2, and reported fewer symptoms of anxiety and depression at Phase 2, were more likely to have children with fewer externalizing problems at Phase 2.

Internalizing Problems

Our second MLM regressed internalizing scores at the within-couple level on to parent mental health at both phases, the metric equality-constrained parenting quality latent factor at both phases, and parent-child interaction quality (Phase 2 parent responsiveness, child responsiveness, dyadic reciprocity, and cooperation), and at the between-family level, prior internalizing and externalizing problems. The model showed good fit, RMSEA = .05, CFI = .93, TLI = .91. As illustrated in Table 4, parent mental health at Phase 2 was positively related to internalizing problems, standardized estimate [95% CI] = .23 [.05, .41]. The model indicated that variables at the within-couple level explained approximately 13% of the variance in adolescent internalizing problems. At the between-family level, internalizing but not externalizing problems at Phase 1 were a significant predictor of internalizing problems at Phase 2, standardized estimate [95% CI] = .58 [.44, .73]. The inclusion of these variables at the between-couple level explained approximately 35% of the variance.

In sum, over and above stability in internalizing problems from Phase 1 to Phase 2, parents who reported fewer symptoms of anxiety and depression at Phase 2, were more likely to have children with fewer internalizing problems at Phase 2.

Discussion

Our findings lend partial support to the prediction that the quality of parenting in gay father families would be higher than in heterosexual parent families. The only variable that differed between the two family types was reciprocal interaction on the observational measure, with greater levels of reciprocity observed between gay fathers and their children than between heterosexual parents and their children. However, there were no differences between the gay father and heterosexual parent families for the other variables derived from the observational, interview or questionnaire assessment of parenting quality. Moreover, the hypothesis that gay fathers would show more positive mental health than heterosexual parents was not supported by the findings. As predicted, there were no significant differences between the gay father and lesbian mother families for any of the measures of parenting quality or parental mental health.

It seems, therefore, that gay fathers show a similar quality of parenting to both lesbian mothers and heterosexual parents when their adopted children reached adolescence. This finding is consistent with studies of adoptive gay father families with

younger children (Farr, 2017; Farr & Patterson, 2013; Farr et al., 2010a, 2010b; Goldberg & Smith, 2013). Contrary to the view that fathers are less suited to child rearing than are mothers, the only difference in parenting that emerged reflected more positive parenting by gay fathers than by heterosexual parents. Thus, our findings suggest that gay father families continue to provide a positive family environment for their adopted children as they reach early adolescence.

With respect to adolescent adjustment, the hypothesis that adolescents in gay father families would show higher levels of adjustment than adolescents in heterosexual parent families was not supported; there were no differences in externalizing or internalizing problems as measured by the SDQ between adolescents in the two family types. In addition, the proportion of adolescents with total SDQ scores above the cut-off for psychiatric disorder did not differ between the gay father and heterosexual parent families, irrespective of whether the questionnaire was completed by parents, teachers, or the adolescents themselves, although there was a nonsignificant trend toward a lower proportion of adolescents in the gay father than in the heterosexual parent families obtaining scores above the clinical cut-off. There was also no difference between adolescents from gay father and heterosexual parent families in the child psychiatrist's ratings of severity of psychiatric disorder. As expected, the gay father families did not differ from the lesbian mother families for any of the measures of adolescent adjustment.

A large number of adolescents in all family types showed evidence of psychiatric disorder. Around one-third of children had parent-rated SDQ scores above the clinical cut-off point, a proportion that is approximately three times greater than the 10% who obtain SDQ scores in the clinical range according to UK general population norms (Goodman & Goodman, 2012). Moreover, 53.8% of the adolescents was rated as having a psychiatric disorder by a child psychiatrist who was unaware of their family background, and one-third showed multiple disorders, which illustrates the complexity of adjustment problems that many of the adoptees were experiencing.

These findings are not surprising given the high rates of mental health problems shown by children adopted from the care system (Dozier, & Rutter, 2008; Pinderhughes & Brodzinsky, 2019). Although detailed information on the children's preadoption histories was not available for the entire sample, the children had all been removed from their birth

families because of maltreatment, including neglect, emotional or physical abuse, parental drug or alcohol misuse, and domestic violence, all of which are associated with adolescent mental health problems (Cicchetti & Toth, 2015).

As predicted, both externalizing and internalizing problems increased from Phase 1 to Phase 2 of the study in all family types. Whilst externalizing problems remained higher than internalizing problems at adolescence, which is consistent with the literature on the psychological adjustment of adopted children (Juffer & van IJzendoorn, 2005), there was a greater increase in internalizing than externalizing problems over time. These findings are consistent with Brodzinsky's psychosocial theory of adjustment to adoption which predicts an increase in psychological difficulties among adopted children at adolescence (Brodzinsky, Radice, Huffman, & Merkler, 1987) and with previous research which has documented an increase in adopted children's adjustment problems in middle childhood (Brodzinsky, 1993).

As adopted children develop, they become more aware of the complexities associated with adoption, often leading to confusion and uncertainty (Brodzinsky, 1987). Brodzinsky (1987) posits that children's confusion represents the beginning of the adaptive grieving process, whereby children begin to process the loss of their birth families. Since loss typically involves shock, denial, protest, despair, and eventually recovery and reintegration, Brodzinsky (1987) suggests that the increase in adopted children's behavior problems is often a reflection of the normal process of adaptive grieving. This adaptive grieving process extends into adolescence where adoptees do not only grieve their birth families, but also the part of themselves they feel is lost (Brodzinsky, 1987, 2011). Adoptees often lack knowledge about their birth family and the reasons for their relinquishment which can make it more difficult to form a complete sense of self. Moreover, for adoptees with adverse early life experiences, such as maltreatment and neglect, making sense of this information can be painful and difficult to integrate into their sense of self (Neil, 2000).

Regarding predictors of adolescent adjustment, we found that, over and above the stability in externalizing problems, lower levels of parental mental health problems at Phase 2, and higher levels of parenting quality at Phase 2, were associated with lower levels of adolescent externalizing problems. Additionally, over and above the stability in internalizing problems, lower levels of parental mental health problems at Phase 2 were associated with

lower levels of adolescent internalizing problems. Thus, in line with developmental systems theory (Overton, 2015), parents who develop positive relationships with their children, and who themselves had low levels of mental health problems, were more likely to have adolescents with lower levels of psychological disorder. The cross-sectional nature of this association precludes any conclusion about the direction of effects; the higher levels of problem behaviors in the children may have contributed toward poorer parental mental health. This finding is in line with the clinical and research literature on predictors of psychological problems in children adopted from the care system, which points to more positive outcomes for families in which adoptive parents are able to cope with their children's difficult behavior, have realistic expectations of their children's functioning and behavior, and show high levels of warmth and low levels of hostility toward their children (Ji et al., 2010; Rushton & Dance, 2006).

Parenting quality and parental mental health problems at Phase 1 were not predictive of externalizing and internalizing problems at adolescence. Nevertheless, the measures of positive parenting at Phase 1 and Phase 2 were correlated with each other, as were the measures of parental mental health, indicating that positive parenting and parental mental health problems when the children were young contributed indirectly to the associations between these variables and adolescent adjustment.

The study had a number of limitations. First, differences between family types may not have been detected due to the modest samples sizes. However, to the extent that significant differences between family types were not identified due to insufficient power, these differences would have been small. In addition, we found partial measurement invariance (i.e., configural and metric but not intercept invariance) for our latent factor of positive parenting as rated from the interview at each phase of the study. However, while the lack of strict factorial invariance limited our ability to examine changes in positive parenting over time, it should be noted that studies explicitly testing measurement invariance of parenting typically rely upon questionnaire ratings (Widaman, Ferrer, & Conger, 2010), and, consistent with our findings, those who have examined observational ratings have also demonstrated partial measurement invariance (e.g., Hughes, Lindberg, & Devine, 2018). Although the inter-rater reliability of the parental responsiveness scale of the observational measure was low, rather

than being unreliable in detecting low parental responsiveness, inspection of the data showed that this was due to ceiling effects in these highly functioning families, as most obtained scores at the top of the scale.

Advantages of the study include its longitudinal design, and the use of a multimethod (interview, observation, and questionnaire) and multi-informant (both parents, child, teacher and child psychiatrist) approach. Because stigmatized groups such as gay fathers may tend to present their families in the best possible light, the use of an observational measure in which it is more difficult to "fake good" (Kerig & Lindahl, 2000), and the collection of data from teachers and the adolescents, provided validation for the parents' reports, as did the ratings of children's adjustment by an independent child psychiatrist. A further advantage is the use of analytical techniques that accounted for the lack of independence of data from family members.

Overall, the adolescents in the study showed high levels of adjustment difficulties, irrespective of whether they were being raised by gay fathers, lesbian mothers or heterosexual parents, and in all family types, higher levels of family functioning were associated with lower levels of adolescent adjustment difficulties. Taken together, these findings indicate that adoptive parents and children need to continue to receive support, especially from middle childhood to early adolescence, when identity issues and associated adjustment problems are likely to arise. Furthermore, the association between parent mental health and child adjustment indicates that adoptive parents would benefit from the availability of support services for their own mental health as well as their children's adjustment problems. As parents and children exert reciprocal influences on each other, supporting adoptive parents' mental health would be beneficial not only for adoptive parents, but also for adopted children. In line with the growing evidence that family processes are more influential in children's psychological adjustment than family structure (Golombok, 2015; Lamb, 2012; Patterson, 2009), the findings show that men can be just as competent at parenting as women. Indeed, the only group difference in parenting quality identified between the gay father and heterosexual parent families, reflected more positive functioning in the gay father families. Given the large number of children in need of adoptive families, adoption agencies should give greater consideration to gay couples as prospective adoptive parents.

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