

**Single mothers by choice in Spain: parenting and psychosocial adjustment
in adopted and ART children**

Abstract

This study explores the effects of family structure (single mother by choice/partnered mother), pathway to motherhood (adoption/assisted reproduction techniques or ART) and parenting style on children's psychological adjustment and social competence. Ninety-eight families participated: 45 single mothers by choice (29 adoptive, 16 by ART); and 53 partnered mothers (27 adoptive, 26 by ART). Ninety-eight children were evaluated (*Age*= 5.36) by their teachers. As regards family structure, children of single mothers by choice (both adopted and conceived by ART) showed good psychological adjustment and good social competence. No significant differences were observed between them and those living with two parents when all were conceived by ART. However, children adopted by single mothers had higher hyperactivity and lower self-control than those living with two adoptive parents. No differences were observed in terms of nurturing parenting style, either between single and partnered mothers, or between adoptive and ART mothers. The nurturing parenting style significantly predicted better psychological adjustment and social competence among children. The results are discussed in connection with the debate regarding the effect of structure versus family processes on children's psychosocial adjustment. The implications for interventions with single mothers by choice are also explored.

Keywords: Single mothers by choice; Adoption; Assisted Reproduction Techniques; Parenting; Children's Psychosocial Adjustment.

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Single-parent families headed by women have traditionally been viewed as contexts of social disadvantage and marginalisation, with living and growing up in such families being considered, by default, a risk factor for the poor physical and emotional wellbeing of both mothers and children (McLanahan & Sandefur, 1994). The absence of a father in the home, and the detrimental effects associated with that circumstance, are what are generally considered to be the cause of this disadvantage (Popenoe, 1996). However, several studies have shown that it is in fact certain factors such as low financial resources, high stress levels, maternal anxiety or depression, lack of social support or the high levels of conflict associated with divorce, that actually pose the risk, and that belonging to a single-parent family need not, in itself, have a negative impact on either the mother's or her children's wellbeing (see reviews by Golombok, 2015; Weinraub et al., 2002). Although it has been shown that children do not necessarily need a father figure (Biblarz & Stacey, 2010; Silverstein & Auerbach, 1999), some authors still argue today that growing up without a father is harmful for children, basing their claims mainly on studies of post-divorce families or single mothers with precarious resources (Amato, 2005; McLanahan et al., 2013).

One way of distinguishing between the possible influence of single motherhood and the impact of other factors often associated with it is to study those families formed by single mothers by choice; or in other words, families headed by an adult woman who actively decides to become a mother without having a partner (Miller, 1992). Pathways to single motherhood in this situation include adoption, assisted reproduction techniques (ART), finding a biological father or continuing with a pregnancy that is unplanned but which is accepted and becomes wanted (Bock, 2000; Mannis, 1999). As shown by studies carried out in various different countries (e.g. Ben-Ari & Weinberg-Kunik, 2007; Jadva et al., 2009; Salomon et al., 2015), most of these mothers have university studies, qualified jobs, sound financial means and extensive support networks. The majority have wanted to be mothers for a long time and opt for single motherhood because they do

not have a partner when they reach a certain age (usually between 35 and 40 years) and feel they are coming to the end of the period in which they will be able to either conceive or adopt a baby (Graham, 2012; Salomon et al., 2015). Therefore, as Rosanna Hertz (2006) puts it, they are usually *single by chance, mothers by choice*.

Since, as shown above, the families formed by single mothers by choice do not usually suffer from financial hardship, lack of social support, high stress levels or high levels of marital conflict, they constitute 'natural experiments' (Rutter, 2007) for separating the influence of these factors from the impact of single motherhood itself on child development (Golombok, 2015). These family contexts are therefore not only interesting in themselves, they also provide valuable information which may help improve our understanding of the influence of family structure versus that of family processes. Studies which have systematically analysed family functioning, and in particular parenting style (Baumrind, 1966), in relation to the psychological wellbeing of children growing up with single mothers by choice, report fairly consistent results and focus mainly on adoptive families and those who conceived using ART.

Adoptive single-mother families

Adoption is a proven protection measure for children whose birth parents or extended family cannot provide adequate care for them. In the vast majority of cases, adoptive families are good contexts for child development in that they provide children with experiences which help them overcome the consequences of prior adversity, such as prenatal risk factors, maltreatment, neglect or institutionalisation (Palacios et al., 2019). Children may be adopted by families within their own country (domestic adoption) or from other countries (international adoption). In general, international adoption offers a relatively quick and simple means of adopting a healthy child at a young age, which reduces the risk of their having experienced severe and prolonged early adversity. In this sense, a meta-analysis by Juffer and Van IJzendoorn (2005) found that international adoptees showed fewer psychological adjustment problems than domestic adoptees. For all these reasons,

international adoption underwent a sharp increase during the first few years of this century, becoming a very popular option among single mothers (Selman, 2010).

One factor that has been shown to be crucial for the recovery of adopted children is that their parents develop sensitive, child-centred, nurturant (authoritative) parenting styles (Juffer et al., 2005; Tan et al., 2015). However, not all aspects of child development and adjustment improve equally following children's adoption, particularly after severe early adversity. In this sense, the meta-analyses carried out coincide in finding that internationally-adopted children tend to have more adjustment problems, particularly externalising problems, than their non-adopted peers, although differences in internalising problems are less common (Askeland et al., 2017; Juffer & Van IJzendoorn, 2005). However, in the realm of social competence, no differences have been found between adoptees and non-adoptees (Palacios et al., 2013).

In the case of children adopted by single mothers, the findings reported by both pioneering studies on domestic adoptions, and more recent studies on international adoptions, are also consistent. Most report good levels of psychological adjustment, few behavioural problems (Feigelman & Silverman, 1977; León, 2011; Shireman & Johnson, 1985; Tan, 2004; Tan & Baggerly, 2009) and high social competence (León, 2011; Soares et al., 2019), with no differences being found in relation to children adopted by couples. One study even found that children adopted by single mothers had fewer behavioural problems than adopted peers growing up in two-parent families (Groze & Rosenthal, 1991).

As regards single adoptive mothers, studies report that they tend to be somewhat older than partnered mothers at adoption, and are more likely to adopt children who have special needs as a result of either being older or having experienced situations of severe adversity (Feigelman & Silverman, 1977; Groze, 1991; León, 2011). In relation to parenting style, in a study carried out with Spanish families who adopted children from abroad, the authors not only found that the vast majority of adoptive mothers employed authoritative styles, but also that single adoptive mothers used styles that were characterised by significantly higher levels of affection, communication and

control than their partnered counterparts. No differences were observed, however, in the degree of responsibility they demanded from their children (León, 2011). In a longitudinal study, Tan et al. (2015) also found that the authoritative parenting style was the most frequent among adoptive mothers, with no differences being found between single and partnered mothers. They also found that while this parenting style predicted the absence of psychological adjustment problems among children, authoritarian styles exacerbated them.

Single-mother families formed by assisted reproduction techniques

Over one and half million children were born in Europe thanks to ART between 1997 and 2015 (De Geyter et al., 2020). ART include ovulation induction, artificial insemination, in vitro fertilization, and intracytoplasmic sperm injection, and may also require sperm donation, egg donation, embryo donation and surrogacy.

Studies carried out with two-parent families who conceived thanks to ART have found that the family relationships established are warm and positive, with no differences observed in relation to families who conceived naturally, with the exception of lower levels of parental stress in the former, along with somewhat more positive child-parent relations during some development stages. These findings were reported in the European Study of Assisted Reproduction Families (Golombok et al., 1996) and have since been confirmed by a large body of subsequent literature (Golombok, 2015). It is therefore not surprising that the psychological adjustment of children growing up in these families is within normal parameters and is comparable to that of children conceived naturally, as indeed longitudinal studies have shown (e.g. Barbuscia et al., 2019).

The findings for children born to single mothers by choice who conceived using ART are quite similar. A study by Chan et al. (1998) found that the psychological adjustment and social competence of 7-year-old children growing up with single mothers who conceived through insemination were within normal parameters and were no different from those found among children growing up with two parents. Similarly, in a longitudinal study focusing on the families of single mothers who had conceived using donor insemination, Susan Golombok and her team found

that, at age two years, children had good emotional and behavioural adjustment, and even had fewer problems than those growing up in heterosexual two-parent households (Murray & Golombok, 2005b). Similarly, positive findings were reported by this same team in a subsequent longitudinal study both when the children were aged between 4 and 9 years (Golombok et al., 2016) and in a second phase, when they were in middle childhood (Golombok et al., 2020). According to their results, children of single mothers who conceived using ART have good levels of psychological adjustment which are indistinguishable from those of children growing up in two-parent households, as least according to mothers' and trained researchers' assessments.

However, some of the data reported seem to contradict this. In the aforementioned study by Golombok et al. (2020), when children were assessed by their teachers, those of single mothers obtained significantly higher scores in emotional and behavioural difficulties than those in two-parent families, although the scores were generally within the normative range. Similarly, a study by Shechner et al. (2011) found that children of single mothers by choice aged between 6 and 9 years were more aggressive and had more externalising problems than those growing up with two parents, although the authors observed no differences between the two groups in terms of internalising problems.

As regards the parenting style employed by single mothers who had recourse to donor insemination, studies carried out to date report good levels of sensitivity and positive parenting (warmth, enjoyment with play) and positive interaction between them and their children (Golombok et al., 2016; Murray & Golombok, 2005a), as well as high levels of pleasure and low levels of anger in the mother-child relationship (Murray & Golombok, 2005b; Weisseberg et al., 2007). Moreover, comparative analyses reveal that, in most of these dimensions, single mothers by choice are fairly similar to partnered mothers (Golombok et al., 2016; Golombok et al., 2020; Murray & Golombok, 2005b).

It should also be noted that ART single mothers' use of this positive parenting style has been shown to be related to fewer social problems (Weisseberg et al., 2007) and fewer psychological

adjustment difficulties (Golombok et al., 2016) among their children. In contrast, negative parenting and parental rejection by ART single mothers has been linked to an increase in their children's emotional and behavioural problems (Golombok et al., 2020).

Adoptive families versus families formed by assisted reproduction techniques

Very few studies have sought to compare two-parent adoptive families and those who conceived using ART, and those that have report inconsistent results in terms of children's psychosocial adjustment. For instance, Golombok et al. (1996) found no differences between adopted children and those conceived using ART in terms of the presence of emotional or behavioural problems. However, a longitudinal study found that adopted children had significantly more behavioural problems between the ages of 2 and 5 years (MacCallum et al., 2007) and more hyperactivity problems between the ages of 5 and 9 years (MacCallum & Keeley, 2008), while no differences were observed in emotional problems or peer relationships. As regards mothers, the two studies coincide in finding no differences between adoptive and ART mothers in terms of either emotional involvement with their children or expressed warmth.

None of the studies mentioned above analysed single-mother families. However, Jadva et al. (2009) did study single motherhood in different circumstances, finding that adoptive single mothers claimed it was difficult to bring up their children significantly more often than ART single mothers, although no data was reported regarding either child wellbeing or maternal parenting style.

The present study

Although, as outlined above, various studies have concluded that families headed by single mothers by choice are good contexts for children's development, a more in-depth exploration is required of the diversity of both the family settings themselves (e.g. assisted reproduction versus adoption as pathways to single motherhood) and new cultural contexts, since most of the studies to date were carried out in Northern Europe or the United States of America.

In Spain (Southern Europe), the number of single mothers adopting children or having them using assisted reproduction techniques has also increased (Brassesco-Julioa et al., 2015; González et

al., 2008). Spanish society is modern but has both a strong Catholic tradition that favours the traditional family structure (Gal, 2010) and an intensely family-based social system (Flaquer et al., 2006). Consequently, there is deep concern over the wellbeing of children who live in families formed by single mothers by choice (De Vega, 2019). However, no studies have yet focused on this issue, with the exception of a few isolated comparisons between single-mother and two-parent adoptive families that were included in broader studies rather than being the main focus of the research (León, 2011). There are therefore no studies analysing the psychosocial adjustment of children growing up with single mothers by choice, either in Spain or in any other culturally-close Mediterranean country.

In light of the above, the aims of this study were 1) to assess the psychological adjustment problems and social competence of children of single mothers by choice, and to analyse similarities and differences between them and those growing up in two-parent families with the same characteristics; 2) to analyse the parenting styles employed by single mothers by choice and to identify similarities or differences in comparison with those employed by partnered mothers; 3) to explore possible associations between mother's parenting style and children's psychological adjustment problems and social competence; and 4) to identify similarities and differences in the variables studied between adoptive families and those who conceived using ART, for both single and partnered mothers.

Based on our review of the extant scientific literature, we posited four hypotheses. First, we expected the psychological adjustment and social competence of children of single mothers by choice to be within normal parameters, with little or no difference between them and children growing up with two parents. Second, we expected single mothers by choice to employ a parenting style based on affection, reasoning and communication (nurturance), similar to the one used by partnered mothers. Third, we expected to find significant associations between this maternal parenting style and children's psychological adjustment and social competence. Finally, we expected

children adopted by both single and partnered mothers to have more psychological adjustment problems than those conceived using ART.

Method

Participants

Participants were 98 Spanish families: 45 single-mother-by-choice families (SM) and 53 partnered-mother families (PM). Of the single mothers, 29 had adopted their child/children (AD) and 16 had conceived them using ART. In the partnered mothers group, 27 were adoptive partnered mothers and 26 were partnered mothers by assisted reproduction. At the time of the study, all of them lived in the Andalusia region, in the south of Spain. In the case of adoptive families, all the children were adopted internationally from eight different countries, although most of them came from China and Russia. Adoptive families were selected from the Regional Andalusian Government's register in accordance with the proportion of single mothers and partnered mothers and the children's countries of origin. Families who conceived using assisted reproduction techniques (AI and IVF) were selected from the records of the IVI Clinic, matching single and partnered mothers on the basis of their children's birth date. Of all the families contacted ($n=200$), 76% of single mothers by choice and 45% of partnered mothers agreed to take part in the study.

A total of 98 children were evaluated (60.2% girls; *Mean age*= 5.36; *SD age*= 1.41; *Range age*=3-9.5). All were either only children or the oldest of a two or three-sibling group. All the children in the sample were in school at the time of the study and were evaluated by their teachers. Since we received no answer from the teachers of two of the children (the son of a single adoptive mother and the son of a partnered ART mother), they were not included in the definitive sample. As shown in Table 1, by ART children were younger than adopted children, with a moderate effect size. In the case of adopted children, those living in single-mother-by-choice households had been with their adoptive families for an average of 10.92 months less than children adopted by two parents, with a moderate effect size. No differences were observed in relation to the other sociodemographic variables measured. In the adopted children group, the majority of those

adopted by a single mother came from Eastern Europe (Russia, Ukraine and Kazakhstan) and China, whereas those adopted by couples came mainly from China. Although no significant differences were found in relation to country of origin, the effect size was large.

Regarding the mothers (Table 1), single mothers were an average of four years older than partnered ones, with a large effect size, and adoptive mothers were an average of three years older than ART ones, also with a large effect size. No differences were observed in terms of education level.

-----TABLE 1-----

Instruments

Child psychological adjustment problems were evaluated using two different instruments: The Strengths and Difficulties Questionnaire (SDQ) and the Behavioural Problems subscale of the Social Skills Rating System (SSRS).

The Strengths and Difficulties Questionnaire (SDQ), developed by Goodman (1997), is completed by the child's teacher (e.g. 'Often complains of having headaches, stomach-aches or sickness'). Teachers answer 20 questions about emotional symptoms, behavioural problems, hyperactivity and peer relation issues, on a 3-point scale ranging from 0 (untrue) to 2 (completely true). High scores indicate high levels of child adjustment difficulties and a score of over 16 is considered clinically abnormal. The Cronbach's alpha for this scale was .72.

The Behavioural Problems subscale of the Social Skills Rating System (SSRS-BP) by Gresham and Elliot (1990) was used, specifically the Preschool and Elementary versions for children aged 3-5 and 6-9 (respectively). This subscale measures both internal (e.g. anxiety and stress) and external problems (e.g. aggression and relationship problems) and hyperactivity (e.g. 'Disturbs ongoing activities'). The internal consistency index for this study was .77. The questionnaire comprises 18 items, with teachers stating the frequency with which the different behaviours described occur on a response scale ranging from 0 (never) to 2 (very frequently). Higher scores indicate a greater presence of behavioural problems (respectively).

Child social competence was evaluated by teachers using the Social Skills subscale of the Preschool and Elementary versions of the Social Skills Rating System (SSRS-SS), by Gresham and Elliot (1990). This instrument measures cooperation (e.g. 'Cooperates with peers without prompting'), assertiveness (e.g. 'Appropriately tells when he thinks you have treated him unfairly') and self-control (e.g. 'Controls temper in conflict with peers'). Teachers answer 30 questions on a 3-point scale ranging from 0 (never) to 2 (very frequently). Higher scores indicate better social competence. The internal consistency index for this study was .87.

Mothers' parenting styles were evaluated using the *Child Rearing Practices Report (CRPR)* by Block (1965), revised and reduced by Dekovic et al. (1991). This self-report questionnaire comprises 40 items, with responses given on a Likert-type scale ranging from 1=Very strongly disagree to 6=Very strongly agree. The questionnaire has two sub-scales: *nurturance* and *restrictiveness*. *Nurturance* is composed primarily of communication, affection and responsiveness to the child's needs. (e.g. 'I respect my child's opinion and I encourage him or her to express it'), while *restrictiveness* refers primarily to a high degree of control in terms of power assertion (e.g. 'I do not allow my child to get angry with me'). In both subscales, higher scores indicate higher levels of the variable being measured (*nurturance* or *restrictiveness*). The Cronbach's alphas in this study were .79 for *nurturance* and .77 for *restrictiveness*.

Procedure

The contact details of the adoptive families were provided by the public adoption service and those of the assisted reproduction families were obtained from a private clinic. Once the families had agreed to participate in the research project, the mothers were visited in their homes, where they completed the parenting styles questionnaire. Moreover, two questionnaires (SDQ and SSRS) were left for the mothers to give to their children's teachers. Once these questionnaires had been completed by the teachers, they were returned to the research team by conventional mail in a pre-paid envelope. The data presented in this paper pertain to the questionnaires completed by the children's teachers. We opted to have teachers evaluate the children's psychosocial adjustment due

to the privileged view they have of them through seeing them interact with others on a daily basis. This also meant that the evaluations used in the study came from different informants. Prior to the evaluation, all participants gave their written informed consent and were assured that their data would be treated in a confidential and anonymous manner. The protocol and informed consent procedures were reviewed and approved by Research Ethics Committee of the University of Seville.

Statistical analysis

The different types of families were compared in accordance with family structure (Single Mothers by Choice-Partnered Mothers) (SM-PM) and pathway to motherhood (Adoption-Assisted Reproduction) (AD-ART) using multivariate analyses of covariance (ANCOVAs), in which mother's age and child's age were entered as covariates, as well as, where appropriate, time since adoption, in order to control for any possible effect.

A linear regression analysis was also carried out, following the hierarchical regression method and including child psychological adjustment problems and social competence as dependent variables, and family structure, pathway to motherhood and maternal nurturance as independent variables.

The SPSS V.26 statistical software package was used for all the statistical analyses.

Results

Child psychological adjustment problems

As shown in Table 2, the mean scores for child psychological adjustment problems were, in all groups, beneath the threshold for being considered clinically abnormal in accordance with the criteria established by the SDQ (score of 16).

Multivariate analyses of covariance revealed that although no differences were found in the overall SDQ scores for adjustment problems in accordance with either family structure (SM-PM) or pathway to motherhood (AD-ART), differences were observed in the overall SSRS-BP scores for adjustment problems in accordance with family structure, with the children of single mothers having more psychological adjustment problems than the children of partnered mothers, with a medium

effect size. An analysis of the different subscales which together make up the overall scores on the SDQ and SSRS-BP revealed significant differences in the hyperactivity scale of both instruments. Thus, the children of single mothers by choice had higher hyperactivity levels than those of partnered mothers, with a medium effect size in both instruments. Moreover, the SDQ measure of hyperactivity also indicated differences in accordance with pathway to motherhood, with adopted children scoring higher on this scale than ART children, with a small effect size. No differences were found in any of the other subscales of the SDQ (emotional symptoms, behavioural problems, and peer relations) or the SSRS-BP (external and internal problems).

The analyses of the interaction effects (Table 3) revealed significant differences in the overall scores for psychological adjustment problems, both when the measure came from the SDQ and when it came from the SSRS (with medium and large effect sizes, respectively). Thus, children of single mothers only had significantly more psychological adjustment problems than children of partnered mothers when they were adopted, with no differences being found in the case of those conceived by ART. As regards the subscales which make up the psychological adjustment problems instruments, differences were found in interaction effects in the hyperactivity (SDQ and SSRS-BP) and internal problems (SSRS-BP) subscales, with a medium effect size in all cases. Thus, scores for hyperactivity and internal problems were significantly higher among children adopted by single mothers, although no differences were observed between the children of single mothers and those of partnered mothers in the case of ART families.

No differences were found in any of the other subscales of the SDQ (emotional symptoms, behavioural problems, and peer relations) or the SSRS-BP (external and internal problems) in accordance with either family structure or pathway to motherhood.

-----TABLE 2-----

Child social competence

The mean scores obtained revealed high levels of social competence in all the study groups (Table 2). The ANCOVA revealed no differences in social competence in accordance with either

family structure or pathway to motherhood (Table 2). The analysis of the interaction between family structure and pathway to motherhood (Table 3) revealed significant differences in the overall score for social competence, with a medium effect size: whereas in AD families the children of single mothers scored lower than the children of partnered mothers, in ART families the opposite effect was found.

As regards the subscales that make up the social competence instrument, significant differences were observed in the self-control subscale in relation to adoptive families, with a medium effect size. Thus, children adopted by single mothers scored lower for self-control than those adopted by partnered mothers. However, this difference was not found among children conceived using ART. Thus, the interaction effect of family structure-pathway to motherhood was significant, with a medium effect size. No significant differences were found in cooperation or assertiveness in either adoptive or ART families, and nor were the interaction effects significant for these subscales.

Bivariate correlations revealed a strong positive association between the two child adjustment problems measures, or in other words between the overall scores on the SDQ and the SSRS-BP ($r=.79$; $p<.001$), as well as a negative association between social competence and child adjustment problems ($r = -.69$; $p<.001$ for the SDQ; $r = -.61$; $p<.001$ for the SSRS-BP).

Parenting

In terms of *parenting style*, mothers scored higher on the nurturance than on the restrictiveness scale in all types of families evaluated (Table 2) and no differences were found in either nurturance or restrictiveness in accordance with family structure or pathway to motherhood. However, the interaction between family structure and pathway to motherhood (Table 3) was significant in the restrictiveness dimension, with a small effect size, indicating that among families having recourse to assisted reproduction, partnered mothers scored significantly higher than single mothers, while among adoptive families the values were statistically similar.

-----TABLE 3-----

Parenting style and child psychosocial adjustment

Bivariate correlations revealed that maternal nurturance correlated positively with social competence ($r=.28$; $p<.001$) and negatively with children's adjustment problems in the overall measures of both the SDQ ($r=-.37$; $p<.001$) and the SSRS-BP ($r=-.29$; $p<.001$). However, no association was observed between restrictiveness and child-related variables (children's adjustment problems: $r=.07$; $p=.45$ for the SDQ; $r=.05$; $p=.60$ for the SSRS-BP; and social competence: $r=-.15$; $p=.13$).

Hierarchical regression analyses were carried out to determine to what extent family structure, pathway to motherhood and nurturance contributed jointly and specifically to predicting child adjustment problems and social competence (Table 4). Mother's age and child's age were included in the first step as control variables. Family structure was included in the second step, pathway to motherhood in the third step and nurturance in the final step. Family structure was not found to predict significant differences in either child adjustment problems as measured by the SDQ or social competence, although it did predict significant differences in child adjustment problems as measured by the SSRS-BP, with single motherhood being associated with more adjustment problems among children. Pathway to motherhood was not found to affect either children's adjustment problems or their social competence. For its part, nurturance was the only variable found to predict all the outcome variables measured. Thus, children of mothers whose parenting style was based on communication, affection and responsiveness had fewer adjustment problems and better social competence.

-----TABLE 4-----

Discussion

The results of this study confirm that, as we hypothesised, the children of single women who choose to become mothers show good levels of psychological adjustment and social competence. Therefore, our results with Spanish families are consistent with the international scientific literature (Biblarz & Stacey, 2010; Golombok, 2015) and contradict existing prejudices

linked to the supposedly pernicious effects of growing up without a father (Amato, 2005; McLanahan et al., 2013). Nevertheless, the comparison between single mothers by choice and two-parent families revealed certain nuanced differences in accordance with pathway to motherhood (adoption or conception using assisted reproduction techniques).

In the case of children conceived using ART, those who lived with a single mother by choice were found to have similar levels of psychological adjustment and social competence to those found among children growing up with both a mother and a father, as indeed has been found in most studies carried out in other countries (Chan et al., 1998; Golombok et al., 2016; Golombok et al., 2020; Murray & Golombok, 2005b). Thus, when we analysed the families formed by single adult women who had the resources required to cope with motherhood and who were just as committed to it as their partnered counterparts, no differences were found in terms of children's psychosocial adjustment. We can therefore conclude that the presence or absence of a father does not seem to be a key factor in the configuration of a good context for child development (Biblarz & Stacey, 2010; Silverstein & Auerbach, 1999).

For their part, children adopted by single-mother-by-choice families show, in general, few psychological adjustment problems. This is similar to that found among those living in two-parent families, and is consistent with that reported by other authors (Feigelman & Silverman, 1977; Groze & Rosenthal, 1991; Shireman & Johnson, 1985; Tan, 2004; Tan & Baggerly, 2009). Nevertheless, significant differences were observed in one of the internal problem measures, as well as in the hyperactivity measures, with problems being more frequent among children being brought up by single mothers by choice. Moreover, hyperactivity was the aspect responsible for the significant differences observed also in one of the overall indicators of psychological adjustment problems. Exploring this further, we found that, when adopted and ART children were compared in terms of psychosocial adjustment, the only measure in which the differences were significant was, again, hyperactivity, with adopted children scoring higher for this variable. This is consistent with that reported in the scientific literature on adoption (Palacios & Brodzinsky, 2010).

It is interesting to relate this finding to another in the field of social competence: children adopted by single mothers were found to have lower self-control than those adopted by two-parent families. It is likely that both phenomena (hyperactivity problems and lower self-control in social situations) are associated with a common cause, namely inhibition deficits. Inhibition is a basic dimension of executive function which is seriously affected in adopted children who have suffered early adverse experiences (Merz et al., 2016).

Nevertheless, this does not explain why these problems are significantly more frequent among children adopted by single mothers than among those adopted by two-parent families. Moreover, these findings are inconsistent with those reported previously in the scientific literature on children adopted internationally by single mothers (Tan, 2004; Tan & Baggerly, 2009; Tan et al., 2015), which failed to find any differences between the two groups. This lack of consistency may be due to methodological differences: previous studies focused exclusively on girls adopted from China, while our study included both boys and girls adopted from different countries, meaning that there may have been a greater diversity of previous experiences of adversity (Juffer et al., 2011). Furthermore, the informants in our study were not mothers, but rather the children's teachers, who, seeing them interact with others on a daily basis, may have a different perception of their behavioural problems.

The fact that these differences were observed among adopted children but not among those conceived using assisted reproduction techniques may therefore be attributed not to the fact of being brought up by a single mother itself, but rather to factors that may be related to adoption by single mothers. Firstly, there seems to be a tendency to place children with special needs with single mothers rather than with couples (Raleigh, 2012), a phenomenon found also in Spain (Salvo & Jociles, 2019), and it may be that this occurred also in our sample, although we do not have accurate information in this regard since we did not collect data regarding the status of the children at the moment of adoption. Secondly, it may be that this difference is due to the origin of the adopted children: while the majority of two-parent families in our sample adopted children from China, in

the case of single mothers, as many adopted from China as from Eastern European countries. Children from Eastern Europe tend to be exposed to more early adversity (alcohol abuse during pregnancy, poorer quality of institutional rearing and higher age at placement) and frequently have poorer psychological adjustment in childhood and adolescence (Paniagua et al., 2020). Indeed, in the present study, the mean score for hyperactivity among adoptees from Eastern Europe (5.4) was more than double that of those adopted from China (2.5). This difference was highly significant and may be at the heart of the differences observed among those adopted by single and partnered mothers. Finally, these differences may also be due to the fact that single adoptive mothers may be less skilled at controlling their children's behavioural problems. In this study, no differences were found between single and partnered adoptive mothers either in terms of parenting style or as regards their previous experience as mothers, since in all cases, it was their first time. However, the differences observed may be linked to the greater stress to which single mothers are exposed as a result of having to cope with their children alone, as found by Shechner et al. (2010). Further research is required to systematically confirm or disprove these different hypotheses.

As stated earlier, the results of this study indicate that, regardless of family structure, adopted children had more hyperactivity problems than children conceived through assisted reproduction, although no differences were observed between the two groups in terms of either other psychological adjustment problems or social competence. These results are consistent with those reported by previous studies comparing these two pathways to motherhood in two-parent families, which found more behavioural problems, or, more specifically, higher levels of hyperactivity, among adopted children, although no differences were observed in terms of peer relations (MacCallum et al., 2007; MacCallum & Keeley, 2008). It therefore seems that the higher levels of psychological adjustment problems usually found among adopted children does not prevent them from developing good levels of social competence (Palacios et al., 2013; Soares et al., 2019). This may be due to differential plasticity in processes of recovering from early adversity, as

suggested by Palacios et al. (2014), who found that certain domains of child development recover more successfully than others after adoption.

Based on the results of this study, it can be concluded that children brought up by single mothers by choice enjoy the same opportunities for good psychosocial development as those who grow up with both a father and a mother, providing their initial circumstances are similar. The importance of comparing mothers with similar resources, motivation and pathway to motherhood is, today, widely accepted, and to this end the study of families formed by single mothers by choice constitute good 'natural experiments' (Rutter, 2007). The results reported here point to the need to take children's initial circumstances into consideration also, since whereas no differences were found between ART children, they were observed between adoptees, perhaps owing to different pre-adoptive circumstances.

As regards parenting style, the results of this study confirm that single mothers by choice mostly use child rearing practices based on affection, communication, trust and reasoning (nurturance), similarly to that reported by other studies carried out with adoptive single mothers (León, 2011; Tan et al., 2015) and with ART ones (Golombok et al., 2016; Murray & Golombok, 2005b). Consistently with most of the results obtained in these studies, we found no differences between single mothers and partnered ones, all of whom revealed a similar tendency to employ a *nurturing* parenting style, regardless of whether their children were adopted or conceived using assisted reproduction techniques (MacCallum et al., 2007; MacCallum & Keeley, 2008). Nevertheless, a significant difference was found in restrictiveness, which was more frequent in partnered ART mothers than in single ones. Since it has been found that fathers develop more restrictive or authoritarian styles than mothers (Russell et al., 2003), these differences may be due to the fact that partnered mothers perhaps try to attain a certain degree of agreement between their and their partner's parenting styles in order to promote coparenting (Feinberg, 2003). However, further research is needed to confirm this hypothesis.

Maternal *nurturance* was found to be significantly related to better psychological adjustment and social competence among children. This finding confirms the results obtained in previous studies with single mothers by choice (Golombok et al., 2016; Tan et al., 2015; Weisseberg et al., 2007) and is also consistent with the broad scientific evidence gathered over decades in the realm of parenting styles (see the review by Smetana, 2017). We would like to highlight the fact that this relationship remained significant even when the possible influences of pathway to motherhood (adoption or assisted reproduction) and family structure (single mother or two parents) on the three indicators of psychosocial adjustment evaluated in our study were subtracted during the regression analyses. Indeed, maternal nurturance was the only variable that significantly explained the variations observed in children's social competence. It was also the variable that best explained children's psychological adjustment problems. As Palacios et al. (2019) and Yarger et al. (2019) have pointed out, even among children who have experienced adversity from an early age, as is the case with adopted children, an atmosphere of affection, trust and communication can help improve psychosocial adjustment in the medium to long term.

This study has some limitations. In relation to the sample size, adding the distinction between adoptive and ART motherhood to the comparison between single and partnered mothers reduced the number of families in each group. One possible consequence of this reduction in group size may have been that we were unable to detect some differences due to insufficient statistical power. Furthermore, the voluntary participation format may have had a self-selection impact on the sample, particularly in the case of partnered mothers, of whom only 45% decided to take part. This may have introduced a self-selection bias towards families with fewer problems (Braver & Bay, 1992). However, the fact that 76% of the single mothers contacted agreed to take part in the study suggests that a good representation of single-mother families was obtained. Achieving a higher participation rate among two-parent families would have rendered this group more representative, providing more complete information about partnered women who adopt or have recourse to assisted reproduction techniques. Including fathers in the analysis would also have provided

interesting information in the case of two-parent families, particularly as regards paternal parenting styles and fathers' impact on child wellbeing.

To conclude, the present study furthers our knowledge of the internal diversity which exists among households headed by single mothers by choice, comparing those who conceived their children using assisted reproduction techniques and those who opted for adoption, a comparison which, to the best of our knowledge, has not been made by any previous study. As such, our results highlight the importance of exploring the diversity which exists within single-mother-by-choice families, since only in this way will we be able to fully understand the specific needs of each different group within this category and to design effective family intervention measures for each one.

Furthermore, this is a pioneering study in a Southern European country which provides empirical evidence consistent with that reported to date in English-speaking countries. The findings of this study confirm that even in a country such as Spain, which has a strong Catholic tradition and a family-based social system, children can develop well in families which diverge from the patriarchal model and are headed by single women who choose to become mothers. At the end of the 1980s, a series of laws were enacted in Spain enabling single women to become mothers through either adoption or ART. It may be that this legal support, along with the feminist ideology underlying it, fostered the process of empowerment and self-legitimation observed among Spanish single mothers by choice (González et al., 2011), which is similar to that observed among women in other countries also (Ben-Ari & Weinberg-Kurnik, 2007; Bock, 2000). Most likely, the security afforded by a well-founded sense of competence and legitimacy has enhanced single women's parenting and contributed to the healthy development of their children.

Conclusions and implications for family intervention

Our results confirm that growing up in a single-mother or two-parent family is less relevant to children's psychological adjustment and social competence than a positive and nurturing maternal parenting style. Therefore, these findings support the idea that children's wellbeing is less

related to the structure of their family than to the quality of their family life (Golombok, 2017). This has been demonstrated not only for families formed by single mothers by choice, as presented here, but also for other types of non-traditional families, as shown by reviews of studies carried out with same-sex parent families (e.g. Farr et al., 2020), adoptive families (e.g. Palacios & Brodzinsky, 2010) and those formed using different assisted reproduction techniques (e.g. Golombok, 2015).

Finally, we believe that the results of this study have several implications for professional interventions with single mothers by choice. Firstly, it is important to rethink the concept of an 'ideal' or 'normal' family, which currently only applies to two-parent heterosexual families with biological children, since other family structures have been shown to provide equally good contexts for child development. Secondly, it is important to convey to those women considering the option of single adoptive motherhood that their children may display behavioural problems stemming from their early experiences of adversity. Given that these women only have 'two hands' to cope with these problems, it is important that they be informed of all available resources and encouraged to seek additional support when necessary. Finally, our results clearly indicate that, whatever the pathway chosen, ensuring parenting based on affection, communication and responsiveness to the child's needs is the best starting point for any intervention with families, regardless of their structure or the pathway to parenthood.

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Table 1.*Sociodemographic characteristics and comparisons between groups.*

	Family structure		Mean difference		Pathway to motherhood		Mean difference	
	SM	PM	t/ X^2 ; p	Effect size	AD	ART	t/ X^2 ; p	Effect size
Children	<i>M (SD)</i>	<i>M (SD)</i>			<i>M (SD)</i>	<i>M (SD)</i>		
Age	5.17 (1.52)	5.53 (1.29)	1.27 .20	.26 ^a	5.62(1.41)	5.02(1.34)	2.14 .03	.44 ^a
Time since adoption	3.55 (1.30)	4.46 (1.68)	2.27 .02	.61 ^a	--	--		
	%	%			%	%		
Boys	35.6	43.4	.62	.08 ^b	35.7	45.2	.90	.09 ^b
Girls	64.4	56.6	.42		64.3	54.8	.34	
Country								
China	41.4	66.7			--	--		
Eastern Europe	41.4	22.2			--	--		
Haiti	6.9	0.0	8.14 .15	.38 ^b	--	--	--	--
Nepal	3.4	0.0			--	--		
Ethiopia	3.4	11.1			--	--		
Vietnam	3.4	0			--	--		
Mothers	<i>M (SD)</i>	<i>M (SD)</i>			<i>M (SD)</i>	<i>M (SD)</i>		
Age	40.72 (4.12)	36.69 (4.11)	4.83 <.001	.99 ^a	40.20 (4.38)	36.33 (3.85)	4.55 <.001	.94 ^a
Education level	%	%						
Primary	4.4	17.0	3.86	.14 ^b	8.9	14.3	4.07	.20 ^b
Secondary	31.2	28.3	.14		23.2	38.1	.13	
University	64.4	54.7			67.9	47.6		

Single-mother family (SM); partnered-mother family (PM); adoptive mothers (AD), mothers by assisted reproduction (ART).

^aCohen's d effect size: small (.15-.40); medium (.40-.75); large (>.75)

^bV Cramer: small (.07-.21); medium (.21-.35); large (>.35).

Table 2.

Main effect of family structure and pathway to motherhood on children's psychosocial adjustment and maternal parenting style, controlling for mother's age and child's age as covariates

	Family structure		ANCOVA		Pathway to motherhood		ANCOVA	
	SM	PM	F; p	η^2	AD	ART	F; p	η^2
Child psychological adjustment problems								
	<i>M (SD)</i>	<i>M (SD)</i>			<i>M (SD)</i>	<i>M (SD)</i>		
<i>SDQ</i>	7.45 (5.41)	5.07 (4.73)	4.25 .42	.04	6.64 (5.32)	5.60 (4.98)	.96 .32	.01
Emot. symp.	1.04 (1.78)	.90 (1.13)	.22 .64	.00	.85 (1.36)	1.12 (1.61)	1.57 .21	.01
Behav. prob.	1.19 (1.73)	.90 (1.67)	.43 .51	.00	1.16 (1.65)	.87 (1.76)	.87 .35	.01
Hyperactivity	4.00 (3.12)	2.45 (2.34)	5.97 .01	.06	3.71 (3.05)	2.46 (2.35)	4.92 .03	.05
Peer relations	1.04 (1.78)	.90 (1.13)	.22 .64	.00	.85 (1.36)	1.12 (1.61)	1.57 .21	.01
<i>SSRS-BP</i>	10.36 (5.63)	6.90 (5.28)	5.79 .02	.06	8.87 (5.8)	8.02 (5.45)	.82 .36	.00
External.prob.	2.61 (1.88)	1.86 (1.83)	2.53 .12	.02	2.27 (1.77)	2.12 (2.03)	.44 .50	.00
Internal.prob.	3.20 (1.84)	2.47 (1.82)	2.83 .09	.03	2.77 (1.93)	2.75 (1.78)	.02 .89	.00
Hiperactiv	4.59 (3.14)	2.69 (2.42)	6.39 .01	.06	3.90 (3.18)	3.09 (2.48)	1.93 .16	.02
	<i>M (SD)</i>	<i>M (SD)</i>			<i>M (SD)</i>	<i>M (SD)</i>		
Social competence								
<i>SSRS-SS</i>	41.81 (8.29)	43.26 (7.10)	.47 .49	.00	42.49 (7.66)	42.75 (7.76)	.03 .87	.00
Self control	14.13 (3.86)	14.69 (3.56)	.55 .45	.00	14.09 (3.75)	14.90 (3.60)	1.02 .31	.01
Assertion	14.22 (3.29)	13.80 (3.51)	.09 .76	.00	13.78 (3.49)	14.29 (3.38)	.04 .83	.00
Cooperation	13.45 (3.37)	14.76 (2.82)	1.56 .21	.01	14.61 (3.33)	13.56 (2.79)	1.31 .25	.01
Parenting style (CRPR)								
Nurturance	5.40 (.36)	5.48 (.32)	1.72 .19	.01	5.43 (.39)	5.45 (.27)	.06 .79	.00
Restrictiveness	3.02 (.49)	3.24 (.60)	1.57 .21	.01	3.08 (.53)	3.23 (.60)	.98 .32	.01

Single-mother family (SM); partnered-mother family (PM); adoptive mothers (AD); mothers by assisted reproduction (ART). Eta squared: small (.01-.06), medium (.06-.14), large (>.14)

Table 3.

Interaction effect of family structure-pathway to motherhood on children's psychosocial adjustment and parenting style, with mother's age, child's age and time since adoption as covariates.

	Adoption (N=56)		ANCOVA		As. Reproduction (N=42)		ANCOVA		Interaction Struc-Path	
	SM (N=29)	PM (N=27)	F; p	η^2	SM (N=16)	PM (N= 26)	F; P	η^2	F; p	η^2
<i>Child psychological adjustment problems</i>										
	<i>M (SD)</i>	<i>M (SD)</i>			<i>M (SD)</i>	<i>M (SD)</i>				
<i>SDQ</i>	8.93 (5.53)	4.18 (3.84)	4.80 .03	.08	4.56 (4.09)	6.28 (5.45)	.47 .49	.01	9.61 <.00	.09
Emotional symp.	1.06 (1.66)	.62 (.97)	.73 .39	.01	1.06 (2.08)	1.16 (1.28)	.08 .77	.00	.96 .32	.01
Behavior prob.	1.51 (1.88)	.77 (1.31)	.33 .56	.00	.37 (.71)	1.2 (2.14)	2,23 .13	.06	4.66 .03	.04
Hyperactivity	5.13 (3.11)	2.18 (2.14)	5.90 .02	.10	1.93 (2.08)	2.80 (2.51)	.53 .46	.01	12.06 <.00	.11
Peer relations	1.20 (1.26)	.59 (.88)	3.63 .06	.06	1.18 (1.98)	1.12 (1.23)	.16 .68	.00	1.15 .28	.01
<i>SSRS-BP</i>	10.82 (4.98)	5.29 (3.92)	8.70 <.00	.15	7.43 (5.01)	8.40 (5.83)	.17 .67	.00	10.85 <.00	.11
External.prob.	2.89 (1.81)	1.62 (1.52)	2.76 .10	.05	2.12 (1.96)	2.12 (2.12)	.01 .92	.00	2.15 .14	.02
Internal.prob.	3.53 (1.83)	1.96 (1.73)	5.90 .02	.10	2.72 (1.78)	3.00 (1.80)	16 .68	.00	5.89 .01	.06
Hiperactiv	5.60 (3.14)	2.14 (2.12)	8.71 <.00	.14	2.81 (2.31)	2.28 (2.62)	.44 .51	.01	11.95 <.00	.11
<i>Social competence</i>										
<i>SSRS-SS</i>	40.35 (8.63)	44.69 (5.99)	2.04 .15	.04	44.37 (7.20)	41.72 (8.06)	.44 .50	.0 1	4.70 .033	.05
Self-control	13.00 (4.08)	15.22 (3.05)	4.79 .03	.08	16.12(2.47)	14.12 (4.02)	1.37 .24	.03	7.93 <.00	.08
Assertion	13.64 (3.26)	13.92 (3.65)	.60 .44	.01	15.25(3.19)	13.68 (3.42)	.79 .37	.02	2.47 .12	.02
Cooperation	13.71 (3.78)	15.55 (2.33)	.87 .35	.01	13.00(2.55)	13.92 (2.92)	.46 .49	.01	0.17 .67	.00
<i>Parenting style (CRPR)</i>										
Nurturance	5.37 (.42)	5.50 (.37)	1.38 .24	.02	5.43 (.26)	5.45 (.27)	.04 .83	.00	.32 .56	.00
Restrictiveness	3.08 (.67)	3.09 (.54)	1.20 .27	.02	2.92 (.64)	3.44 (.60)	5.03 .03	.11	4.61 .034	.05

Single-mother family (SM); partnered-mother family (PM).

Eta squared: small (.01-.06), medium (.06-.14), large (>.14)

Table 4.*Regression analysis on children's psychosocial adjustment*

	<i>Child adjustment problems</i>						<i>Social competence</i>		
	<i>SDQ</i>			<i>SSRS</i>			<i>SSRS</i>		
	R ²	ΔR ²	B	R ²	ΔR ²	B	R ²	ΔR ²	β
Step 1: Control variable	.01			.06			.00		
Mother's age			.08			.13			-.05
Child's age			-.10			-.26*			.07
Step 2	.04	.03		.12	.06		.01	.01	
Mother's age			-.01			-.02			-.02
Child's age			-.04			-.17			.04
Family structure			-.21			-.26*			.08
Step 3	.05	.01		.12	.00		.01	.00	
Mother's age			-.03			.00			-.01
Child's age			-.05			-.18			.04
Family structure			-.20			-.25*			-.08
Pathway			-.09			-.07			.01
Step 4	.17	.12		.19	.07		.08	.07	
Mother's age			-.00			.02			-.03
Child's age			-.07			-.20			.06
Family structure			-.15			-.21*			.04
Pathway			-.08			-.07			.10
Nurturance			-.35**			-.26**			.27**

** $p \leq .001$; * $p \leq .05$