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Evidence from a randomized correspondence
experiment

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Do schools discriminate against single parents?

Evidence from a randomized correspondence experiment

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Abstract

Single parenthood is on the rise everywhere in the world. Previous studies show that acceptance of single parent headed households is increasing, although some authors point out that single-parent families are often considered as a reality rather than as an ideal. This circumstance may cause negative attitudes against single parents, who are among the most vulnerable groups of society. Motivated by these findings, in this study, we examine for the first time whether schools are more reluctant to give feedback to single parents than to heterosexual couples during children's pre-registration period in Catalonia (Spain). To do so, we design a correspondence experiment to be conducted in schools. We create three types of fictitious families (heterosexual couple, single mother and single father) and send e-mails to schools in which the family structure is explicit. Our results indicate that single parents benefit from positive discrimination. Schools are more prone to interact with single parents than with heterosexual couples. Further, single mothers receive more answers than single fathers.

Keywords: Single parents, heterosexual couples, schools, discrimination, field experiment

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1 Introduction

Single parenthood is on the rise everywhere in the world. According to the latest data available, single parents now constitute about 15% of the households with dependent children in the EU.¹ In the overwhelming majority of cases, this phenomenon concerns women. In the United States, there were about 15.76 million children living with a single mother in 2019, and about 3.23 million children living with a single father, against 7.45 million and 748 thousand in 1970, respectively (Statista). In 2015 there were approximately 13.7 million single parents in the United States, responsible for raising 22.4 million children. This number accounts for approximately 27% of children under 21 in the U.S.² Given the dramatic increase in the number of single parent households, and given that single parents are among the most economically vulnerable households, we believe that exploring discrimination against single mothers and fathers should constitute an important research agenda.³

Previous research has shown that family structure is a cue by which stereotypes are formed (Ganong et al. 1990). In Section 2.2, we review in detail the evidence regarding societal attitudes towards single parents. As it turns out, the findings from this literature are quite contradictory, ranging from positive to negative attitudes, while also diverging as to how attitudes vary depending on the gender of the single parent (i.e., single mother versus single father). Yet, there seems to be one consistent finding according to which attitudes towards single parents depend on the entry route into single parenthood. In particular, divorced single parents are considered more positively than never married single parents. In turn, the

¹ In 2018, Denmark (29%) and Estonia (28%) had the highest proportions of single-parent households among households with children, ahead of Lithuania and Sweden (both 25%), Latvia (23%), the United Kingdom (22%) and France (21%). In contrast, the lowest proportions of single-parent households were in Croatia (6% of all households with dependent children), Romania (7%), Greece, and Slovakia and Finland (all 8%) (Eurostat, 2018).

² Custodial Mothers and Fathers and Their Child Support Report released by the U.S. Census Bureau every two years.

³ Western et al. (2008) observed that the growing number of single parents increased family income inequality by adding to the number of low-income families. Their analysis covered the period 1975-2005 in the US.

existence of negative societal attitudes towards single parents may potentially translate into discrimination against them in various areas. Such discrimination can even be institutionalized, to the point of forbidding access to assisted reproduction technologies (ART) for single or non-married individuals.⁴

While much has been said about single mothers' participation in the labor market (e.g., González 2004) and the several forms of discrimination they may suffer at the workplace, empirical evidence of discrimination against single-parent families in other contexts is scarce at best. To the best of our knowledge, there are only two articles that have investigated discrimination against this particular group, and both focus on the rental housing market: Lauster and Easterbrook (2011) and Murchie and Pang (2018). Using a correspondence internet experiment, these studies find that single mothers and single fathers receive a significantly smaller number of positive responses to inquires relative to heterosexual couples. In both studies, the authors suggest that single parents are facing discrimination primarily based upon their economic marginalization rather than other forms of prejudice (i.e., statistical discrimination).

In this paper, we aim to determine whether single parents are being discriminated against regarding their children's access to private schools. Unlike in the rental housing market, in the context of schooling we can reasonably expect the financial element to be absent. That is, if single parents are being discriminated against in their access to schools, it must be for some other reason, such as the potential negative attitude of the school towards single parenthood, for instance, or expected negative behavior of children raised in this type of household, or a potential lower academic achievement. Barajas (2011), in his critical review of the literature,

⁴ According to Präg and Mills (2017), only half of European countries currently allow single women to use ART, and even fewer grant access to lesbian women. Only six out of 22 European countries report that marriage is not a requirement for ART access.

reveals that a large majority of studies show that children from single-parent homes score lower on tests of cognitive functioning and standardized tests, receive lower GPAs, and complete fewer years of school when compared to children from two-parent homes. However, in the schooling context, another possibility is that this particular parent category benefits from positive discrimination, as schools may perceive this type of families as more vulnerable in different aspects.

In our analysis, we use the same type of experimental design as in Diaz-Serrano and Meix-Llop (2016).⁵ We created three fictitious profiles: single mother, single father and heterosexual couple, and sent e-mails to schools asking for an interview or visit. Mails were randomly sent (in pairs: single mother-couple and single father-couple). Our results indicate that single parents benefit from positive discrimination, that is, schools are more prone to interact with single parents than with couples. Further, single mothers receive more answers than single fathers.

2 Conceptual framework and literature

2.1 Single parents in Spain: some figures

Although two-parent families, within or outside the legal framework of marriage, constitute a majority in Spain, there is an increase in single-parent families (i.e., where a single parent is responsible for the upbringing and care of the children). Single parenthood encompasses a heterogeneity of profiles, characteristics and family situations. There are multiple entry routes: marital breakup, breakup of a common-law couple, widowhood, or single-parenthood by choice. Although historically single-parent families were predominantly

⁵ These authors test for discrimination against gay parents in the school admission process. They find that with respect to heterosexual parents, gay parents received 20% less call-backs from schools. However, the difference in the probability of receiving a call-back between lesbian parents and heterosexual parents was not statistically significant.

formed by widowed women, marital separation is currently the main pathway into single parenthood. According to Census data, single-parent families (including “complex” homes with a single parent nucleus) grew in Spain from 8.5% to 16.2% of family nuclei between 1981 and 2011 (Castro Martín and Seiz Puyuelo 2014).

According to the latest available data from the Continuous Household Survey, elaborated by the Spanish Statistical Bureau Office (INE), in 2018, single-parent households in Spain (i.e., formed by one single parent with children) represented 10% of the households, and consisted mostly of a mother with children. Specifically, there were 1,538,200 (81.9% of the total), compared to 340,300 for a father with children. The number of single-parent households increased by 2% compared with 2017. The type of household formed by a father with one or more children (all of them under 25 years of age) grew by 12.3%.⁶ In 41.1% of households consisting of mothers with children the mother was a widow, in 37.4% separated or divorced, in 15.2% single and in 6.3% married. In households consisting of fathers with children, 38.6% of fathers were a widow, 41.8% separated or divorced, 8.2% single and 11.3% married.

A 2015 report by Save the Children (Save the Children 2015) reveals that some 54% of children living in homes with single mothers in Spain are in poverty, a figure that is 12.5 percentage points higher than for the overall population. Likewise, 65% of women looking after children on their own say they face difficulties in making ends meet. At least three out of four single mothers has had to reduce fixed household costs, and 37.8% cannot afford to keep their home at an adequate temperature. According to the report, these families are subject to greater risk of falling into poverty, not just because of their economic situation, but

⁶ This important increase in the number of single parent households with children headed by a man might be attributed to a change in legislation, which has become more “father friendly” regarding the custody of children in case of a separation or divorce.

because of other factors, such as employment, housing, health, or lack of any support network. The lack of work opportunities is a major factor.

2.2 Attitudes towards single parents

Existing research on societal views of single parents has documented negative or at least less positive views of single parents. There seems to be one consistent finding according to which attitudes towards single parents depend on the entry route into single parenthood. In particular, divorced single parents are considered more positively than never married single parents. Evidence of the latter is provided by Usdansky (2009), who studies societal beliefs about single parents by looking at depictions of single-parent families in representative samples of popular magazine and social science journal articles from 1900 to 1998. She found that depictions of single parent-families due to divorce became increasingly less critical over the 20th century; however, the same trend was not found for never-married single parent families, that is, depictions of never-married single parent families were as likely to be negative at the century's end as they had been at its beginning in both magazines and journals. According to the author, these trends illustrate Americans' ambivalent embrace of single-parent families as a reality but not as an ideal.

Bennett and Jamieson (1999) examine participants' perceptions of four different male and female parent groups (married, divorced, step and never-married parents) as compared with men and women in general. Using an independent groups design, they find that perceptions of married parents tend to be more positive than perceptions of other groups. The never-married tend to be viewed least positively. Overall, perceptions of mothers are typically more favourable than those of fathers. Bryan et al. (1986) measure perceptions of college students and identify similar findings: all family structures, except those with a widowed parent, were

consistently perceived more negatively than nuclear families consisting of two married heterosexual parents with children.

Valiquette-Tessier et al. (2016) conduct a systematic review of the body of literature published between 2003 and 2013 on stereotypes associated with married, divorced, single, step, same-sex and adoptive parents. The authors find that motherhood and fatherhood continue to be conceptualized differently, and referring to previous meta-analysis completed on the same topic (Ganong et al. 1990), they conclude that stereotyped attitudes have not changed drastically in the last 30 years. The main findings have remained stable over the decades and continue to support the idea that married parents tend to be evaluated more positively than parents living in other family structures, while remaining the standard against which others are compared. Nevertheless, the authors nuance this finding by pointing out that while stereotypes related to family structure have not changed considerably, evidence of growing tolerance for divorce, remarriage and same-sex parenting was also found. Likewise, some authors have suggested that the social stigma experienced by “non-traditional” family forms is decreasing and that acceptance of single parent headed households is increasing (Kantrowitz and Wingert 2003, Weinraub et al. 2002).

A few authors have found positive societal attitudes toward single parents, while others have shown that societal beliefs and acceptance may depend on the gender of the single parent. Among them, Goldscheider and Kaufman (2006) study the acceptance of unmarried parenthood for men versus women. Using data from the National Survey of Families and Households (1992-1994), they find that there is somewhat greater acceptance of single mothers than single fathers, and that women are more accepting than men of single mothers. They conclude that while the assumption that children should be born within a marital union remains strong, a substantial proportion of men and women feel it is all right for either a woman or a man or both to become single parents.

DeJean et al. (2012) explore differences in attitudes towards never-married custodial single mothers and fathers. Their sample consists of 1,351 participants from a Midwestern community, with an average age of 27.2 years. Their findings suggest that never-married custodial single mothers were viewed less positively than never-married custodial single fathers. In particular, participants rated single mothers as less intelligent, less secure, less fortunate, less responsible, less satisfied with life, less moral, less reputable, less of a good parent, and less economically advantaged when compared to the ratings of single fathers. In other words, the main stereotype was associated with the belief that never-married single mothers should learn to be more self-sufficient, tend to struggle with life and have to live without some of life's necessities. According to the authors, these findings are related to gender role stereotypes about men and women. Based on these stereotypes, never-married single mothers are viewed negatively, while never-married single fathers are considered to do more than what society expects from them, hence they are viewed more positively. However, the authors point out that such findings contradict the literature on single fathers, according to which they are generally viewed negatively and experience societal disapproval (Chima 1999, Emmers-Sommer et al. 2003). To the contrary, DeJean et al. (2012)'s findings suggest that single fathers may have social acceptance or support, at least to some extent, in their role as the sole primary parent.

Recently, Maier and McGeorge (2014) explore the variations in the perceptions of positive attributes of never-married single mothers and fathers. They gather qualitative responses from 873 participants, and their results suggest that participants' level of expectations was much lower for single fathers than for single mothers, and that the latter were held to a higher standard by participants. Their results contradict the ones of DeJean et al. (2012) in the sense that participants tend to view single mothers as having internal positive qualities (e.g., independence and having a strong work ethic). According to the authors, their study is the

first to find that there are positive perceptions of single mothers that are considered to be internal to their character (as opposed to situational). In contrast, the participants' comments regarding the positive attributes of single fathers are typically more materialistic, namely their ability to provide a reliable income. Overall, the findings match the existing literature stating that single fathers are not assumed to be the primary caregiver; thus, any effort is perceived by society as heroic and admirable.

Haire and McGeorge (2012) examine perceptions of the negative attributes of never-married custodial single mothers and fathers, and find that the participants' responses regarding the negative attributes of single mothers appear to be connected to their personhood (e.g., immature, neglectful, irresponsible, careless, promiscuous) while participants' comments regarding the negative attributes of single fathers are situational (e.g., single fathers do not pay child support, they have a difficult time finding childcare, and they will have a difficult time finding another partner or with dating). Hence, participants describe single mothers as terrible and inadequate people, rather than as individuals in a challenging situation. Finally, Eby et al. (2004) investigate college students' perceptions of single parents in the work environment. Their findings show that respondents perceive single parents as having more difficulties adjusting to a geographic move than other workers. Therefore, in the context of having to recommend an applicant for a job not requiring relocation, single parents are significantly more likely to be suggested for the position. This suggests that parental status may elicit stereotypical assumptions leading to differential treatment. Interestingly, participants also perceive single parents as more mature than single individuals. Consequently, when given the same performance-based information, single parents are more likely to be offered a merit-based stipend than childless workers.

2.3 Is there discrimination against single-parent households?

The existence of negative societal attitudes towards single parents might potentially translate into discrimination against them in various areas. Although this is clearly an important issue, literature analyzing discrimination against single parent families is surprisingly scarce. To the best of our knowledge, there are only two articles that have investigated discrimination against this particular group, and they focus on the housing market. Lauster and Easterbrook (2011) do so for the metropolitan area of Vancouver, Canada, through the analysis of 1669 inquiries made about one- and two-bedroom apartments. Following the contact hypothesis, they expect that in places with more new family households, there should be less discrimination against them. They find that both single mothers and single fathers face significant discrimination relative to heterosexual couples: overall, single fathers are about 16% less likely and single mothers 14% less likely to receive a positive response to inquiries relative to heterosexual couples. Further, the authors find no evidence for the contact hypothesis, their interpretation being that single parents are facing discrimination primarily based upon their economic marginalization rather than other forms of prejudice. More recently, Murchie and Pang (2018), using a randomized correspondence audit design and a sample of more than 9500 online housing advertisements across the US, provide evidence of how landlord treatment of rental housing applicants varies across race, gender, religion, sexuality, and family status. They find that single parents experienced the lowest response rate at 35.1%. The authors are also favourable to the statistical discrimination hypothesis.

In the context of private schooling, one potential motive for discriminating against the children of single parents is the belief that such children will perform poorly, hence school principals might be reluctant to admit them. Several studies provide evidence of such lower academic achievement. Nonoyama-Tarumi (2017), using sixth-grade data from a 2013 national survey in Japan, shows that children of single-parent families perform academically

lower than children of two-parent families. For children living in single-mother families, more than 50% of the educational disadvantage is explained by a lack of economic resources. For children living in single-father families, the educational disadvantage is rather explained by a lack of parenting resources, such as discussions at home, supervision at home, and involvement in school.

Likewise, using data from the 2000 and 2012 from the Program for International Student Assessment (PISA) for 28 OECD countries, Woessmann (2015) shows that in nearly all countries, students living in single-parent families have lower achievement on average than students living in two-parent families. In the United States, the average raw achievement difference in math between students living in two-parent families and students living in single-parent families is 27 points, or roughly one grade level. The United States is one of six countries with achievement differences larger than 25 points. Belgium has the largest disparity in math achievement by family structure, at 35 points, followed by the Netherlands (29), and Poland, Japan, and the United Kingdom (27 to 28). On average across the 28 countries, students living in single-parent families score 18 points lower than students living in two-parent families. To a large degree, this achievement gap reflects differences in socioeconomic background, as measured by the number of books at home and parental education, rather than family structure alone. Barajas (2011), in his critical review of the literature, reveals that a large majority of studies show that children from single-parent homes score lower on tests of cognitive functioning and standardized tests, receive lower GPAs, and complete fewer years of school when compared to children from two-parent homes.

3 Hypothesis

One aspect worth highlighting is the heterogeneity of single-parent families, since these may be the result of divorce, widowhood, or simply an individual's decision to have a child on his/her own. From the literature we surveyed above, it appears that attitudes towards single parents may vary depending on the particular pathway leading to such status. However, as a general conclusion it can be stated that, despite the increasing acceptance of single parenthood, attitudes towards single parents are generally more negative than towards heterosexual couples. In turn, this fact might potentially translate into discrimination against single parents in various areas. The scarce empirical evidence in this regard shows that compared to households with two heterosexual parents, single parents are discriminated against in the rental housing market. The reason can be attributable to the fact that landlords may perceive that single parents are more economically vulnerable, hence renting a flat to them is likely to jeopardize the rents' collection. This would be a case of statistical discrimination.

In the context of schooling, where the economic motivation is absent, the expected outcome of the analysis is more uncertain. On the one hand, despite the growing acceptance of single parenthood, society still perceives this type of households somewhat negatively, which may translate into discrimination against them. On the other hand, schools may perceive single parents as being in a difficult and challenging situation, which may trigger feelings of empathy towards them, thereby motivating positive discrimination.

Further, the gender of the single parent seems to matter in terms of societal approval. Here the findings are not unanimous: while some studies find that single mothers are perceived more positively than single fathers, others find the opposite. Yet, one consistent finding is that regardless of whether they are positive or negative, participants' attitudes towards single

mothers tend to be internal and connected to their personhood, while comments about single fathers are rather situational and associated to their circumstances. As pointed out by DeJean et al. (2012), attitudes towards single parents are likely to be based on gender stereotypes. This inconclusive evidence makes it difficult to hypothesize about whether schools perceive single motherhood more or less negatively than single fatherhood.

We could not find any paper or survey focusing on attitudes towards single parents for Spain. Whether single parents in Spain are likely to be discriminated against in the schooling context is thus an empirical question that remains open, to which we contribute with the present experiment.

4 Experimental design

The experiment was conducted in March 2016 in Catalonia (Spain), during the primary school pre-registration period.⁷ We obtained from the Catalan regional educational authority the corporate e-mail of all Catalan schools. In our experiment we only consider private schools, keeping public schools out of the study. We proceed like this because the admission of children in public schools is not discretionary and children residing in a given district are given priority to the public school closest to their home address in that district.⁸ This leaves us with a total number of 606 schools.

Our experiment consists in contacting schools by e-mail and requesting an interview or a visit to the school. We resort to an internet field experiment because we are interested in studying a non-influenced behavior of the participants, which is only possible if participants

⁷ Catalonia is a Spanish region located in the North-East. This region has 7,5 million of inhabitants, and represents 25% of the GDP in Spain.

⁸ In Catalonia, 85% of the private schools are partially/fully funded with public money, which implies that they have to function as if they were public. However, in practice, despite not being legal, many of these schools use discretionary criteria for admissions.

do not know ex-ante that they are participating in the study. This methodology also allows us to reach all the schools with remarkable low effort and time, while making feedback with schools easier.

We create three fictitious families, one where parents are a couple (man and woman), one with a single female parent and one with a single male parent. Since the experiment was conducted on the internet, we just needed to create an e-mail address for each type of family where schools could respond, and a name for the fictitious applicants and their respective sons. We choose a son instead of randomly assign a son or a daughter to minimize experiment costs and also because of the inexistence of schools that segregate by gender. We also believe that there is no reason to think that schools would change their behavior depending on the gender of the children. Choosing a name for the corresponding applicants was an important part in this field experiment. In order to avoid any undesirable origin bias, we randomly assigned a common Spanish name to each family and their corresponding son.⁹ These are typical Spanish names, which are also gender unique. The next step was to create and assign an e-mail address to each fictitious couple. We decided to use the same e-mail provider (Gmail) and the three e-mail addresses had the following structure: name.surname.number@gmail.com. An example of the emails sent are presented in the Appendix.

In order to test both potential male and female single parenthood discrimination each school received two e-mails, one from a conventional family (two parents) and the other from a male or female single parent. In order to avoid any bias, e-mails from male or female single parent accompanying the e-mails from the conventional family were assigned randomly to half of the schools. Although proceeding like this we lose half of the sample for each type of

⁹ Names were randomly selected from the ten most common Spanish names, obtained from the Spanish Bureau of Statistics (INE).

single parent, we gain experimental credibility and stringency (essentially, we minimize the schools' suspicions). The order in which each e-mail was sent (conventional-single parent or single parent-conventional) was also randomized. The e-mails were sent to each school with three days of difference.

We designed templates of the three e-mails to be sent. We generated three different e-mails where family structure. (i.e., single parenthood or not) was made explicit. Thus, all e-mails had the following structure: a head with a greeting by the parent(s), a comment pointing out that the child is her/his/theirs and where she/he/they show interest in enrolling the child to that school, a request of an appointment to have an interview and visit the school, and finally a closing signed by the parent(s). The type of parenthood is made explicit by combining male/female, male and female names in the closing of the e-mail. All three e-mails had a different content but were written in a way that does not reveal further information that may have an influence on the probability of response. The content of the e-mails is shown in the Appendix.

In order to avoid any undesired problem for the schools, any invitation received was rapidly declined. When the pre-registration period concluded we processed all the responses and created a database with all the potential outcomes (response and invitations from schools) and information regarding schools (private/semiprivate, laic/catholic and city size).

5 Results

5.1 Descriptive analysis

In Table 1 we show the distribution of the call-backs. In all, 62% of the schools that received couple/single male parent paired e-mails did not reply to either of the two fictitious families, whereas this number was 72% for the couple/single female parent paired e-mails. Further,

11.5% and 4.6% replied to both fictitious couples in both pairs of e-mails respectively. The difference between the proportion of schools that replied only to couples and only to single male parents was 6.3 percentage points (10.1% vs. 16.4%), while this difference for the case of couples/single female parents was 14.3 percentage points (4.3% vs. 18.6%). In Table 1, we also report the results of McNemar’s test for paired data. The tests reveal that between couples and single parents the difference in the call-back probability and the probability of being invited is statistically significant in favor of single parents, either male or female. The results for differences between call-backs and invitations are negligible as practically most of the call-backs are accompanied by an invitation.

[Insert Table 1]

Other variables, used as independent variables in the econometric analysis are described and summarized in Table 2.

[Insert Table 2]

5.2 Regression analysis

In this section, we report the results of the econometric analysis of the probability of receiving an invitation, as shown in Table 3. We use a linear probability model, and we control for the type of school (fully private or private with public funding), religious orientation (Catholic or laic), and the school location (city size and province). We also include a dummy variable picking up which of the two e-mails was sent first. We estimate the following model:

$$y_{ij} = a + \delta (SingleParent)_i + \beta X_j + u_{ij} \quad (1)$$

where in equation (1) y_{ij} is our outcome variables taking the value 1 if the school j calls-back/invites couple/single parent i . $SingleParent_i$ is a dummy variable taking the value 1 if the e-mail was sent to single parent i . We estimate two separate models for the group of e-mails couple/single father and couple/single mother. In both models the base category excluded are couples, hence the model measures whether there are statistically significant differences in the outcome between couples and each type of single parent, controlling for the set of school characteristics (X_j). In order to test whether there are also differences in the outcome between single mothers and single fathers, in model (1) we also test for the equality of the coefficients associated to single parenthood, i.e., single father vs. single mother.

[Insert Table 3]

Results of the estimation of equation (1) are reported in Table 3. Standard errors are clustered at school level. After controlling for the set of covariates regarding school characteristics, we observe that for single fathers, the probability of receiving a call-back is 14.3 percentage points higher than for their couple counterparts (column 1), while for single mothers, this probability is only 6.2 percentage points higher than for couples (column 2). The estimated coefficients are statistically significant for both types of single parenthood. For invitations (columns 3 and 4) we get essentially the same results as for call-backs. In both cases, we reject the null hypothesis that coefficients associated to single parenthood for both genders are equal, which indicates that the call-back and invitation rates, compared to couples, are higher for single mothers than for single fathers. The difference in favor of single mothers is of 8 percentage points for call-backs, and of 6 percentage points for invitations. Finally, province and city size dummies turned out not to be statistically significant. In the

model, we also interacted single parenthood dummies with school characteristics (religious and fully private), but these interactions were not statistically significant.¹⁰

6 Discussion

Perhaps surprisingly, our results suggest that schools are keener to engage in feedback with single parents than with heterosexual couples. Of course, this does not imply that if we had formally applied for admission of the children of our fictitious profiles to these schools, their applications would have been as successful as we estimate here. However, if anything, it seems that single parents benefit from positive attitudes within the school system. This could mean that there is a feeling of empathy towards single parents, triggered by the perception that their life is more challenging in many dimensions. Alternatively, such positive attitudes could result from the belief that single parents are more mature (as in Eby et al. 2004) or have better internal qualities, making schools keen to welcome their children.

Given that single fatherhood is a rather uncommon situation, and as the e-mails did not specify the specific pathway leading to single parenthood, schools might have inferred that single fatherhood is likely to be the result of some tragic event. Indeed, single fathers often tend to be associated to widowhood or to irresponsible mothers who abandoned their children. As a result, one might expect schools to empathize more with single fathers than with single mothers, yielding a higher response rate for the former. Yet, we find the opposite. One potential explanation for this result is that the person responsible for admissions did not draw any inferences about why a given person happened to be a single parent, while she/he perceives single mothers as having better internal qualities, as in Maier and McGeorge (2014).

¹⁰ Fully private are the private schools in our sample that do not receive public funding.

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Table 1
Distribution of call-backs and call-backs with invitation

	Couple vs. Single	# of schools	No reply to either		Replied both		Replied only couple (1)		Replied only single parent (2)		Net discrimination (1)-(2)		McNemar's χ^2 test
Call-back	Father	305	189	61.96%	35	36.10%	31	31.10%	50	16.39%	19	6.23%	4.46***
	Mother	301	218	72.45%	14	42.20%	13	15.60%	56	18.60%	43	14.28%	26.8***
Invitation	Father	305	207	68.77%	25	34.10%	27	29.80%	48	15.94%	23	7.54%	7.25***
	Mother	301	236	78.40%	10	40.20%	7	14.90%	48	15.95%	41	13.62%	30.5**

Note: In the McNemar's test the null hypothesis is: (1)-(2)=0; *** Significant at 1% level; ** Significant at 5% level.

Table 2
Explanatory variables used in statistical analysis

Independent variables	Couples and single father		Couples and single mother	
	Mean	S.d.	Mean	S.d.
<i>School Characteristics</i>				
Religious	0.665	0.472	0.627	0.484
Private	0.039	0.194	0.059	0.237
<i>City size</i>				
> 10.000	0.111	0.314	0.086	0.281
10.000 to 50.000	0.232	0.422	0.235	0.424
50.000 to 100.000	0.134	0.341	0.136	0.343
> 100.000 excluding Barcelona	0.242	0.429	0.242	0.428
Barcelona city	0.278	0.448	0.299	0.458
Number of schools	305		301	

Table 3
Estimates of the determinants of call-backs and invitations

	Call-back		Invitation	
	(1)	(2)	(3)	(4)
Male single (MS)	0.0623** (0.0297)		0.0754*** (0.0280)	
Female single (FS)		0.143*** (0.0267)		0.136*** (0.0237)
Private school publicly funded	-0.0164 (0.116)	-0.0307 (0.0600)	-0.0326 (0.111)	-0.0376 (0.0542)
Religious school	0.0553 (0.0433)	0.0600* (0.0346)	0.0184 (0.0403)	0.0669** (0.0313)
Order email sent	-0.0473 (0.0412)	-0.0774** (0.0316)	-0.0268 (0.0376)	-0.0367 (0.0284)
Constant	0.301** (0.133)	0.0611 (0.0794)	0.304** (0.126)	0.0117 (0.0675)
Province dummies	Yes	Yes	Yes	Yes
City size dummies	Yes	Yes	Yes	Yes
Test MS=FS	4.13**		1.59*	
Observations	610	602	610	602
R-squared	0.038	0.075	0.052	0.072

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

8 Appendix

Example of heterosexual couple e-mail:

We are Enrique and Pilar, our son David, who is five years old, starts primary school next year. We are looking for a school for him and we would like to know whether it is possible to visit your school before the pre-enrollment period ends.

Sincerely,

Enrique and Pilar

Example of single parent e-mail:

Good Morning, my name is XXX (male or female). My son and I plan to move near the area where your school is located. Victor is 5 years old and he is going to start the first cycle of elementary school next year. I have to fill in the pre-registration and I would like to know whether it would be possible to arrange a meeting so I can visit your school. I will be waiting for your news.

Cordially,

XXX