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## Schools' Attitudes Towards Single Parents: Experimental Evidence

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DISCUSSION PAPER SERIES

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Experimental Evidence**

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SEPTEMBER 2020

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# Schools' Attitudes Towards Single Parents: Experimental Evidence

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## ABSTRACT

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# Schools' Attitudes Towards Single Parents: Experimental Evidence\*

Single parenthood is on the rise everywhere in the world. While previous studies show that acceptance of single-parent households is increasing, 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 towards single parents, who are also among the most vulnerable groups of society. Motivated by these findings, we study whether schools are more reluctant to interact with single parents than with heterosexual couples. We conduct a field experiment with schools during the children's pre-registration period. 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 made 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.

**JEL Classification:** I24, I29

**Keywords:** single parents, schools, discrimination, field experiment, children

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## 1. Introduction

Single parenthood is on the rise everywhere in the world. According to the latest data available, single parents constitute about 15% of households with dependent children in the EU. According to Eurostat, in 2018 Denmark (29%) and Estonia (28%) had the highest proportions of single-parent households among households with children, before 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%), Romania (7%), Greece, Slovakia and Finland (all 8%).

In the vast majority of cases, this phenomenon concerns women. In the United States, about 15.76 million children were living with a single mother in 2019, and about 3.23 million children were 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 raising 22.4 million children in the United States, which accounts for approximately 27% of children under 21.<sup>1</sup> 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 constitutes an important research agenda.<sup>2</sup>

Previous research suggests that family structure contributes to the formation of stereotypes (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

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<sup>1</sup> See Custodial Mothers and Fathers and Their Child Support Report released by the U.S. Census Bureau every two years.

<sup>2</sup> For instance, 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.

(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 pathway leading to single parenthood. In particular, divorced single parents are considered more positively than never-married single parents.

In turn, the 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. 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.

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 an online correspondence experiment, these studies find that single mothers and fathers receive a significantly smaller number of positive responses to inquiries relative to heterosexual couples. In both studies, the authors suggest that single parents are facing discrimination mainly based upon their economic marginalization rather than other forms of prejudice (i.e., this is a case of 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, or the expected negative behavior of children raised in this type of household, or even a potential lower academic achievement. Indeed, Barajas (2011), in his critical review of the literature, reveals that a large majority of studies show that children from single-parent families score lower on tests of cognitive functioning and standardized tests, receive lower GPAs, and complete fewer years of school compared to children from two-parent families. Nevertheless, in this schooling context – and consistently with the contradictory findings of the literature on attitudes towards single parents – yet another possibility is that this particular parent category actually benefits from positive discrimination, as schools may perceive this type of family as being more vulnerable in a range of aspects.

In our analysis, we use the same type of experimental design as in Diaz-Serrano and Meix-Llop (2016).<sup>3</sup> 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.

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<sup>3</sup> These authors test for discrimination against homosexual parents in the school admission process. They find that with respect to heterosexual parents, gay men 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.

## **2. Conceptual framework and literature**

### **2.1. Single parents in Spain: some figures**

Although two-parent families, within or outside legal marriage, form a vast majority in Spain, there is an increase in single-parent families. Single parenthood encompasses a variety of profiles, characteristics and family situations, and the entry routes are multiple: marital breakup, breakup of a common-law couple, widowhood, or single-parenthood by choice. Although historically widowed women predominantly formed single-parent families, marital separation is currently the main pathway into single parenthood. According to Census data, single-parent families 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 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 such households (81.9% of the total), against 340,300 for a father with children. The number of single-parent households increased by 2% compared with 2017. Single-father households (with all children under 25) grew by 12.3%. In 41.1% of single-mother families, the mother was a widow, in 37.4% separated or divorced, in 15.2% single and in 6.3% married. In single-father families, 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 54% of children living in single-mother households in Spain are in poverty – 12.5 percentage points higher than for the overall population. Likewise, 65% of single mothers say they face difficulties in making ends meet, more than 75% have to reduce fixed household costs, and 37.8% cannot afford to keep their homes at an adequate temperature.

According to the report, these families face a greater risk of falling into poverty, not only because of their economic situation, but also due to issues related to employment, housing, health, or lack of support network. In particular, the lack of work opportunities is an important 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 compared to heterosexual couples. 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, while the same trend was not found for never-married single parents. More specifically, depictions of never-married single-parent families in both magazines and journals were as likely to be negative at the century's end as they were at its beginning. According to the author, these trends illustrate Americans' ambivalent view of single-parent families as a reality rather than 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) compared to 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 suffer from the least positive views. Bryan et al. (1986)

measure perceptions of college students and obtain similar results: all family structures (with the exception of the ones including a widowed parent), were consistently perceived more negatively than families formed by 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 a previous meta-analysis completed on the same topic (Ganong et al. 1990), they conclude that stereotyped attitudes have not changed dramatically in the last 30 years. The main findings remain stable over the period and suggest that married parents tend to be considered more positively than parents in other family structures, while remaining the standard against which others are compared. Nevertheless, the authors point out that while stereotypes related to family structure remain, evidence of growing tolerance for divorce, remarriage, and same-sex parenting was also found. Likewise, other authors suggest that the social stigma associated with non-traditional family structures is decreasing, while acceptance of single-parent 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 such attitudes may depend on the gender of the single parent. Among them, Goldscheider and Kaufman (2006) examine 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, while women are more accepting than men of single mothers. They conclude that although the belief that children should be raised within a

marital union remains strong, a significant proportion of men and women feel it is acceptable to become single parent.

DeJean et al. (2012) explore differences in attitudes towards never-married single mothers and fathers. Their sample consists of 1,351 participants from a Midwestern community, with an average age of 27.2 years. They show that never-married single mothers were viewed less positively than never-married 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 compared to the ratings of single fathers. The authors relate these findings 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 viewed as doing more than what society expects from them, hence they are viewed more positively. However, the authors point out that their findings contradict the literature on single fathers, who are generally viewed negatively and experience societal disapproval (Chima 1999, Emmers-Sommer et al. 2003).

Recently, Maier and McGeorge (2014) explore the variations in the perceptions of positive attributes of never-married single mothers and fathers. From the qualitative responses of 873 participants, they find that the participants' level of expectations was significantly lower for single fathers than for single mothers and the latter were held to a higher standard. Their results contradict DeJean et al. (2012) in the sense that participants tended 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 exist positive views of single mothers considered to be internal to their character (as opposed to situational). In contrast, the participants' comments on the positive attributes of single fathers were typically more materialistic, namely their ability to provide a reliable income. Overall, the findings match the existing literature in

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 single mothers and fathers. Again, they find that the participants' comments on the negative attributes of single mothers appeared to be internal (e.g., immature, neglectful, irresponsible, careless, promiscuous) while the participants' comments on the negative attributes of single fathers were situational (e.g., single fathers have a difficult time finding childcare and finding another partner or with dating). In general, participants described 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. Respondents considered that single parents have greater difficulties than other workers adjusting to a geographic move. As a result, in the event of having to recommend an applicant for a job without relocation, single parents were more likely to be recommended for the position. This suggests that parental status may give rise to stereotypical assumptions leading to differential treatment. Interestingly, participants also perceived single parents as being more mature than single individuals. Consequently, under the same performance-based information, single parents were more likely to be offered a merit-based stipend than workers without children.

### **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 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. Relying on 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 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 relative to heterosexual couples. The authors find no evidence for the contact hypothesis, their interpretation being that single parents are facing discrimination mainly 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 favorable 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 of single mothers, more than 50% of the educational disadvantage is explained by a lack of economic resources. For children of single fathers, the educational disadvantage is explained by a lack of parenting resources, such as discussions and supervision at home, and involvement in school. Likewise, using data from the 2000 and 2012 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 versus single-parent families is 27 points (about one grade level). The United States is one of six countries with achievement differences larger than 25 points. Belgium has the greatest disparity in math achievement by family structure (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 the ones living in two-parent families. To a great extent, 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 families score lower on tests of cognitive functioning and standardized tests, receive lower GPAs, and complete fewer years of schooling compared to children from two-parent families.

### **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. This can be attributable to the fact that landlords may perceive that single parents are 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 household somewhat negatively, which may translate into negative discrimination. This would also be the case if schools' principals expect children from single-parent families to exhibit negative behavior and/or to perform poorly academically. 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 a 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 with 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 specifically 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. The experiment**

The experiment was carried out in March 2016 in Catalonia (Spain), a North Western region in Spain. This is the period when parents have to choose a school for their children. We obtained from the regional authority the e-mails of all Catalan schools. We keep public schools out of our study, because in these schools the admission of children is not discretionary. Although 85% of private schools receive public funding, implying that they are subject to the same rules as public schools, in practice they tend to use discretionary criteria in the admission process. Therefore, interaction with parents before admission is common.<sup>4</sup> More than 75% of these schools are catholic. This leaves us with a total number of 606 schools.

We contact schools by e-mail. **In these e-mails we introduce the fictitious parent/s and ask for a visit.** For our purpose, we believe that an online field experiment is the best option. In this type of experiments individuals do not know that they are subjects of an experiment, which allows us to observe the non-influenced responses of the participants. In addition, this methodology is not costly, as it allows us to contact all the schools and get their feedback without much effort.

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. **To contact schools,** we create an e-mail account for each type of family to which schools could respond. We also use fictitious names for the fictitious parents and sons. We choose only one gender

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<sup>4</sup> During the pre-registration period, parents rank the school according to their preferences. Priority in access to the preferred schools is based, among others, on proximity criteria of the children's residence to the school. These criteria are used for both publicly owned and private publicly funded schools.

for children because considering both genders is more costly in terms of the number of observations per group (type of family). In Catalonia, schools do not segregate by gender. In addition, there is no reason to think that respondents will treat differently boys and girls. In order to avoid origin bias of the fictitious parents and children, we randomly assign them a (gender-unique) name among the most common Spanish names. The three e-mail accounts for each of the fictitious families have the following structure: name.surname.number@gmail.com. An example of the emails sent is presented in the Appendix.

To test for potential single parenthood discrimination, we send two e-mails to each school: one from a conventional family (two parents) and the other from a male or female single parent. The e-mails from either a male or female single parent are assigned randomly to half of the schools. Although this procedure makes us lose half of the observations for each type of single parent, we gain credibility —essentially, we minimize the schools' suspicions. Within each pair of e-mails (conventional vs. single-parent family), we also randomize which of the e-mails is sent first (the second e-mail is sent three days later).

We make family structure (i.e., single parent or not) explicit in the signature of the e-mails: male/female for conventional couples, male for single fathers, and female for single mothers. In the body of the email, the name of the child is also mentioned, thus making explicit he is a boy, while an appointment for visiting the school is requested. The three e-mails share a common structure, and we do not include any additional information that might alter the probability of response for any of the three types of families. The content of the e-mails is shown in the Appendix. Whenever a school answered one of our e-mails, we immediately declined the invitation.

## **5. Results**

### 5.1. Descriptive analysis

Once all the responses were processed, our data consists of two outcomes (response and invitation), and a number of school controls (private with/without public funding, laic/catholic, and size of the municipality where the school is located). Summary statistics of the outcome variables are shown in Table 1. Out of the schools that received the couple/single father paired e-mails, 11.5% replied both emails, 10.1% replied only to the fictitious couple, and 16.4% replied only to the fictitious single father. That is, compared to couples, the probability of receiving a call-back is 6.2 percentage points higher for single fathers. For the paired e-mails couple/single mother, these figures are 4.6%, 4.3% and 18.6%, respectively. In this case, compared to couples, the probability of receiving a call-back is 14.3 percentage points higher for single mothers. In both cases, the results of McNemar's test for paired data indicates that the difference in call-back rates between couples and single parents is statistically significant. The figures for differences regarding invitations are practically identical as most of the call-backs are accompanied by an invitation. Other variables used as school controls in the regression analysis are described and summarized in Table 2.

[Insert Table 1]

[Insert Table 2]

### 5.2. Regression analysis

We estimate the following model:

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

where  $y_{ij}$  is our outcome variable 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

is sent by the fictitious single parent  $i$ . We estimate two separate models for the group of e-mails couple/single father and couple/single mother and for each outcome variable. In all models the control group is couple, 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 ( $X_j$ ). 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 with single parenthood, i.e., single father vs. single mother. Equation (1) is estimated using a linear probability model. The matrix  $X$  contains a set of variables picking up whether the school receives or not public funding, is catholic or laic, and the size of the municipality where the school is located. We also include a dummy variable picking up which of the two e-mails was sent first.

[Insert Table 3]

Results of the estimation of equation (1) are reported in Table 3. Since each school receives two emails, standard errors of the estimated coefficients are clustered at school level. The estimates of the coefficients associated to the single parent dummy in equation (1) reproduce the same differences already reported in table 1. That is, compared to couples, the probability of receiving a call-back is 6.2 percentage points higher for singles fathers, whereas this difference is of 14.3 percentage points in favor of single mothers (columns 1 and 2). For invitations (columns 3 and 4), we get essentially the same results as for call-backs. We reject the null hypothesis that coefficients associated with single parenthood for both genders are equal to zero, which indicates that, as in the case of call-backs, compared to couples, invitation rates are higher for single mothers and single fathers.

When we compare estimated coefficients across genders, we observe a difference in favor of single mothers of 8 percentage points for call-backs, and of almost 6 percentage points for invitations. In the first case, the difference is statistically significant at 5 percent level, whereas in the second case it is statistically significant only at 10 percent level.

Regarding the control variables, while we observe that catholic schools are more responsive than laic schools, in the model, we also interacted single parenthood dummies with school characteristics (religious and publicly funded), but these interactions were not statistically significant. This result indicates that for each pair of emails, responses to either couples or single parents do not depend on school characteristics. Finally, the province and city size dummies turned out not to be statistically significant.

## **6. Discussion**

Perhaps surprisingly, our results suggest that schools are keener to engage in feedback with single parents than with heterosexual couples. Of course, we cannot infer from these results that formal applications of single parents' children to these schools would have lead to the same outcome. 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 willing 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 with widowhood or with 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).

Additional insights reported in Table A1 in the Appendix suggest that schools empathize more with single mothers than with single fathers. In Table 3, we reported that for the treatment single mother-couple, the second email received by the school is less likely to be replied, by -7.7 percentage points. In Table A1, we interact the single parenthood dummies with the order in which the email was sent. For the treatment single father-couple, no differences in the probability of response are observed regardless of which is the second email sent. However, for the treatment single mother-couple, while the second email is less likely to be replied when it comes from a couple (-17.6 percentage points), for single mothers this probability is the same as for emails sent first (0.197-0.176). These results suggest that although schools are less likely to reply to second emails, they feel more compelled to reply if the second email comes from a single mother.

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**Table 1**  
Distribution of call-backs and invitations

	Couple vs. Single	Schools	No reply to either		Replied both		Replied only couple (1)		Replied only single parent (2)		Net discrimination (2)-(1)		McNemars's $\chi^2$ test
Call-back	Father	305	189	62.0%	35	11.5%	31	10.1%	50	16.4%	19	6.2%	4.46***
	Mother	301	218	72.4%	14	4.6%	13	4.3%	56	18.6%	43	14.3%	26.8***
Invitation	Father	305	207	68.8%	25	8.2%	27	8.8%	48	15.7%	23	7.5%	7.25***
	Mother	301	236	78.4%	10	3.3%	7	2.3%	48	15.9%	41	13.6%	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**  
Distribution of school characteristics and order of the emails across treatments

	<u>Couples and single father</u>		<u>Couples and single mother</u>	
	Mean	s.d.	Mean	s.d.
Single parent email sent first	0.518	0.500	0.508	0.501
<i>School characteristics</i>				
Religious	0.665	0.472	0.627	0.484
Fully 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
<b>Number of schools</b>	<b>305</b>		<b>301</b>	

**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)
Email sent the second	-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				

## **Appendix**

### Example of the heterosexual couple e-mail:

We are Enrique and Pilar, and 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 the single-parent e-mail:

Good Morning, my name is XXX (male or female). My son and I plan to move into 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

**Table A1**  
Estimates of the determinants of call-backs

	<b>single father</b>	<b>single mother</b>
Single parenthood (SP)	0.0570 (0.0437)	0.0458 (0.0379)
Second email	-0.0529 (0.0485)	-0.176*** (0.0312)
SP x Second email	0.0111 (0.0591)	0.197*** (0.0521)
Constant	0.303** (0.134)	0.110 (0.0811)
School characteristics	Yes	Yes
Province dummies	Yes	Yes
City size dummies	Yes	Yes
Observations	610	602
R-squared	0.038	0.093
Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1		