Sharing Parental Leave between Mothers and Fathers

Experimental Evidence from a Messaging Intervention in Uruguay

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Abstract

Parental leave has been increasingly used as a family policy to facilitate balancing care and work responsibilities and promoting gender equality. However, fathers' parental leave participation is still low, even when it offers both job and wage protection. This paper examines the effects of an information and awareness-raising intervention, delivered via email and text messages on men's and women's awareness and intentions of shared take-up of a parental leave program. The experiment provided recent and prospective parents meeting the social security requirements to benefit from parental leave with information about the program. Additionally, a subset of recent parents received messages that told them about (i) the benefits of fathers' involvement in childcare, or (ii) the importance of planning parental childcare. The intervention was successful in increasing knowledge about the parental leave program and shifting traditional gender norm views among women, regarding father's involvement and care planning. For men, knowledge about the program increased. However, the strong association between parental leave and breastfeeding led to fathers privileging mothers' use of the leave benefit. The findings show limited impact on actual leave taking, with the message about couples' leave planning increasing the effective use of parental leave among fathers compared to the information message. The results show that low-cost, targeted information interventions can have substantial effects on program knowledge among potential future beneficiaries. Although these interventions can support more equal gender roles and change gendered attitudes toward care responsibilities, they are not sufficient to shift behaviors.

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Sharing Parental Leave between Mothers and Fathers: Experimental Evidence from a Messaging Intervention in Uruguay^{*}

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1. Introduction

Parental leave has been increasingly proposed as a family policy to facilitate balancing care responsibilities and promoting gender equality in the distribution of care tasks. Unlike maternal and paternal leave schemes that target one parent, parental leave is designed to be used by mothers and fathers to share care responsibilities. Evidence shows that fathers' leave take-up increases their involvement in childcare and housework, and these effects persist after several years (Tamm, 2019; Almqvist and Duvander, 2014; Schober, 2014; Kotsadam and Finseraas, 2011). Moreover, father involvement in childcare has positive effects on a child's cognitive and non-cognitive development (Cano et al., 2019; Lamb, 2010; Cabrera et al., 2007; Amato and Rivera, 1999), on the mental well-being of both mother and child (Twamley et al., 2013), and on gender equity (Evertsson et al., 2018; Coltrane, 1996). However, fathers' leave take-up is still low. Across the world fathers' use of the benefit, when available to them, is low unless mandated (Karu and Tremblay, 2018).² Evidence shows that financial reasons, career penalties (Twamley and Schober, 2019), and fathers' identity and reputational concerns (Weisshaar, 2018; Dahl et al., 2014) are among the take-up barriers to paternity (or parental) leave. Uruguay is no exception. Despite the introduction of a parental leave program in 2013 that allows either parent to work half-time while receiving full-time pay for four months, fathers account for only 2% of total beneficiaries (BPS, 2021).

This paper investigates the effects of an intervention to improve the awareness and knowledge of the parental leave program and increase fathers' intention of taking leave. Together with the Social Security Institute of Uruguay (BPS), we designed and implemented an information intervention delivered via email and text messages (SMS) targeting workers contributing to BPS who were recent parents and/or of reproductive age.³ Two parallel experiments were implemented, building on insights from behavioral science regarding drivers of behavior and intention formation (Ajzen 1991, Gollwitzer and Sheeran 2006, Michie et al. 2011). The first one focused on female and male workers and tested the effect of an information message (treatment) against no messages, i.e. regular access to existing publicly available information to date (control). The second experiment focused on recent parents. Here we tested the differential effects of three messages: (i) information about the parental leave program (same as in experiment one), and two "information plus" messages, (ii) a message emphasizing the benefits of men's involvement in childcare through the testimony of a father, and (iii) a message emphasizing the importance of planning and sharing childcare between parents.

² For example, according to the OECD Family Database (<u>https://www.oecd.org/els/family/database.htm</u>) in 2021 across OECD countries fewer than 50 men for every 100 live births used parental leave benefits. ³ We consider individuals between 18 and 42 years of age.

The intervention was successful in increasing awareness of the parental leave program, both among men and women across all groups. Notably, men became aware that they were potential beneficiaries. These effects are more significant for beneficiaries who were not yet parents. Messages about father's involvement and couple planning helped reduce traditional gender norm views among women. Nevertheless, we find an unintended effect of the intervention among fathers, who indicate a preference for the mother to be the main beneficiary of parental leave, possibly due to the strong association of the time when leave can be used (between 3-6 months of age of the child) and breastfeeding.

In line with other studies (Cosso et al., 2022; Richardson et al., 2021; Head et al., 2013) that have looked at the effectiveness of SMS-based interventions, our results show that a low-cost and low-intensity intervention can have substantial effects on program knowledge among potential future beneficiaries. Furthermore, an intervention that promotes reflection regarding gender roles (see for example Legros and Cislaghi, 2020) can also help reduce gender stereotypes and change gendered attitudes toward parental leaves among women.

This paper contributes to the growing literature on the use of behavioral science informed interventions to support government delivery and uptake of social programs (see for example DellaVigna and Linos, 2022; Banerjee et al., 2021; Dahl et al. 2014). A non-exhaustive list of examples of the effective use of behaviorally informed text messages and emails includes increasing tax compliance (Ortega and Scartascini, 2015; Antinyan and Asatryan, 2019), encouraging savings (Karlan et al., 2016), improving school attendance and grades (Berlisnki et al., 2016; Castleman and Page, 2015), and increasing vaccination rates (Milkman et al., 2022).

When it comes to parenting and care behaviors, similar interventions have proven successful in increasing preschool attendance by motivating parents (Mateo Diaz et al., 2020), informing parents about early childhood development (Barrera et al., 2020), and parenting behaviors (Ajzenman and Lopez Boo, 2019; Bloomfield et al., 2022). However, fewer applications have been documented for active care sharing.

The literature on intrahousehold task distribution and care sharing responsibilities suggests that the factors that influence the distribution of childcare by fathers and mothers are varied. On the one hand, parents often make implicit decisions about the care of their children (Hacohen et al., 2018; Andringa et al., 2015), which promote the maintenance of the status quo in the traditional gender roles assignment, placing women as the main responsible caregiver. On the other hand, there are economic factors, such as gender differences in wages (Batthyány et al., 2018; Plantenga et al. 2010), and the presence (or not) of workplace arrangements that support childcare (Goldin, 2014). Similarly, when it

comes to parental leave, and particularly fathers' use of leave, the focus has been on program design the duration, labor market impacts and payment amounts (Ziegler and Bamieh 2023; Patnaik 2019). Although there is ample literature on factors that influence intrahousehold roles allocation for care, few studies have attempted to address them via similar interventions (Aloud et al., 2020; Hacohen et al., 2018; Mayer et al., 2015). This study contributes to the limited evidence on the application of low-cost information interventions to improve the take-up of a program, as well as to change intrahousehold care allocations by motivating questioning of prescribed gender norms, and implicit decisions behind the intentions and behaviors related to the use of parental leave in Uruguay.

The remainder of this paper is organized as follows. Section 2 provides the context and background information on the Parental Leave program. Section 3 presents a description of the study, including the experiments, samples, balance test, dataset, and empirical strategies. Section 4 discusses the main results and presents the heterogeneity analyses. Finally, Section 5 discusses the policy implications of the results.

2. Parental Leave Program in Uruguay

Uruguay has a persisting gender gap in care activities and labor force participation. Bucheli et al. (2019) find that the gender gap in hours per week dedicated to home production emerges when the couple moves into cohabitation (from 6 to 16) and this gap widens with the arrival of children (from 16 to 29), even when both men and women perform care tasks. Moreover, Querejeta and Bucheli (2021) provide evidence of important motherhood penalties in Uruguay: ten years after childbirth women's formal employment is 44% below its level just before childbirth.

In this context, regulation has been introduced to increase men's involvement in childcare. In November 2013, Uruguay approved Law 19,161, which creates a parental leave program providing a subsidy to new parents so they can halve their daily working schedule to devote time to the care of the newborn. The program complements the existing paternal and maternal leave schemes, and the BPS fully assumes the costs by transferring the wage compensation to the beneficiaries. The subsidy covers from the end of maternity leave until the newborn turns six months of age. Among the objectives of this leave program, the following stand out⁴: i) to increase the father's involvement in the upbringing of children and ii) to close gender gaps in employment trajectories.

⁴ Explanatory Memorandum of the Law 19,161 (https://parlamento.gub.uy/documentosyleyes/fichaasunto/118979/ficha_completa).

The leave program allows fathers and mothers to alternate the use of the benefit. However, figures by Batthyány et al. (2018) show that the enrollment in the program among men is considerably lower than among women. In 2018, 69.6% of potential female beneficiaries used the subsidy, while only 4.5% of males did. International evidence shows that financial reasons, career penalties (Twamley and Schober, 2019, Ziegler and Bamieh, 2023), and concerns about fathers' identity and reputation (Weisshaar, 2018; Dahl et al., 2014) are significant barriers to fathers' leave take-up.

Low take-up by Uruguayan fathers can be attributed to three main factors (Batthyány et al., 2018): i) lack of information, as 16.7% of men are unaware of the existence of the benefit, 61.8% are unaware of the duration, and 41.7% do not know that both parents can use it, while these proportions for women are 4.9%, 27.5%, and 22.3%; ii) perception of incurring additional monetary costs when taking-up, with 57.6% of men surveyed believing so; and iii) gender norms, with 33.3% of men stating that it is the mother's responsibility to take care of the baby during the first year of life. A higher program take-up from fathers can have consequences on the labor integration of women, the stability of the couple (Petts et al., 2019, Schober, 2014; Eggebeen and Knoester, 2001), parenting behaviors, and ultimately, on children's cognitive and social development (Amato and Rivera, 1999; Craig et al., 2018).

3. Research Design

3.1. Intervention and experiment design

We designed a communication intervention using insights from behavioral sciences to tackle the lack of awareness and misperceptions of program features and to motivate further the enrollment intention and sharing of the subsidy among potential beneficiaries. The study aims to improve the awareness and knowledge about the existence, duration, and portability of the subsidy, reduce the perceived costs of participating, and change the belief of who should take the subsidy and the intention to take it.

We categorize possible barriers to the use of parental leave following the capabilities, opportunities, and motivation framework (COM-B) (Michie et al., 2011). This framework assumes that behaviors can be changed and are affected by three types of factors: Barriers related to the perceived ability a person has to do the behavior -in this case, to use the parental leave and perform care duties (capability); the perceived external factors preventing the behavior from taking place (opportunity); and motivating factors to consider and/or actively engage in the behavior. Following an analysis of existing studies on barriers to paternity leave

take-up,⁵ we conducted preparatory fieldwork (i.e., telephonic semi-structured interviews with former parental leave beneficiaries) to validate and identify barriers to the use of the program. Results confirmed existing data regarding lack of awareness of the program's features, perceived negative impacts on men's work, and prevailing gender norms around care as main barriers to take-up. The interviews also revealed that several respondents considered men to be unfit for care-related tasks of young infants and expected logistical challenges and a negative impact on breastfeeding if the father was to use the leave.

The intervention, informed by these findings, was designed to increase information about the program and promote use intention (Ajzen 1991). It consisted of a message, to be sent by email, SMS, or both to potential beneficiaries of the program, i.e., female and male workers of reproductive age (18 to 42 years of age) enrolled with the BPS. We targeted two population groups and designed two separate experiments according to the beneficiary's proximity to parenthood and, thus, the likelihood of considering using parental leave. First, potential beneficiaries that were neither current beneficiaries nor applicants of any parental leave scheme (maternal, paternal, or parental leaves). Second, recent parents, defined as current applicants or beneficiaries of maternal or parental leave over the five months prior to the intervention rollout.

Experiment 1

This experiment sought to test the impact of a message with basic information about the program features on the awareness, knowledge, beliefs, and intentions regarding the take-up of the subsidy for the general target population. The intervention was aimed at the total population of men and women of reproductive age contributing to the BPS who comply with the following conditions: (a) being employed in May 2021, (b) not being beneficiary of any maternity, paternity, or parental leave program, (c) meeting the working requirements for eligibility to the subsidy program.⁶ Participants were randomly assigned to a treatment group that received the information message or a control group that did not receive a message.

Experiment 2

This second experiment focused on understanding if three specific message frames, in addition to information about the program feature, targeting preidentified barriers were conducive to changes in the awareness, knowledge, beliefs, and intentions of the population more prone to request the subsidy. This intervention targeted men and women of reproductive age that were current users or had applied for

⁵ See for example, Bartel et al. (2018) Hacohen et al. (2018); Andringa et al. (2015), Batthyány et al. (2018); Plantenga et al. (2010).

⁶ Besides contributing to BPS, applicants should be dependent workers in the private sector, non-dependent workers and collaborating spouses of companies with up to one employee, single taxpayers, directors of companies with remuneration, or cooperative partners. Other types of work are not included in this program.

maternity or paternity leave programs in the five months before the intervention rollout. Participants were randomly assigned to one of three groups for each of the message framings described below. This experiment did not include a pure control.

3.2. Messages

The messages sought to tackle three specific barriers identified in the literature review and qualitative work: lack of information on the enrollment and operation of the subsidy (related to opportunity factors), lack of evidence of experiences by other men (peer effects) who had used parental leave, and implicit decision-making based on gendered beliefs about differential childcare abilities of parents. Message 1 was delivered to groups from both experiments, while messages 2 and 3 were only part of experiment 2. All messages were delivered via email and SMS and included a link to an informative brochure that simply and attractively presented information about the subsidy and how to apply for it (see Appendix A for more detail).

Message 1: Information

This message provided simple information about the subsidy program and its main features, emphasizing that the program allowed for alternated use between father and mother, and that financial coverage was such that the beneficiary's salary would not be affected.⁷

Message 2: Testimony

Additional to the information in message 1, this message incorporated the testimony of a father who benefited from the subsidy. This framing aimed to channel peer effects and leverage the narration of someone's experience with the benefit to challenge beliefs related to traditional gender norms deeming men as unfit caregivers, remove the fear of stigma in men's social or work environment if choosing to use the subsidy, and leverage positive experiences of leave take-up by fathers.⁸

Message 3: Planning

Additional to the information in message 1, this message stressed the importance of planning the use of the subsidy. The message included three topics to discuss with the partner parent: how to distribute childcare tasks, how the father could also be in charge of the child's feeding during the breastfeeding period, and how to distribute the leave days. It was designed to debunk gendered beliefs about the exclusive role of the

⁷ See Appendix A.1 for the full text of the message.

⁸ See Appendix A.2 for the full text of the message.

mother as caregiver and feeder during the child's first months of age.9

Feb-May 2021	Ago. 2021	1st Sep. 2021	19th Jan - 3rd March 2022	
Qualitative work to identify barriers Messages design	Pilot	Intervention Messages sent to participants of both experiments	Post-treatment survey Phone survey conducted to a sample of participants	→

Figure 1. Timeline of the intervention

The intervention was delivered during September 2021. In total, messages were sent to 14,998 participants, including text messages and emails (Table 1). Data collection for the post-treatment survey started 20 weeks (168 days) after the messages were sent and lasted for another 6.1 weeks (Figure 1).

	Panel A: Men								
Experiment	Type of intervention	Group	Participants	SMS	email	Both			
1	Control	С	3,760	0 %	0 %	0%			
1	Information	T1	3,760	1,417 (37.7%)	57 (1.5%)	2,286 (60.8%)			
	Information	T1	900	64 (7.1%)	3 (0.3%)	833 (92.6%)			
2	Testimony	T2	903	79 (8.7%)	1 (0.1%)	823 (91.2%)			
	Planning	T3	893	72 (8.1%)	5 (0.5%)	816 (91.4%)			
			Panel B: Wor	nen					
Experiment	Type of intervention	Group	Participants	SMS	Email	Both			
1	Control	С	3,760	0 %	0 %	0%			
1	Information	T1	3,761	1,261 (33.5%)	20 (0.5%)	2,480 (66.0%)			
	Information	T1	1,592	286 (18.0%)	1 (0.0%)	1,305 (82.0%)			
2	Testimony	T2	1,603	301 (18.8%)	9 (0.6%)	1,293 (80.7%)			
	Planning	Т3	1,587	285 (18.0%)	7 (0.4%)	1,295 (81.6%)			

Table 1. Experiments, intervention groups, and participants

3.3. Data

Our study relied on two data sources: administrative records of social security contributors and a postintervention telephonic survey. Variables in administrative records included date of birth, sex, nationality, and geographic location. Data collected included marital status, previous childbirths, educational level, and three impact variables: how well individuals knew the parental leave program, the level of agreement with gender norms related to childcare, and intentions to talk and share with the partner regarding parental leave take-up.

⁹ See Appendix A.3 for the full text of the message.

The administrative records of the BPS included two databases, which were collected to identify the target groups from each experiment:

- *Contributors' Administrative Records, from the Tax and Collection Advisory:* This database included possible future subsidy beneficiaries who made up the sample for experiment 1. Separate strata of men and women were randomly assigned to receive the information message (T1) or none (C).
- Records of Beneficiaries of leave programs: From this registry, we identified participants for experiment 2 as BPS contributors who had requested or were benefiting from maternity or paternity leave five months before messages were sent. A sample of men and women using or with an approved request for paternity or maternity leave was taken. Men and women strata were randomly assigned to receive one of the three messages: information (T1), testimony (T2), or planning (T3).

Finally, we rely on additional administrative records to analyze the medium-term effects of the intervention on effective use of the parental leave. For all surveyed individuals, we obtained subsidy applications and access for the period up to nine months after the intervention from the BPS databases.¹⁰

3.4. Randomization checks

The estimation sample consists of 2,463 individuals, 858 men, and 1,605 women. 1,221 correspond to Experiment 1, from the sample of formal employees of reproductive age. The remaining 1,242 corresponds to Experiment 2, from the sample of recent parents benefiting from maternal or paternal leave. Table B.1 in the Appendix details the sample size for each experiment and treatment arm by sex.

We use individuals' characteristics to check the sample balance across treatment arms. Tables B.2 to B.4 in the Appendix show the balance test results for each sample. For Experiment 1, we found no statistically significant differences in covariates by treatment arm. For Experiment 2, we tested 15 mean differences (5 variables between 3 treatment groups). We found a lack of balance for men and women in one variable (tertiary education), within the tolerance level of 10%. All variables are included in the regression as controls to account for potential imbalances.

3.5. Descriptive statistics

This section presents descriptive statistics from the impact variables collected in the post-intervention survey. Figure 2 shows responses on recalling receiving the message by experiment. On average, 38.5% of

¹⁰ We consider individuals who applied for the benefit between September 1, 2021, and June 6, 2022.

treated individuals recall having received the message. Among those in experiment 1, individuals in the treatment group were 18 percentage points (pp) more likely to recall having received the messages than those in the control group. Recall is higher among individuals in experiment 2, consistent with recent parents being more interested in the topic than other individuals of reproductive age. For experiment 2, those who received the planning message were 15 pp less likely to recall having received the message. For both experimental samples and all treatment arms, women recall to a greater extent than men.

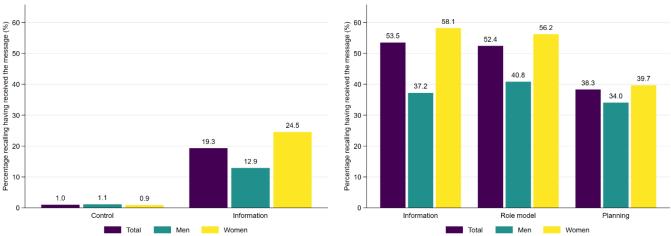


Figure 2. Percentage of individuals who recall receiving the message, by treatment arm and sex. (a) Experiment 1 (b) Experiment 2

Notes: The figures show individuals' responses to recalling receiving the message by sex. The estimation sample consists of 1,221 individuals in experiment 1 (554 men and 667 women), and 1,242 in experiment 2 (304 men and 938 women). Data includes all surveyed individuals. Source: Post-intervention survey.

Individuals were also asked if they (i) knew or had heard about the parental leave program (Overall), and then were asked about specific characteristics such as (ii) 100% wage replacement rate (Wages); (iii) start date of parental leave (Start date); (iv) duration of the subsidy (Duration); (v) who mother or father can apply (Beneficiary); and (vi) if the leave can be alternated between mother and father (Sharing). Figure 3 shows individuals' responses regarding knowledge of the parental leave program.¹¹ On average, 71.3% of individuals declare knowing the program. While the fact that parental leave can be used by both mothers and fathers is one of the best-known characteristics (Beneficiary), that they can use it alternately is one of the least known (Sharing). In general, knowledge is greater among recent parents (experiment 2) and women.

¹¹ Individuals' responses separated by control and different types of treatment are reported in Figure B3 in the Appendix.

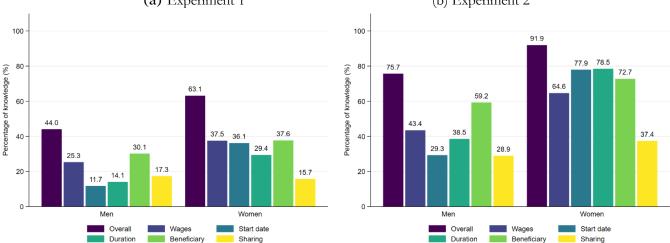


Figure 3. Knowledge of parental leave characteristics by sex. (a) Experiment 1 (b) Experiment 2

Notes: The figures show individuals' responses regarding knowledge of the parental leave program by sex. The estimation sample consists of 1,221 individuals in experiment 1 (554 men and 667 women), and 1,242 in experiment 2 (304 men and 938 women). Data includes all surveyed individuals. Source: Post-intervention survey.

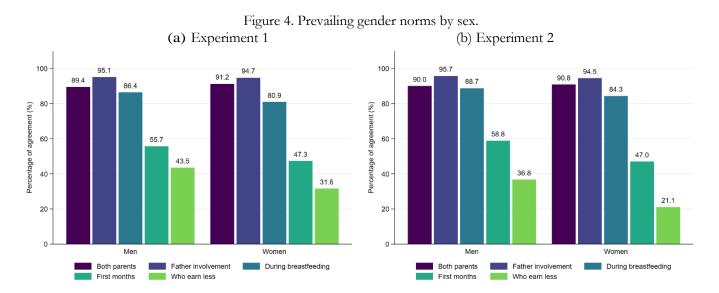
Regarding gender norms, individuals' were asked about the level of agreement with five statements: (i) `It is important for the baby that both parents use the parental leave' (Both parents); (ii) `The father should take the opportunity of staying at home and taking care of the baby' (Father involvement); (iii) `Women should take care of their baby during breastfeeding' (During breastfeeding); (iv) `Women should take care of their baby during the first months' (First months); and (v) `The benefit should be used by the parent that earns the less' (Who earn less).¹² Figure 4 shows the percentage of individuals responding that agree with each of the five statements by sex.¹³ There is a high level of agreement with the importance of sharing the parental leave program and with father involvement in childcare (i.e., more progressive perceptions) among both men and women, and for both experiments. However, this is not consistent with the also high level of agreement that it is the mother who should use the parental leave during breastfeeding and the first months of the baby. There is variation in the level of agreement with the statement about who should use the parental leave according to wage level. There is a lower level of agreement among women and in the recent parent's sample (Experiment 2).

Figure 5 shows individuals' responses on decisions made or about to make regarding parental leave takeup.¹⁴ Among men, the more frequent responses are that both mother and father, or only his partner (mother) is going to use the parental leave. Consistently, among women, the more frequent ones are that only herself

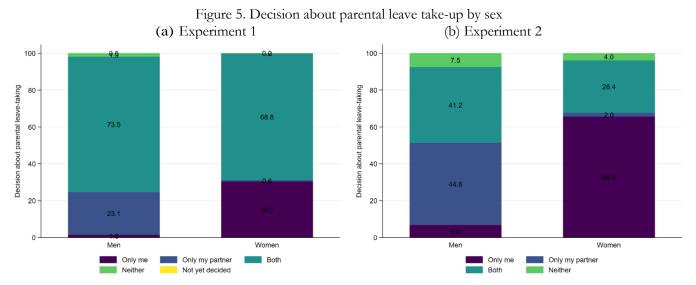
¹² Answer options are 1 (Mostly disagree), 2 (Neutral), and 3 (Mostly agree). For the descriptive and regression analysis we computed a dummy variable indicating whether the individual responded "Mostly agree" or not.

 ¹³ Individuals' responses for each treatment arm and sex are reported in Figure B 3 in the Appendix.
¹⁴ Individuals' responses for each treatment arm and sex are reported in Figure B 4 in the Appendix.

(mother), or both mother and father are going to use the parental leave. There are strong differences among the two experiments. In particular, the percentage of both men and women declaring that both are taking the parental leave program is much higher in Experiment 1. That can be partly explained by the fact that this sub-sample is composed of individuals of reproductive age, thus likely to become parents in the future. So it is a hypothetical decision for individuals in experiment 1 and an actual decision already made for those in experiment 2.



Notes: The figures show individuals' agreement with the five statements regarding gender norms by sex. The estimation sample consists of 1,221 individuals in experiment 1 (554 men and 667 women), and 1,242 in experiment 2 (304 men and 938 women). Data includes all surveyed individuals. Source: Post-intervention survey.



Notes: The figures show individuals' responses on decisions made or about to make regarding parental leave-taking by sex. The estimation sample consists of 1,221 individuals in experiment 1 (554 men and 667 women), and 1,242 in experiment 2 (304 men and 938 women). Data includes all surveyed individuals. Source: Post-intervention survey.

Finally, Table 2 shows individuals' effective use of parental leave up to nine months after the intervention. Parental leave take-up is higher among women for all treatment arms compared to men. There are strong differences by experiment, and the percentage of both men and women that made use of the parental leave program is much higher in Experiment 2. That can be explained by the fact that this sub-sample is composed of individuals that are already parents. Moreover, the demand for parental leave is slightly higher in the treated group in Experiment 1 for both men and women, and in Experiment 2 among men.

Experiment	Intervention	Ν	len	Women		
1	Control	0	0,0%	4	1%	
1	Information	1	0,4%	8	2,4%	
	Information	1	1,1%	177	57,1%	
2	Testimony	3	2,8%	186	58,9%	
	Planning	7	6,7%	175	56,1%	

Table 2. Medium-term effective use of parental leave by treatment arm and sex

Notes: The table shows individuals' effective use of parental leave between 1st September 2021 and 7th June 2022 for each treatment arm and sex. The estimation sample consists of 1,221 individuals in experiment 1 (554 men and 667 women), and 1,242 in experiment 2 (304 men and 938 women). Data includes all surveyed individuals. Source: Post-intervention survey.

3.6. Empirical strategy

To investigate the effects of providing information through a text message campaign, we estimate the following equation separately for men and women:

$$y_i^g = \propto^g + \sum_t \beta_t^g I(T_i^g = t) + \gamma^g X_i^g + \partial_s + \varepsilon_i^g$$

where y_i^g is the outcome of interest for individual *i* of gender *g*. T_i^g is a set of treatment dummies that varies among experiments. For experiment 1 (formal workers of reproductive age), β_t when t=1 identifies the effects of receiving the message with information on the parental leave program. The omitted group is in this case the control group. For Experiment 2 (recent parents), we have no pure control and will have three relevant coefficients β_t for t=1, 2, 3, identifying the effects of (1) having received the role model text message compared to the information one, (2) the planning message compared to the information one, (3) and the role model message compared to the planning one. X_i^g is a vector of individual control variables, including age, nationality, geographic region, cohabiting status, maximum educational level, previous childbirths, and pregnancy status (these two last variables only for experiment 1's sample). ∂_s are sample strata fixed effects and ε_i^g robust standard errors.

4. Results

This section presents the main results by sex of participants. We start by showing the effects of the intervention on the knowledge of the program, agreement with gender norms, and parental take-up rate in Experiment 1 and then in Experiment 2. Finally, we analyze the sensitivity of the main results to different specifications as robustness checks.

4.1. Effects on formal employees of reproductive age

Knowledge of the program

Table 3 reports the estimates for parental leave knowledge separately by sex and for each experiment subsample. Coefficients are the result of regressing each characteristic of the parental leave program on a series of dummy variables indicating the treatment arm depending on the experiment's type, and individual control variables as detailed in the previous section.

Results show that having received the message with information about the parental leave program has a positive and statistically significant effect on the program's knowledge, both among men and women. The effect is more widespread among women, for whom we report positive effects on overall knowledge, start date of parental leave, duration, that both mother and father can use the benefit, and that they can use it alternately. The only dimension for which we fail to find a significant effect is knowing about the 100% wage replacement rate. For men we only find significant and positive effect on knowing that both mother and father can use the benefit. So, having received the message increases men's knowledge that they are potential beneficiaries of the parental leave by 8.3 percentage points (pp). The magnitude is quite important considering that the control mean is 26.2%. Despite finding effects in only one dimension for men, we stress that this is a key finding because nowadays fathers represent only 2% of total beneficiaries. Moreover, these effects are found in the sample of formal employees of reproductive age, who are likely to become parents in the near future.

	Panel A: Men							
	Overall	Wages	Start date	Duration	Beneficiary	Sharing		
Information (M1)	0.064	0.048	-0.043	-0.038	0.083**	0.027		
	(0.040)	(0.037)	(0.027)	(0.029)	(0.038)	(0.032)		
Observations	554	554	554	554	554	554		
R-squared	0.114	0.047	0.055	0.101	0.090	0.056		
Control mean	0.411	0.229	0.138	0.160	0.262	0.160		

Table 3. Effects on knowledge, experiment 1

		Panel B: Women							
	Overall	Wages	Start date	Duration	Beneficiary	Sharing			
Information (M1)	0.187***	0.056	0.115***	0.074**	0.136***	0.088***			
	(0.036)	(0.037)	(0.036)	(0.034)	(0.036)	(0.028)			
Observations	666	666	666	666	666	666			
R-squared	0.083	0.061	0.079	0.091	0.106	0.072			
Control mean	0.536	0.345	0.301	0.253	0.304	0.110			

Notes: The table shows the results of regressing the variables regarding knowledge of the parental leave program on individual control variables (age, nationality, geographic region, cohabiting status, maximum educational level), and sample strata fixed effects. Robust standard errors reported in parenthesis. ***significant at the 1% level, **5% level, *10% level. The estimation sample consists of 1,221 individuals in experiment 1 (554 men and 667 women). Source: Post-intervention survey.

Gender norms

Table 4Error! Reference source not found. shows the effects of the intervention on gender norm attitudes. The outcome variables are a series of dummies indicating that the individual mostly agrees with the stated gender norm. It is important to recall that there is a high level of agreement with the more progressive perceptions regarding childcare among both men and women, and for both experiments (as shown in Figure 4). Therefore, there is a small room for the intervention to generate an effect on these dimensions.

For women in experiment 1 we find that having received the message with information reduces the level of agreement with the statement `Women should take care of their baby during the first months'. No effects were found for men.

Parental leave usage

Finally, we report the effects of the intervention on the intention to use parental leave and effective use by sex. Table 5 shows the results on the outcome variables indicating whether the couple talked or is going to talk about how to use the parental leave (Planning), decided or will decide to use it both by the mother and father (Use both), use it only by him(her)self (Use only me), or only his(her) partner (Use only partner), as well as a variable indicating whether the person effectively applied and became beneficiary of the parental leave after the intervention (Effective use). We find no effect of the intervention on planning, intention of parental leave usage, and effective use among both women and men in either experiment.

			Panel A: Men		
	Both	Father	During	First	Who earn
	parents	involvement	breastfeeding	months	less
Information (M1)	-0.018	-0.003	-0.021	-0.014	-0.000
	(0.026)	(0.018)	(0.029)	(0.041)	(0.042)
Observations	549	550	551	546	513
R-squared	0.030	0.017	0.056	0.105	0.090
Control mean	0.904	0.952	0.875	0.563	0.434
		F	anel B: Women		
	Both	Father	During	First	Who earn
	parents	involvement	breastfeeding	months	less
Information (M1)	0.031	0.012	0.006	-0.083**	-0.005
	(0.022)	(0.017)	(0.031)	(0.037)	(0.036)
Observations	660	660	655	654	623
R-squared	0.030	0.041	0.043	0.129	0.083
Control mean	0.898	0.943	0.807	0.512	0.317

Table 4. Effects on gender norms attitudes, experiment 1

Notes: The table shows the results of regressing the variables regarding agreement with gender norm attitudes on individual control variables (age, nationality, geographic region, cohabiting status, maximum educational level), and sample strata fixed effects. Robust standard errors reported in parenthesis. ***significant at the 1% level, **5% level, *10% level. The estimation sample consists of 1,221 individuals in experiment 1 (554 men and 667 women). Source: Post-intervention survey.

Table 5. Effects on intention to use parental leave and effective use, experiment 1

			Panel A:	Men	
	Planning	Use both	Use only me	Use only partner	Effective use
Information	0.002	-0.008	0.007	0.011	0.003
(M1)	(0.028)	(0.038)	(0.010)	(0.037)	(0.003)
Observations	537	528	528	528	554
R-squared	0.095	0.047	0.065	0.045	0.039
Control mean	0.873	0.742	0.0115	0.223	0
			Panel B: W	omen	
	Planning	Use both	Use only me	Use only partner	Effective use
Information	0.013	0.014	-0.018	0.006	0.011
(M1)	(0.030)	(0.036)	(0.036)	(0.006)	(0.011)
Observations	654	649	649	649	666
R-squared	0.069	0.065	0.064	0.018	0.037
Control mean	0.811	0.683	0.311	0.00305	0.012

Notes: The table shows the results of regressing the variables regarding intention to use parental leave on individual control variables (age, nationality, geographic region, cohabiting status, maximum educational level), and sample strata fixed effects. Robust standard errors reported in parenthesis. ***significant at the 1% level, **5% level, *10% level. The estimation sample consists of 1,221 individuals in experiment 1 (554 men and 667 women). Source: Post-intervention survey.

4.2. Effects on recent parents

In this subsection we report the results of the intervention for individuals in experiment 2, that is, formal workers who recently were parents and are benefiting from maternal and paternal leave. Recall that for this sample of participants there is no pure control group (i.e., individuals who did not receive a message). Thus, is not possible to evaluate the effect of having received the message. Alternatively, for this group of individuals, it is possible to compare the differential effects between the three messages.

Knowledge of the program

Table 6 shows more modest results on parental leave knowledge compared to experiment 1. This can be partly explained because knowledge of the program in this sub-sample is much higher than in Experiment 1, and also because all individuals in this experiment received a message with basic information about the program. We only find a significant and negative effect on knowing about the 100% wage replacement rate for men.

	Tabl	e 6. Effects o	on knowledge,	experiment 2					
		Panel A: Men							
	Overall	Wages	Start date	Duration	Beneficiary	Sharing			
Role model (M2)	0.020	-0.105	-0.056	-0.105	0.010	0.016			
	(0.059)	(0.075)	(0.065)	(0.070)	(0.071)	(0.068)			
Planning (M3)	-0.026	-0.141**	-0.001	-0.034	-0.037	-0.014			
	(0.066)	(0.072)	(0.067)	(0.072)	(0.077)	(0.069)			
Observations	304	304	304	304	304	304			
R-squared	0.235	0.231	0.217	0.225	0.233	0.195			
Control mean	0.723	0.479	0.287	0.394	0.564	0.266			
Diff M2-M3	0.0459	0.0362	-0.0545	-0.0713	0.0466	0.0304			
p-val	0.432	0.608	0.407	0.301	0.513	0.645			
			Panel I	B: Women					
	Overall	Wages	Start date	Duration	Beneficiary	Sharing			
Role model (M2)	-0.000	-0.010	0.012	-0.004	-0.006	-0.027			
	(0.021)	(0.038)	(0.033)	(0.032)	(0.035)	(0.040)			
Planning (M3)	-0.013	-0.020	0.026	-0.036	-0.049	0.014			
	(0.022)	(0.038)	(0.032)	(0.033)	(0.036)	(0.039)			
Observations	936	936	936	936	936	936			
R-squared	0.097	0.095	0.135	0.094	0.097	0.068			
Control mean	0.926	0.661	0.774	0.797	0.748	0.387			
Diff M2-M3	0.0133	0.0107	-0.0141	0.0325	0.0429	-0.0410			
p-val	0.542	0.782	0.665	0.328	0.231	0.294			

Table 6. Effects on knowledge, experiment 2

Notes: The table shows the results of regressing the variables regarding knowledge of the parental leave program on individual control variables (age, nationality, geographic region, cohabiting status, maximum educational level), and sample strata fixed effects. Robust standard errors reported in parenthesis. ***significant at the 1% level, **5% level, *10% level. The estimation sample consists of 1,242 individuals in experiment 2 (304 men and 938 women). Source: Post-intervention survey.

Gender norms

Table 7 shows the effects of the intervention on gender norm attitudes for individuals in experiment 2. Among fathers, the message about couple planning (M3) helped reduce traditional gender norms compared to the information and role model messages. It increased the level of agreement with the statement `It is

important for the baby that both parents use the parental leave'. However, we also find unintended effects by increasing the level of agreement with the statement `Women should take care of their baby during breastfeeding'. Mentioning breastfeeding in the planning message seems to backfire. The hypothesis is that this message produced a strong association between parental leave and breastfeeding; thus, mothers are identified as the main caregivers during this period.

			Panel A: Men		
	Both	Father	During	First	Who earn
	parents	involvement	breastfeeding	months	less
Role model (M2)	-0.001	-0.002	0.031	0.014	-0.034
	(0.049)	(0.030)	(0.052)	(0.075)	(0.070)
Planning (M3)	0.081**	0.016	0.133***	-0.081	0.000
	(0.041)	(0.030)	(0.046)	(0.077)	(0.075)
Observations	300	303	302	301	291
R-squared	0.155	0.264	0.153	0.172	0.229
Control mean	0.883	0.936	0.830	0.596	0.402
Diff M2-M3	-0.0822	-0.0181	-0.102	0.0953	-0.0341
p-val	0.0327	0.542	0.0257	0.188	0.621
		F	anel B: Women		
	Both	Father	During	First	Who earn
	parents	involvement	breastfeeding	months	less
Role model (M2)	-0.023	0.002	-0.047	-0.018	-0.022
	(0.024)	(0.019)	(0.030)	(0.040)	(0.034)
Planning (M3)	0.013	-0.003	-0.038	-0.065	-0.034
	(0.023)	(0.019)	(0.029)	(0.040)	(0.033)
Observations	925	935	929	924	890
R-squared	0.057	0.024	0.041	0.104	0.116
Control mean	0.913	0.945	0.869	0.481	0.229
Diff M2-M3	-0.0360	0.00430	-0.00944	0.0472	0.0122
p-val	0.138	0.816	0.765	0.241	0.709

Table 7. Effects on gender norms attitudes, experiment 2

Notes: The table shows the results of regressing the variables regarding agreement with gender norm attitudes on individual control variables (age, nationality, geographic region, cohabiting status, maximum educational level), and sample strata fixed effects. Robust standard errors reported in parenthesis. ***significant at the 1% level, **5% level, *10% level. The estimation sample consists of 1,242 individuals in experiment 2 (304 men and 938 women). Source: Post-intervention survey.

Parental leave usage

Finally, we report the effects of the intervention on parental leave usage by sex in experiment 2. Table 8 shows the results on the outcome variables indicating whether the couple talked or is going to talk about how to use the parental leave (Planning), decided or will decide to use it both mother and father (Use both), use it only him(her)self (Use only me), or only his(her) partner (Use only partner), as well as a variable indicating whether the person effectively applied and became beneficiary of the parental leave after the intervention (Effective use).

The intervention was successful in altering the intention of parental leave usage among fathers. However, we find no effect of the intervention on planning nor effective use among both women and men.¹⁵ There is evidence of a significant increase in the probability of using it only himself for fathers in experiment 2 who received the role model message compared to the planning message.¹⁶ The emphasis on the father's role as caregiver appears to have had a positive effect on the intention to use the parental leave by men.

			Panel A	A: Men	
	Planning	Use both	Use only me	Use only partner	Effective use
Role model (M2)	0.046	0.007	0.045	-0.046	0,003
	(0.078)	(0.072)	(0.045)	(0.077)	0,016
Planning (M3)	-0.041	0.071	-0.039	-0.022	0,014
	(0.081)	(0.077)	(0.039)	(0.080)	1,017
Observations	302	294	294	294	304
R-squared	0.105	0.192	0.136	0.149	0,544
Control mean	0.511	0.407	0.0659	0.440	0,011
Diff M2-M3	0.0872	-0.0641	0.0832**	-0.0239	-0,011
p-val	0.253	0.385	0.0387	0.753	0,642
		Pa	anel B: Women		
	Planning	Use both	Use only me	Use only partner	Effective use
Role model (M2)	-0.002	-0.029	-0.006	0.017	0,010
	(0.041)	(0.037)	(0.039)	(0.011)	0,039
Planning (M3)	0.009	-0.048	0.041	0.004	-0,003
	(0.042)	(0.036)	(0.038)	(0.010)	0,039
Observations	922	928	928	928	936
R-squared	0.056	0.092	0.097	0.147	0,115
Control mean	0.502	0.304	0.647	0.0162	0,571
Diff M2-M3	-0.0110	0.0190	-0.0464	0.0127	0,012
p-val	0.789	0.598	0.228	0.307	0,754

Table 8. Effects on intention to use parental leave, experiment 2

Notes: The table shows the results of regressing the variables regarding intention to use parental leave on individual control variables (age, nationality, geographic region, cohabiting status, maximum educational level), and sample strata fixed effects. Robust standard errors reported in parenthesis. ***significant at the 1% level, **5% level, *10% level. The estimation sample consists of 1,242 individuals in experiment 2 (304 men and 938 women). Source: Post-intervention survey.

4.3. Robustness checks

Finally, we estimate some alternative model specifications in order to provide robustness to the main results.

We first re-estimate the main specification excluding the set of control variables. Then we estimate the same

 $^{^{\}rm 15}$ As shown in

Table B. 8, the specification with standard errors clustered at strata level shows that the message about couple planning (M3) helped increase the effective use of parental leave among fathers compared to the information message. The magnitude of this effect (0.057) is quite important given the low take-up among fathers in the control group (0.011).

¹⁶ This effect holds when estimating the results using a multinomial logit for a 4-category variable instead of separate binary outcomes. Results available upon request.

model specification with clustered standard error at the strata level instead of robust standard errors. We also show the results of estimating a Probit model instead of a standard OLS. Finally, we correct for multiple hypothesis testing using the Romano and Wolf stepdown adjusted p-values. Estimations are reported in Table B. to

Table B. 10 in the Appendix. Overall, results provide evidence on the robustness of the main results.

For the experiment 1 (formal workers of reproductive age), all reported effects are robust to the alternative specifications. For men in the experiment 2 (formal workers recent parents), the positive effect reported on knowing about the 100% wage replacement rate, and in the level of agreement with the statement `It is important for the baby that both parents use the parental leave', turn non-significant in the specification without controls. The positive effect in the probability of using the parental leave only by fathers turns non-significant in the specification using clustered errors.

When introducing a multiple hypothesis testing correction, in experiment 1 all reported positive effects on knowledge for women remain significant. The positive effect on knowledge among men and the positive effect regarding gender norms among women present p-values not far from the 10% significance level (0.129 and 0.139 respectively). For experiment 2, the negative effect on gender norms regarding breastfeeding for fathers remains significant. We find no other outcome effects.

5. Conclusion

Parental leave has been increasingly used as a family policy to facilitate childcare and promote a more equal distribution of household and care tasks. However, across the world, fathers' leave take-up, even when available to them, remains low (Karu and Tremblay, 2018). Advanced economies have had some success providing incentives to fathers to take more parental leave through monetary bonuses or directly by assigned reserved number of days specifically for each parent (Kolowski et al., 2021, Ziegler and Bamieh 2023). In this paper, we study the effects of an information intervention that used email and text-messaging to increase awareness of and intent to use parental leave by men and women in Uruguay. The intervention targeted formal workers of reproductive age who were contributing to the Social Security Institute (BPS). Two experiments were implemented, one with workers who had recently become parents, and another with those in the reproductive age group. The latter were randomly allocated to receive a message with information about the parental leave program. New parents were randomly assigned to receive one of three possible messages: the same information to information about the program either highlighted the benefits of fathers' involvement in childcare or a message that highlighted the importance of planning for and sharing childcare among parents.

We document that the intervention was successful in addressing some pre-identified barriers to program enrollment: lack of knowledge and misperceptions of the program features, beliefs about who should take the subsidy, and intention to use the subsidy or its effective use. For female and male formal workers of reproductive age, the informational message increased awareness of the parental leave program. The effect is stronger among women, while among men the intervention increased their knowledge that both mother and father can use the benefit. Regarding gender norms, having received the message reduced women's level of agreement with the statement `Women should take care of their baby during the first months'. No effects were found for men. Furthermore, we find no effect of the intervention on planning, intention of parental leave usage, and effective use among either women or men.

For recent parents, we find more modest effects on knowledge of parental leave compared to Experiment 1. This can be due to a much higher knowledge of the program in this subsample than among the general population (as it is more salient for their immediate decision-making and planning). In addition, as all participants in this experiment received basic information about the program, we cannot compare it with a condition where no information was sent. Regarding gender norms, the message about planning for care distribution helped reduce traditional gender norms views among fathers. It increased agreement with the statement `It is important for the baby that both parents use the parental leave', compared to those who received the other two messages. However, mentioning breastfeeding in this message (see appendix for full message) seems to invoke a strong association of parental leave and breastfeeding, acting as a cue to the mothers' feeding role and the strongly promoted message of the importance of breastfeeding. Finally, we find no effect of the intervention on the likelihood that the couple reported talking or planning to talk about how to use the parental leave among both women and men, but the intervention was successful in altering the intention of parental leave effect on the intention to use parental leave by men.

Taken together, our results contribute to the literature and policy discussion showing that low-cost and lowintensity interventions such as SMS and emails can be powerful instruments to improve awareness and intention to use benefits such as parental leave. Moreover, to the extent that the intervention successfully made men more aware of the leave benefit they are entitled to, and increased take-up of the parental leave program among fathers, it also helped to change or question traditional gender roles division about care and changed gendered attitudes toward parental leaves among women. Our results provide encouraging evidence that similar interventions have the potential to shift default gendered behaviors and norms and to promote gender equality.

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Appendix A

A.1. Information Message



Hello, [name]!

¿Did you know that if you are about to become a mother or father both can spend more time with your child without losing salary?

With the Parental Leave, mothers and fathers:

- Can work half of the hours and still get paid
- Can share alternately after taking maternity leave and until the baby is 6 months old.
- It is added to maternity and paternity leaves.

Don't miss this opportunity! Find information here



A.2. Testimony Message



Hello [name]!

Hundreds of men in Uruguay have already benefited from the parental and it has changed their lives. We share the experience of Pablo, Sofia's father:

"I am 33 years old and I am a worker. When I took the leave it was hard at first and I thought I wasn't going to be able to do it. Little by little I understood how to take care of Sofi and it was unforgettable because she let me participate in her life from the beginning and now I have a stronger bond with her and with my wife. I always tell my colleagues to talk about it with their partner and cheer up"

With the Parental Leave, mothers and fathers:

- Can work half of the hours and still get paid
- Can share alternately after taking maternity leave and until the baby is 6 months old.
- It is added to maternity and paternity leaves.

Don't miss this opportunity! Find information here



A.3. Planning Message



Hello [name]!

Do you think that both mothers and fathers should participate in the upbringing of their babies? Sharing care in their first months is possible with the parental leave. It is important to discuss it with time:

- Talk about the challenges you will face and how you can support each other by dividing up the tasks.
- Find out how the father can take charge of the feeding, even during breastfeeding.
- Agree how many days of leave you want to share. You can change it at any time.

With the Parental Leave, mothers and fathers:

- Can work half of the hours and still get paid
- Can share alternately after taking maternity leave and until the baby is 6 months old.
- It is added to maternity and paternity leaves.

Don't miss this opportunity! Find information here



Appendix B

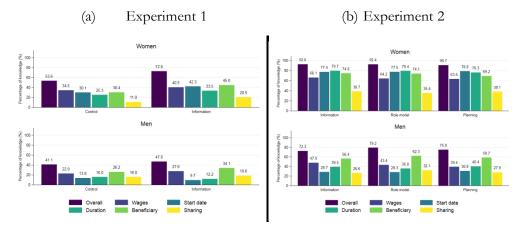
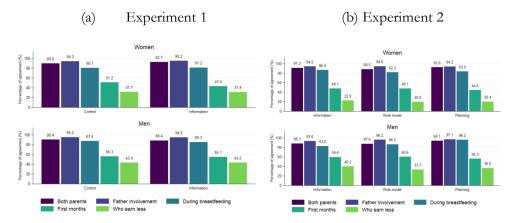


Figure B1. Knowledge of parental leave characteristics by treatment arm and sex

Notes: The figures show individuals' responses regarding knowledge of the parental leave program for each treatment arm and sex. The estimation sample consists of 1,221 individuals in experiment 1 (554 men and 667 women), and 1,242 in experiment 2 (304 men and 938 women). Data includes all surveyed individuals. Source: Post-intervention survey.

Figure B2. Prevailing gender norms by treatment arm and sex



Notes: The figures show individuals' agreement with the five statements regarding gender norms for each treatment arm and sex. The estimation sample consists of 1,221 individuals in experiment 1 (554 men and 667 women), and 1,242 in experiment 2 (304 men and 938 women). Data includes all surveyed individuals. Source: Post-intervention survey.

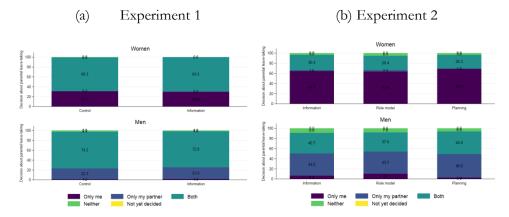


Figure B3. Decision about parental leave take-up by treatment arm and sex

Notes: The figures show individuals' responses on decisions made or about to make regarding parental leave-taking for each treatment arm and sex. The estimation sample consists of 1,221 individuals in experiment 1 (554 men and 667 women), and 1,242 in experiment 2 (304 men and 938 women). Data includes all surveyed individuals. Source: Post-intervention survey.

		Men	Women	Т	otal
Export 1	Control	275	336	611	1,221
Experiment 1	Message 1	279	331	610	1,221
	Message 1	94	310	404	
Experiment 2	Message 2	106	316	422	1,242
	Message 3	104	312	416	
	Total	858	1,605	2,4	463

Notes: The table shows the sample size of each treatment arm by sex. The estimated Pearson χ^2 of the distributions of each experiment's population by sex is 0.0655 (p-value 0.798) for experiment 1 and 0.4753 (p-value 0.788) for experiment 2. Source: data includes all surveyed individuals.

Table B.2: Balancing tests, experiment 1							
		Male			Female		
	Control	Treatment	(T-C)	Control	Treatment	(T-C)	
Uruguayan	0.94	0.95	0.01	0.96	0.95	-0.01	
Age (years)	33.20	32.89	-0.31	32.60	32.79	0.20	
Capital city	0.45	0.40	-0.05	0.46	0.48	0.02	
Tertiary education	0.37	0.39	0.02	0.46	0.46	0.00	
Cohabiting	0.64	0.65	0.01	0.63	0.64	0.01	
Has child	0.59	0.58	-0.01	0.65	0.67	0.02	
Pregnant	0.03	0.04	0.01	0.02	0.04	0.02	
Obs.	275	279	554	336	331	667	

Notes: The table shows the mean of the covariates for the control and treatment groups. Significance level is the result of separate regression of the treatment effect on the relevant covariate and sample strata fixed effects. ***significant at the 1% level, **5% level, *10% level. Source: data includes all surveyed individuals.

Table B. 3: Balancing tests, men in experiment 2

	Message 1	Message 2	Message 3	(M1-M2)	(M1-M3)	(M2-M3)
Uruguayan	1.00	1.00	1.00	0.00	0.00	0.00
Age (years)	31.78	32.87	33.82	-1.09	-2.04	-0.95
Capital city	0.52	0.49	0.40	0.03	0.12	0.09
Tertiary education	0.30	0.40	0.29	-0.10	0.01	0.11*
Cohabiting	0.95	0.96	0.92	-0.02	0.02	0.04
Obs.	94	106	104	200	198	210

Notes: The table shows the mean of the covariates for the control and treatment groups. Significance level is the result of separate regression of the treatment effect on the relevant covariate and sample strata fixed effects. ***significant at the 1% level, **5% level, *10% level. Source: data includes all surveyed individuals.

Table B. 4: Balancing tests, women in experiment 2

	Message 1	Message 2	Message 3	(M1-M2)	(M1-M3)	(M2-M3)
Uruguayan	1.00	1.00	1.00	0.00	0.00	0.00
Age (years)	32.17	31.72	32.14	0.45	0.03	-0.42
Capital city	0.50	0.44	0.49	0.05	0.01	-0.04
Tertiary education	0.55	0.54	0.50	0.01	0.05	0.04
Cohabiting	0.91	0.89	0.87	0.02	0.04*	0.02
Obs.	310	316	312	626	622	628

Notes: The table shows the mean of the covariates for the control and treatment groups. Significance level is the result of separate regression of the treatment effect on the relevant covariate and sample strata fixed effects. ***significant at the 1% level, **5% level, *10% level. Source: data includes all surveyed individuals.

Table B.5: Robustness	checks:	Effects	on knowledge	, experiment 1
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	Overall	Wages	Start date	Duration	Beneficiary	Sharing
Panel A: Without control	ls					
Men: Message 1	0.059	0.047	-0.041	-0.038	0.079**	0.026
Women: Message 1	0.192***	0.060	0.122***	0.082**	0.147***	0.095***
Panel B: Clustered stand	lard errors					
Hombres: Mensaje 1	0.064	0.048	-0.043	-0.038	0.083**	0.027
Mujeres: Mensaje 1	0.187***	0.056	0.115***	0.074**	0.136**	0.088**
Panel C: Probit						
Hombres: Mensaje 1	0.182	0.153	-0.245*	-0.213	0.260**	0.110
Mujeres: Mensaje 1	0.522***	0.158	0.325***	0.228**	0.394***	0.420***

Notes: The table shows the results of the robustness checks. Panel A corresponds to the alternative specification excluding the set of control variables. Panel B corresponds to the model main specification with clustered standard error at the strata level instead of robust standard errors. Panel C corresponds to the main specification estimated using Probit model instead of a standard OLS. The estimation sample consists of 1,221 individuals in experiment 1 (554 men and 667 women). Source: data includes all surveyed individuals.

	Both	Father	During		
	parents	involvement	breastfeeding	First months	Who earn less
Panel A: Without control	ols				
Men: Message 1	-0.020	-0.003	-0.023	-0.011	0.001
Women: Message 1	0.029	0.009	0.006	-0.078**	-0.004
Panel B: Clustered stan	dard errors				
Hombres: Mensaje 1	-0.018	-0.003	-0.021	-0.014	-0.000
Mujeres: Mensaje 1	0.031*	0.012	0.006	-0.083*	-0.005
Panel C: Probit					
Hombres: Mensaje 1	-0.104	-0.035	-0.107	-0.040	0.005
Mujeres: Mensaje 1	0.223	0.161	0.005	-0.228**	0.001

Table B.6: Robustness checks: Effects on gender norms attitudes, experiment 1

Notes: The table shows the results of the robustness checks. Panel A corresponds to the alternative specification excluding the set of control variables. Panel B corresponds to the model main specification with clustered standard error at the strata level instead of robust standard errors. Panel C corresponds to the main specification estimated using Probit model instead of a standard OLS. The estimation sample consists of 1,221 individuals in experiment 1 (554 men and 667 women). Source: data includes all surveyed individuals.

Table B. 5: Robustness checks: Effects on intention to use parental leave, experiment 1

	Planning	Use both	Use only me	Use only	Effective
	U		•	partner	use
Panel A: Without control	ls				
Men: Message 1	-0.006	-0.015	0.007	0.016	0.004
Women: Message 1	0.009	0.010	-0.013	0.006	0.012
Panel B: Clustered stand	ard errors				
Hombres: Mensaje 1	0.002	-0.008	0.007	0.011	0.003
Mujeres: Mensaje 1	0.013	0.014	-0.018	0.006	0.011
Panel C: Probit					
Hombres: Mensaje 1	0.013	-0.025	0.370	0.032	
Mujeres: Mensaje 1	0.044	0.036	-0.049	0.560	

Notes: The table shows the results of the robustness checks. Panel A corresponds to the alternative specification excluding the set of control variables. Panel B corresponds to the model main specification with clustered standard error at the strata level instead of robust standard errors. Panel C corresponds to the main specification estimated using Probit model instead of a standard OLS. The estimation sample consists of 1,221 individuals in experiment 1 (554 men and 667 women). Source: data includes all surveyed individuals.

Tab	le B. 6: Robust	ness checks: Ef	fects on knowle	dge, experimen	t 2	
	Overall	Wages	Start date	Duration	Beneficiary	Sharing
Panel A: Without controls						
Men: Role Model (M2)	0.069	-0.045	-0.004	-0.035	0.059	0.055
Men: Planning (M3)	0.027	-0.084	0.020	0.010	0.023	0.013
Men: M2-M3 (p-val)	0.466	0.561	0.697	0.501	0.595	0.510
Women: Role Model (M2)	-0.002	-0.019	0.001	-0.002	-0.008	-0.033
Women: Planning (M3)	-0.019	-0.027	0.014	-0.034	-0.056	-0.006
Women: M2-M3 (p-val)	0.445	0.839	0.691	0.343	0.181	0.484
Panel B: Clustered standard	errors					
Men: Role Model (M2)	0.020	-0.105**	-0.056	-0.105	0.010	0.016
Men: Planning (M3)	-0.026	-0.141*	-0.001	-0.034	-0.037	-0.014
Men: M2-M3 (p-val)	0.481	0.631	0.439	0.257	0.456	0.656
Women: Role Model (M2)	-0.000	-0.010	0.012	-0.004	-0.006	-0.027
Women: Planning (M3)	-0.013	-0.020	0.026	-0.036*	-0.049	0.014
Women: M2-M3 (p-val)	0.307	0.800	0.594	0.103	0.106	0.119
Panel C: Probit						
Men: Role Model (M2)	0.119	-0.288	-0.186	-0.337	0.044	0.069
Men: Planning (M3)	-0.091	-0.415**	-0.018	-0.138	-0.107	-0.059
Men: M2-M3 (p-val)	0.334	0.518	0.420	0.319	0.458	0.533
Women: Role Model (M2)	0.010	-0.040	0.038	-0.013	-0.018	-0.076
Women: Planning (M3)	-0.105	-0.064	0.095	-0.127	-0.152	0.028
Women: M2-M3 (p-val)	0.464	0.826	0.637	0.328	0.231	0.329

h: M2-M3 (p-val) 0.464 0.826 0.637 0.328 0.231 Notes: The table shows the results of the robustness checks. Panel A corresponds to the alternative specification excluding the set of control variables. Panel B corresponds to the model main specification with clustered standard error at the strata level instead of robust standard errors. Panel C corresponds to the main specification estimated using Probit model instead of a standard OLS. The estimation sample consists of 1,242 individuals in experiment 2

(304 men and 938 women). Source: data includes all surveyed individuals.

	. Robustiless encer	Father	During	1	
	Both parents	involvement	breastfeeding	First months	Who earn less
Panel A: Without controls					
Men: Role Model (M2)	-0.007	0.026	0.036	0.010	-0.065
Men: Planning (M3)	0.058	0.035	0.132***	-0.033	-0.036
Men: M2-M3 (p-val)	0.109	0.730	0.0133	0.536	0.664
Women: Role Model (M2)	-0.027	0.001	-0.047	0.000	-0.029
Women: Planning (M3)	0.015	-0.003	-0.031	-0.033	-0.025
Women: M2-M3 (p-val)	0.0707	0.832	0.583	0.411	0.903
Panel B: Clustered standard e	errors				
Men: Role Model (M2)	-0.001	-0.002	0.031	0.014	-0.034
Men: Planning (M3)	0.081*	0.016	0.133**	-0.081	0.000
Men: M2-M3 (p-val)	0.0312	0.552	0.00542	0.176	0.605
Women: Role Model (M2)	-0.023	0.002	-0.047*	-0.018	-0.022
Women: Planning (M3)	0.013	-0.003	-0.038	-0.065	-0.034
Women: M2-M3 (p-val)	0.216	0.848	0.762	0.0781	0.714
Panel C: Probit					
Men: Role Model (M2)	-0.010	-0.007	0.206	0.046	-0.112
Men: Planning (M3)	0.764**	0.271	0.941***	-0.219	0.041
Men: M2-M3 (p-val)	0.00915	0.462	0.0196	0.177	0.464
Women: Role Model (M2)	-0.142	0.035	-0.202	-0.051	-0.082
Women: Planning (M3)	0.085	-0.011	-0.170	-0.178*	-0.149
Women: M2-M3 (p-val)	0.121	0.777	0.796	0.232	0.589

Table B. 7: Robustness checks: Effects on gender norms attitudes, experiment 2

Notes: The table shows the results of the robustness checks. Panel A corresponds to the alternative specification excluding the set of control variables. Panel B corresponds to the model main specification with clustered standard error at the strata level instead of robust standard errors. Panel C corresponds to the main specification estimated using Probit model instead of a standard OLS. The estimation sample consists of 1,242 individuals in experiment 2 (304 men and 938 women). Source: data includes all surveyed individuals.

	Planning	Use both	Use only	Use only	Effective
			me	partner	use
Panel A: Without controls					
Men: Role Model (M2)	0.061	-0.028	0.041	-0.003	0.018
Men: Planning (M3)	-0.045	0.043	-0.036	0.020	0.057**
Men: M2-M3 (p-val)	0.129	0.304	0.0293	0.742	0.187
Women: Role Model (M2)	-0.008	-0.020	-0.011	0.013	0.018
Women: Planning (M3)	-0.010	-0.041	0.038	0.000	-0,01
Women: M2-M3 (p-val)	0.965	0.551	0.195	0.293	0.754
Panel B: Clustered standard of	errors				
Men: Role Model (M2)	0.046	0.007	0.045	-0.046	0.003
Men: Planning (M3)	-0.041	0.071	-0.039	-0.022	0.014
Men: M2-M3 (p-val)	0.230	0.441	0.116	0.804	0.467
Women: Role Model (M2)	-0.002	-0.029	-0.006	0.017*	0.010
Women: Planning (M3)	0.009	-0.048	0.041	0.004	-0,003
Women: M2-M3 (p-val)	0.835	0.516	0.208	0.392	0.613
Panel C: Probit					
Men: Role Model (M2)	0.126	0.009	0.319	-0.116	
Men: Planning (M3)	-0.097	0.194	-0.457	-0.050	
Men: M2-M3 (p-val)	0.241	0.352	0.0304	0.736	
Women: Role Model (M2)	-0.009	-0.091	-0.020	0.447*	
Women: Planning (M3)	0.020	-0.152	0.118	0.130	
Women: M2-M3 (p-val)	0.786	0.587	0.208	0.202	

Table B. 8: Robustness checks: Effects on intention to use parental leave, experiment 2

Notes: The table shows the results of the robustness checks. Panel A corresponds to the alternative specification excluding the set of control variables. Panel B corresponds to the model main specification with clustered standard error at the strata level instead of robust standard errors. Panel C corresponds to the main specification estimated using the Probit model instead of a standard OLS. The estimation sample consists of 1,242 individuals in experiment 2 (304 men and 938 women). Source: data includes all surveyed individuals.

		Men		Women
	Model	Romano-Wolf	Model	Romano-Wolf
Knowledge				
Overall	0,115	0,812	0,000	0,010
Wages	0,189	0,901	0,133	0,713
Start date	0,116	0,812	0,002	0,059
Duration	0,185	0,891	0,032	0,277
Beneficiary	0,028	0,297	0,000	0,010
Sharing	0,398	0,990	0,002	0,059
Gender norms				
Both parents	0,492	0,990	0,160	0,713
Father involvement	0,869	1,000	0,474	0,911
During breastfeeding	0,476	0,990	0,856	0,990
First months	0,739	1,000	0,026	0,267
Who earn less	0,998	1,000	0,891	0,990
Use				
Planning	0,945	1,000	0,672	0,970
Use both	0,826	1,000	0,688	0,970
Use only me	0,489	0,990	0,610	0,950
Use only my partner	0,761	1,000	0,309	0,832

Notes: The table shows the results of multiple hypothesis testing. Original model p-values are compared to Romano and Wolf stepdown adjusted p-values using the *nvol/2* Stata command. The RW is performed considering all 16 outcomes. All specifications include individual control variables (age, nationality, geographic region, cohabiting status, maximum educational level), and sample strata fixed effects. The estimation sample consists of 1,221 individuals in experiment 1 (554 men and 667 women). Source: Post-intervention survey.

		Men	-	Women
	Model	Romano-Wolf	Model	Romano-Wolf
Knowledge				
Overall M2	0,731	1,000	0,991	1,000
Overall M3	0,698	1,000	0,536	1,000
Wages M2	0,163	0,970	0,799	1,000
Wages M3	0,050	0,604	0,591	1,000
Start date M2	0,395	1,000	0,721	1,000
Start date M3	0,988	1,000	0,424	1,000
Duration M2	0,135	0,950	0,910	1,000
Duration M3	0,637	1,000	0,278	1,000
Beneficiary M2	0,892	1,000	0,869	1,000
Beneficiary M3	0,633	1,000	0,175	0,990
Sharing M2	0,817	1,000	0,498	1,000
Sharing M3	0,834	1,000	0,721	1,000
Gender norms				
Both parents M2	0,978	1,000	0,353	1,000
Both parents M3	0,049	0,594	0,562	1,000
Father involvement M2	0,955	1,000	0,931	1,000
Father involvement M3	0,584	1,000	0,889	1,000
During breastfeeding M2	0,554	1,000	0,113	0,970
During breastfeeding M3	0,004	0,079	0,199	0,990
First months M2	0,848	1,000	0,662	1,000
First months M3	0,296	1,000	0,106	0,960
Who earn less M2	0,630	1,000	0,528	1,000
Who earn less M3	0,995	1,000	0,306	1,000
Use				
Planning M2	0,555	1,000	0,959	1,000
Planning M3	0,613	1,000	0,831	1,000
Use both M2	0,924	1,000	0,429	1,000
Use both M3	0,358	1,000	0,186	0,990
Use only me M2	0,319	1,000	0,885	1,000
Use only me M3	0,319	1,000	0,281	1,000
Use only my partner M2	0,550	1,000	0,142	0,990
Use only my partner M3	0,778	1,000	0,695	1,000

Table B. 10: Multiple hypothesis testing, experiment 2

Notes: The table shows the results of multiple hypothesis testing. Original model p-values are compared to Romano and Wolf stepdown adjusted p-values using the *nvolf2* Stata command. The RW is performed considering all 16 outcomes. All specifications include individual control variables (age, nationality, geographic region, cohabiting status, maximum educational level), and sample strata fixed effects. The estimation sample consists of 1,242 individuals in experiment 2 (304 men and 938 women). Source: Post-intervention survey.