Making Information Stick: Evidence from Correcting Misperceptions toward Paternity Leave-Taking in Japan*

Marianne Bertrand† Patricia Cortés‡ Jessica Pan§
Hitoshi Shigeoka¶ Masayuki Yagasaki‖

Abstract

We study the barriers to paternity leave-taking in Japan, a country with one of the most generous parental leave policies for working parents, but still low take-up rates by fathers. We show that a large gap exists between *perceived* norms regarding paternity leave-taking and *actual* norms: while about 80 percent of the population (including managers and workers) are supportive of a month-long leave-taking by fathers, men perceive this level of support to be below 50 percent. We use information treatments to correct this misperception, contrasting purely quantitative information on the actual support to a combination of such quantitative information with some story-telling using a Japanese anime-style video about a fictitious expectant father in a workplace setting wondering about support for paternity leave. We show that the belief correction is larger and more persistent with the inclusion of story-telling, in part because story-telling makes the information more memorable. Exposure to the anime-style information treatment increases perceived support by one's own manager and co-workers for taking an extended paternity leave, decreases perceived career costs associated with such a leave, and increases the likelihood of advising a male co-worker to take such a leave.

Keywords: Paternity Leave, Misperception, Social Norms, Pluralistic Ignorance, Narratives, Japan

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†University of Chicago, Tohoku University, CEPR, IZA, and NBER. Email: marianne.bertrand@chicagobooth.edu

‡Boston University, Tohoku University, IZA, and NBER. Email: pcortes@bu.edu

§National University of Singapore, CEPR and IZA. Email: jesspan@nus.edu.sg

¶University of Tokyo, Simon Fraser University, IZA, and NBER. Email: hitoshi.shigeoka@gmail.com

‖Tohoku University and ESRI. Email: masayuki.yagasaki.c4@tohoku.ac.jp

1 Introduction

Despite much progress, women around the world continue to be the dominant providers of household work and childcare. This, and other ongoing gender disparities, have been linked to gender norms, informal rules that govern men and women's behaviors, and lead them to align those behaviors with societal expectations based on their sex (e.g., Bertrand, 2020; Bertrand, forthcoming). While it is possible for these societal expectations to be fully molded into preferences via the socialization process in childhood, the motivation to conform with what is expected for one's sex also comes from a fear of social sanctions and backlash when one deviates from the prescribed behavior (West and Zimmerman, 1987). Changing behavior may thus require more than just changing one's own views and beliefs, but instead changing beliefs about what others expect of men and women, i.e. changing gender norm perceptions (Tankard and Paluck, 2016).

A few recent papers have shown, in the context of societal expectations regarding women's participation in the workforce, that actual gender norms might be less conservative than perceived gender norms, both in developing and developed country settings. For example, Bernhardt et al. (2018) document that social disapproval of women's work outside the home among poor rural households in India is lower than what these households perceive. Also, in nationally representative surveys from 60 countries, Bursztyn et al. (2023a) document that people, but especially men, underestimate the level of support for women's basic right to work outside the home. Such findings suggest that public information campaigns could be used to recalibrate perceptions of societal expectations and ultimately change behavior. Indeed, in the context of women's force participation in Saudi Arabia, Bursztyn et al. (2020) show that informing young Saudi married men about the actual (very high) level of support for women's right to work outside the home among their peers increases the likelihood that these men will sign up their wives for a job matching service. Similarly, Cortés et al. (forthcoming) show that a large majority of survey respondents in the US overestimate how conservative their peers are when it comes to their views regarding maternal employment and that correcting this misperception increases donations to a non-profit organization that promotes women's participation in the labor market.

In this paper, we build on this prior research but expand on it in two important ways. First, our focus is on norms regarding men's take-up of paternity leave rather than norms regarding women's labor force participation. It is well-established that the main barrier holding women back in the labor market, at least in more advanced economies, comes from

the societal expectations that they will be the main providers of childcare and housework, as illustrated by a literature linking the motherhood penalty to social norms (see, e.g., Kleven, 2022). A culture where men equally participate in these non-market tasks, such as by being more involved in the care of their children, is therefore central to moving towards greater gender equality in the labor market. Second, we are interested in assessing the relative efficacy of alternative approaches to conducting information campaigns aimed at correcting beliefs about societal expectations. While the vast majority of prior work on correcting misperceptions of social norms has focused on providing people with statistics on actual norms (Bursztyn and Yang, 2022), we investigate whether adding a qualitative component to this hard information, via some story-telling, can magnify its impact both in terms of recalibrating beliefs and changing behavior. Building on Graeber et al. (2024), we hypothesize that people are more likely to remember stories than statistics, and thus that their beliefs, and ultimately their behavior, will be more impacted by information that includes a narrative component.

In particular, we study the take-up of paternity leave in Japan, a country with some of the most generous paternity leave provisions in the world, both in terms of length and replacement rate. As shown in Appendix Figures A1(a) and A1(b), while the share of paternity leave-taking among Japanese men has increased steadily since the early 2010's and accelerated in the last couple of years, still only 1 in 3 men took at least one day of leave by 2023; furthermore, the duration of leave-taking among takers remains quite short, with about 40% of men taking less than 2 weeks of leave, and close to 60% taking less than a month of leave. Our focus on Japan is particularly relevant given the demographic crisis the country is facing, with a rapidly aging population as well as ultra-low, well below replacement level, fertility rates. The extremely uneven sharing of childcare and housework that characterizes Japanese society, as well as other East-Asian societies such as South Korea, is often cited as one reason for the flight away from marriage (and hence from parenthood given the rarity of out of wedlock births) in this region of the world, especially among more educated women (Bertrand et al., 2021).

In an initial motivating survey of new fathers, we verify that Japanese men are well-informed about the generous paternity leave provisions, so that the low take-up cannot be explained by low awareness. This initial survey also uncovers a large gap between desired and actual paternity leave-taking, consistent with the possibility that external pressures such as perceived norms around the acceptance of extended paternity leave rather than solely one's own views and preferences might be a barrier to take-up.

In a second step, we document that, as in the case of norms regarding women's work, actual norms regarding men's take-up of paternity leave are less conservative than men perceive them to be. Specifically, we conduct a large-scale survey that covers various segments of the Japanese population, including: married men aged 25-49 working in companies or government positions; their work peers - married women, unmarried men, unmarried women aged 25-49 working in companies or government positions; and managers in companies or government positions. We show that support for paternity leave of 2 weeks or 1 month in length is universally high across these various segments of the population. However, when asked to guess the level of support of others (such as managers and co-workers), nearly 80% of male employees underestimate the actual level of support, with an average perception gap of about 30 percentage points. We verify that this finding is robust to social desirability and experimenter demand concerns.

In a separate survey of expectant fathers, we also show that these (biased) perceived gender norms are correlated with intended behavior. Among those who plan to have a child in the next year, those who perceive greater level of support for paternity leave-taking among managers and co-workers report higher intentions to take-up paternity leave, both on the extensive and intensive margins. Taken together, the evidence from these surveys suggests that the misperception of conservative norms regarding paternity leave might be one important factor holding back men's take-up of such paternity leave, and that interventions aimed at correcting this misperception have the potential to increase leave-taking, a potential which we test in our main experiment.

The main experiment is conducted on a sample of 5,000 married men between the ages of 25 and 49 who are employed by private companies or the government. Our primary objective in designing this experiment is to contrast different information interventions to correct misperceptions. In particular, we test whether the inclusion of a story-telling component to the more standard statistical information about actual support improves the efficacy of the treatment in correcting beliefs, which we define as a persistent recalibration of perceived norms towards actual norms.

The narrative component we consider is a one-minute, Japanese anime-style video. The video illustrates a fictional married expectant father in his workplace wondering -via thought bubbles- whether it is acceptable to take paternity leave; his concerns are then met with supportive attitudes towards paternity leave —again through thought bubbles— of his coworkers and supervisor. The video ends with standard quantitative information on the share of coworkers and managers who support a male colleague taking paternity leave (as measured

in the second step above). We contrast this treatment arm to a more standard information video that also conveys the quantitative information included at the end of the animated information video but excludes any story-telling. We consider two control groups: one that does not receive any qualitative or quantitative information (pure control group) and another that receives a placebo anime of the same style as the treatment video but with content unrelated to paternity leave-taking (a fictional married expectant father in his workplace wondering how to name a baby).

Our primary outcome of interest are perceived gender norms regarding paternity leave (and the gap between perceived and actual gender norms), an outcome that we measure immediately following the intervention as well as in a follow-up survey one month after. In that follow-up survey, we also include questions aimed at establishing a causal link between the belief impact and respondents' intended behavior, such as being willing to advise a male expectant co-worker to take an extended period of paternity leave (one month), and respondents' perceived career concerns surrounding paternity leave-taking.

We find that both information treatments have immediate and persistent impacts on beliefs, reducing the gap between perceived and actual gender norms. Immediately after the information intervention, treated respondents revise their second-order beliefs upward by 15.3 percentage points relative to control respondents, corresponding to a 33 percent increase over the control mean. The immediate impact on beliefs is quantitatively similar between the two information treatments, only a little bit larger under the animated video. However, the two information treatments differ in the persistence of the belief impact after one month. While the belief updating fades substantially over time when the information is purely quantitative, it sticks much more with the inclusion of the story-telling.

We show that this stronger persistence is in part explained via a memory channel: a greater share of respondents exposed to the animated video report remembering it a month later. But even among those that recall the video, respondents exposed to the animated format exhibit larger belief updates than those exposed to the text-based format, both immediately after the intervention and one month later. Furthermore, belief updaters that were exposed to the animated video feel more positive about the information they received, and find it more credible, relevant and useful than belief updaters that were only exposed to the hard information. This suggests that the inclusion of the narrative component made the information intervention more effective not only as a consequence of being more memorable but maybe also because the qualitative details it included positively resonated with the survey participants (Malmendier and Veldkamp, 2022; Nadel and Simon, 2024; Andries et

al., 2024; Bordalo et al., 2025).

In a final step, we show that the belief updating induced by our information treatment can be linked to changes in respondents' perceived career concerns related to paternity leave-taking, as well as the advice they would give to a coworker with respect to taking an extended leave. Exposure to the animated information video increases perceived support for paternity leave from the respondents' direct supervisors immediately after treatment; it also persistently increases perceived support from the respondents' co-workers. In addition, we find that immediately after treatment, perceived career-related concerns associated with taking paternity leave are weakened among those exposed to the animated information video, but these effects weaken at one-month of follow-up. Finally, both immediately after treatment as well as one month out, we ask respondents how likely they would be to advise a co-worker to take at least one month of paternity leave, advice that we show to be highly correlated to perceived career costs and supervisor support in case of such a leave. Exposure to the animated information video increases the probability of advising an extended leave by about 7.5 percentage points (from a base of about 45 percent) immediately after the intervention and by 3.8 percentage points one month later. Exposure to the purely quantitative information video has a more modest short-term impact and no statistically significant impact one month out, further underscoring the greater impact of the animated video treatment on perceived norms.

As stated earlier, our work builds on a recent literature in economics that has demonstrated wedges between actual and perceived gender norms regarding women's work (Bernhardt et al., 2018; Bursztyn et al., 2023a) as well as papers that both documented such wedges and used information interventions to correct misperceptions, but with a sole focus on statistical information (Bursztyn et al., 2020; Cortés et al., forthcoming; Cameron et al., 2024).

Another related paper is Matavelli (2024), who studies actual and perceived norms regarding the use of violence and the display of emotions by boys and also considers alternative approaches, although less easily scalable, to recalibrate beliefs. In particular, in an experiment conducted with adolescents in public schools in Rio de Janeiro, Matavelli (2024) shows that most boys and girls overestimate the share of classmates who have traditional masculinity views, such as agreeing with the statement that "boys who cry are weak" or the statement that "men should use violence to get respect if necessary." Matavelli (2024) further shows that engaging these adolescents in more communication about masculinity - via a mediated discussion to learn peers' opinions – helps partly correct these misperceptions, with effects

lasting up to three weeks. Matavelli (2024) however does not directly compare the efficacy of this mediated discussion approach to the more standard quantitative information treatment.

Most directly relevant to our work is Miyajima and Yamaguchi (2017), who document that many men in Japan overestimate the' negative attitudes of male peers toward paternity leave and that these misperceptions are correlated with lower leave intentions. We extend this work by studying male employees' perceptions of, and the actual attitudes of, managers and other relevant social groups, in addition to peers, and use these findings to design and evaluate different information-based interventions.

Finally, our paper adds to the nascent literature on the role of narratives in economics (Shiller, 2017; Shiller, 2020), and to an earlier literature in psychology on the persuasive power of story-telling (Bruner, 1987). In their survey of the literature on misperceptions about others, Bursztyn and Yang (2022) suggest that qualitative or narrative-based information might generate larger and more persistent effects than purely quantitative information. Bursztyn and Yang (2022) however also acknowledge that this is far from a settled conclusion given both the very small number of studies that rely on narrative-based information and the fact that, absent any study that directly compares quantitative versus narrative information, any inference needs to rely on comparison across studies that differ in context, content, and experimental design. Our paper is the first to directly compare these two approaches to correcting beliefs about social norms.

The possibility that narratives improve memory retention was recently explored by Graeber et al. (2024). Using a series of survey experiments, Graeber et al. (2024) show that qualitative stories about a product (e.g., the text of a single negative or a positive review) lead to more persistent belief impact about the quality of the product (where persistence in their context is from one day to the next) than quantitative information (e.g., information about the share of a randomly selected set of reviews that are negative). In one experiment that is closest to our work, Graeber et al. (2024) show that the combination of stories and quantitative information has a more persistent impact on beliefs than when only the same quantitative information is provided. They further show that narratives have especially persistent impact on beliefs when they are more related to the cue (e.g., a question about beliefs about the quality of food in an Italian restaurant after reading a review about Italian food). We expand on this work by exploring whether narratives can also be used to more persistently correct social norm perceptions, a setting where, unlike in Graeber et al. (2024), self-serving biases (e.g., a man who is personally strongly opposed to paternity leave learning that others are not) may lead to selective memory retention (Zimmermann, 2020).

The remainder of the paper is organized as follows. Section 2 describes the Japanese institutional context and presents evidence from an initial motivating survey on the barriers to paternity leave-taking in Japan. Section 3 presents our survey evidence on the gap between actual and perceived norms. The design and findings of our information experiment are reported in Sections 4 and 5, respectively. We conclude in Section 6.

2 Institutional Context and Barriers to Paternity Leave-Taking in Japan

2.1 Paternity Leave System in Japan

Japan has one of the most generous statutory parental leave systems among OECD countries, both in terms of eligibility and benefit levels. Fathers are eligible to take up to four weeks of paternity leave within the first eight weeks following childbirth, in addition to childcare leave that can be taken until the child reaches one year of age (and in some cases longer).[1] Leave can be taken flexibly, including in multiple spells. During the first six months of leave, benefits replace approximately 67 percent of pre-tax earnings, declining to 50 percent thereafter. Because the benefits are exempt from income taxation, this results in high net replacement rates ($\sim$80%) compared to many other countries.

Despite the generosity of these provisions, take-up of paternity leave in Japan has historically been low, particularly for longer spells (see Appendix Figure A1). For many years, fewer than 10 percent of eligible fathers took any leave at all, and among those who did, the majority took only a few days.

In recent years, the Japanese government has made increasing paternal leave take-up a central policy objective. Official targets called for 50 percent of fathers to take paternity or childcare leave by 2025, and call for 85 percent by 2030. To promote accountability and transparency, firms with more than 1,000 employees have been required since April 2023 to publicly disclose statistics on male employees' leave-taking. This requirement was expanded in April 2025 to include firms with more than 100 employees. This governmental push likely accounts for the recent increase in paternity leave-taking observed in Appendix Figure A1.

[1] Childcare leave in Japan is an individual entitlement granted to each parent. A father's eligibility does not depend on whether the mother takes leave, and following reforms in the late 2000's, both parents are legally permitted to be on childcare leave simultaneously, although overlapping leave-taking remains uncommon in practice.

By 2023, around one in three men took at least one day of leave. Nevertheless, the duration of leave-taking among those who took leave however remains quite short, with about 40% of men taking less than 2 weeks, and close to 60% taking less than a month.

2.2 Survey Evidence on Constraints to Paternity Leave-Taking

This section documents three facts. First, many fathers take less paternity leave than they report as ideal, indicating the presence of constraints. Second, among the reasons cited for not taking longer leave, concerns related to career consequences and perceived workplace support feature prominently. Third, intentions to take leave are strongly correlated with second-order beliefs about others' support for such leave.

We conducted an initial online survey in November 2023 to study attitudes toward paternity leave-taking and perceived constraints among expectant fathers. Respondents were drawn from registered participants of Rakuten Insight, a Japanese survey company. Survey invitations described the study as a survey on "Opinions on the Workplace" and guaranteed anonymity.

The sample for this initial survey consists of married men aged 25–49 who are eligible for paternity leave and who, one year prior to the survey, reported either expecting a child or actively trying to conceive. This restriction yields a group of respondents plausibly facing, or having recently faced, decisions about whether and how much paternity leave to take. Among the 344 respondents, 74% had a child in the past year, 5% were currently expecting, and 9% reported actively trying to have a child.

We begin by documenting a substantial gap between desired and actual paternity leave-taking. Among respondents who had a child in the past year, the majority report taking less leave than they would have preferred (see Appendix Figure A2). While the median duration of actual leave is relatively short, ideal spells are substantially longer, revealing a systematic discrepancy between preferences and behavior. For example, while 35 percent of the men in the sample would ideally have taken one to three months of leave, only 20 percent have done so; while less than 5 percent find not taking a single day of paternity leave ideal, more than 30 percent have done so. This gap between ideal and actual leave is a necessary condition for beliefs about workplace support to matter for behavior: if fathers were already at their unconstrained optimum, correcting any misperception that might exist about social support for paternity leave would likely have limited to no impact on either intentions or outcomes.

When asked why they took (or planned to take) fewer days of paternity leave than desired,

respondents cite a range of factors. In addition to economic considerations related to partial wage replacement, a large share report workplace-related concerns, including perceptions that few colleagues take leave, worries about burdening coworkers, concerns about managers' reactions, and fears of negative career consequences (see Appendix Figure A3). Very few (less than 5 percent) mention having seen their ideal leave request being denied, suggesting that this is not a central friction. Instead, beyond economic factors, it seems that beliefs about "what others will think," whether managers or co-workers, play a central role. Misperceiving "what others will think" could therefore lead men to take less leave than they would with more accurate beliefs.

To provide further evidence that perceived workplace support matters for individual decision-making, we rely on a separate survey of expectant fathers conducted in 2024 (distinct from the baseline survey of married men described in Section 3). This survey includes approximately 350 men whose wives were either pregnant at the time of the survey or who reported actively trying to conceive. For this sample, we examine the relationship between respondents' beliefs about managerial support for paternity leave[2] and their intended leave-taking behavior.

Figure 1 reveals a strong correlation: men who believe that a larger share of managers support paternity leave report substantially longer leave intentions. Although these patterns are purely correlational and do not establish causality, they provide suggestive evidence that beliefs about workplace norms—particularly perceptions of managerial support—are closely linked to leave-taking intentions. Combined with the earlier evidence that many fathers are constrained relative to their preferred leave duration, these correlations indicate that any misperception about workplace support could have real behavioral relevance. In the next section, we use a large-scale baseline survey to document actual attitudes toward paternity leave across relevant groups and quantify the extent of misperceptions about managerial support, which in turn motivates the experimental design that follows.

3 Survey Evidence on Paternity Leave-Taking Norms

Sample and recruitment.— To examine the actual and perceived norms surrounding paternity leave in Japan, we conducted a large-scale baseline survey that covers various segments of the Japanese population. Specifically, the sample consists of four groups: (a) married men aged 25-49 working in companies or government positions ($N = 5,000$), (b)

[2]The question asks: "Out of 100 managers, how many do you think support paternity leave-taking?"

peers: married women, unmarried men, unmarried women aged 25-49 working in companies or government positions ($N = 1,500$ each), who could be peers of the expectant fathers, (c) older generation: men and women aged 65 and older ($N = 2,000$), whose attitudes may influence the younger generation, and (d) middle and upper managers in companies or government positions ($N = 2,000$ each). The sample is again drawn from Rakuten Insight.

Appendix Table A1 reports summary statistics for the baseline surveys of the various groups. The core sample consists of prime-age, full-time employed men, with substantial variation in firm size and employment type. Managers are older and more likely to work in smaller firms, which we will account for in the analysis below. Overall, the samples provide broad coverage of workplace contexts relevant for paternity leave-taking.

Our key survey questions are about one's own support for taking paternity leave (first-order belief, or FOB) and one's perception of others' support for taking paternity leave (second-order belief, or SOB). We elicit second-order beliefs after asking about one's own support (first-order beliefs).

To elicit first-order beliefs, we ask if the respondents agree or not with the statement, *"Are you supportive of a male employee who is expecting a child soon taking [2 weeks (or 1 month)] of paternity/childcare leave to care for his child?"* and respondents can choose from the following options: "I am supportive," "No, I am not supportive," or "I don't know." To elicit second-order beliefs, respondents are asked to guess how many peers/managers out of 100 they think would say that *"they would be supportive of a male coworker/male subordinate expecting a child soon, taking the paternity/childcare leave to care for his child."* To make the scenarios as realistic as possible, we explicitly wrote that "peers" are "those who work for a company/organization similar to yours [i.e., respondent] and who are similar to you in terms of gender, age, education level, and employment," and that "middle/upper managers" are managers "in companies/organizations similar to yours." Based on this, the (average) misperception can be defined as the difference between the (average) perceived support and the actual share who is supportive.

Results.— We begin by showing that support for paternity leave is universally high: regardless of the respondent's demographics, the leave's target population (i.e., who is taking the paternity leave), and the leave's duration (2 weeks vs. 1 month). Figure 2 shows that more than 80% of peers (married women, unmarried men, and unmarried women) and those of an older generation are supportive of men taking paternity leave. We also altered the target population of men taking paternity leave to examine whether support depends on the group taking the leave. For peers, we ask about male employees in general, as well as male

co-workers, where the latter might be a more realistic scenario. For the older generation, we ask about support for a male employee or son/son-in-law taking paternity leave, where the latter may again be somewhat more relevant and realistic. Interestingly, the results are similar regardless of the target population.

Figure 3 reports the extent of managers' support, with the target population being defined as their male subordinates. Since the managers in our sample tend to belong to smaller firms, and the level of support tends to be lower for those who work in smaller firms, we also show the weighted results that adjust the sample to be nationally representative in terms of the firm size distribution. The level of support for the weighted value is again above 80% for both the 2-week and 1-month durations.

We then go on to show the degree of misperception by comparing the first-order beliefs documented above with the (average of the) second-order beliefs. Figure 4 shows misperceptions in the extent of support for a one-month leave for various groups. Misperceptions of support for paternity leave-taking are observed for all combinations of the sample population (married men, expectant fathers, middle managers) and the target population (employee, co-worker, or subordinate). First, we focus on the far left, where respondents consider the case of a male employee taking paternity leave. The two green dots in the upper left show the level of support (i.e., first-order belief) of married men (from the baseline survey) and expectant fathers (from the initial survey), and the two blue dots just below them correspond to the average guess of the share who support from people like themselves (i.e., second-order belief), along with the 25th/75th percentiles. Both married men and expectant fathers underestimate the support from others compared to the actual level of support. While more than 80% and 82% of married men and expectant fathers are supportive of taking paternity leave (on the left y-axis), they believe that only 45% and 50% of their peers, respectively, would be supportive of a male employee expecting a child soon taking a month-long leave. The bars below these dots show the extent of misperception on average (on the right y-axis): around 40 percentage points for both married men and expectant fathers. The results are quite similar when respondents are asked to consider their male co-workers as leave-takers (see the middle set of graphs).

Finally, the rightmost graph examines men's misperception of middle managers' support for paternity leave-taking. This time, middle managers are asked whether they are supportive of their male subordinate who is expecting a child soon taking a month-long leave. We find very similar patterns to the case of married men's support for a male employee or a male coworker taking such a leave. While more than 80% of middle managers indicate that they

are supportive of a male subordinate taking one month of paternity leave, married men and expectant fathers think that only 45% and 50% of their middle managers, respectively, would support their subordinates expecting a child soon taking this length of paternity leave. As a result, the wedge between perceived and actual norms is similar to that in the previous scenarios.

Appendix Figure A4 shows very similar patterns when considering two-week leave. Again, roughly 80% of married men, expectant fathers, and middle managers are supportive of two-weeks of leave-taking, which is close to the level of support for one-month leave. The estimates of support from others are higher than in the case of one-month leave, leading to a somewhat smaller, but still sizable, wedge between actual support and perceived support. Overall, these results suggest that Japanese men significantly underestimate the support of others for taking paternity leave.

It is not an objective of this paper to understand the sources of the wedge we document between actual and perceived norms. Nevertheless, one can conjecture that a lack of systematic communication between co-workers, and even more so between employees and managers, about the topic of paternity leave might play an important role. Absent such communication, men infer what others believe from what they observe both in their workplace and in society: seeing few taking long leaves, they wrongly infer that paternity leave is unpopular.

Social desirability bias.— To what extent is our measure of misperceptions driven by social desirability bias, or the tendency of respondents to answer questions in a way that will be viewed favorably by others, such as the surveyor? This is a key concern in our setting, especially given the governmental push to encourage more leave-taking by fathers. Even though the survey is anonymous, we cannot rule out that respondents may indicate support for paternity leave-taking, regardless of their true position, because they believe that it is "the right thing to say."

We take this concern seriously and implement the methods recommended in the literature for detecting social desirability bias in the elicitation of both first- and second-order beliefs (e.g., Bursztyn et al., 2023b). For first-order belief elicitation, we compare *direct* and *randomized* elicitations. The former is our baseline question, which simply asks respondents for their level of support. For the latter, respondents answer based on a roll of the dice, which provides a high degree of plausible deniability. Specifically, before answering the question about support for paternity leave-taking, each respondent is sent to another screen where they roll an electronic die. Respondents are then asked to report whether they are supportive of paternity leave-taking *only if* the die takes the values 3, 4, and 5. On

the other hand, respondents who roll 1, 2, and 6 are told to respectively report "No, I am not supportive," "I don't know," or "I am supportive," regardless of their own support.[3] Crucially, we tell respondents that we are *not* recording the number on the dice thrown, so we do not know who is being asked to report their actual support. To increase credibility that we are not collecting the dice numbers, we explicitly send respondents to a third-party website to perform the dice throw instead of embedding it in our web survey.

For second-order belief elicitation, we compare beliefs about others' support using either an "actual" or a "truthful" version of the question. The truthful version simply adds the term "truly" (or "*honne*" in Japanese) to the "actual" version of the original question as follows: "How many of these men do you think are *truly (honne)* supportive of a male co-worker/male subordinate..." If there is a high level of social desirability bias, respondents should expect others to bias their responses, and the truthful version asks respondents to take this into account.

Figure 5 summarizes the findings. We focus on managers' support for a one-month leave. In short, while we detect some degree of social desirability bias (first-order beliefs) and expectations of social desirability bias (second-order beliefs), the magnitudes appear to be relatively small in both cases. We discuss this finding in three steps. First, the vertical solid and dashed lines show the average of first-order beliefs for direct and randomized elicitations. The average level of manager support is slightly lower for randomized elicitation (71.7%) than for direct elicitation (76.5%). Second, the other two lines show the cumulative distributions of second-order beliefs for the "actual" and "true" versions of the question. The "true" version is shifted to the left compared to the "actual" version, suggesting that respondents' belief in what managers truly support is more pessimistic than their belief in what managers will say they support. Third, and most importantly, the proportion of respondents to the left of the dotted vertical line—the conservative estimate of first-order beliefs—is as high as 83% and 78% for the actual and true versions of second-order belief, respectively. This suggests that about 80% of respondents believe that managers are less supportive of a one-month leave than they are.

We perform a similar exercise for the case of peers' support in Appendix Figure A6 and find very similar results. Overall, we conclude that social desirability bias is not a major driver of our finding of a large wedge between perceived and actual norms regarding fathers' leave-taking.[4]

[3]The instructions for the randomized elicitation are shown in Appendix Figure A5.

[4]We also conducted the same social-desirability-bias checks for support of a two-week leave; while they

Taken together, the baseline survey documents large and systematic misperceptions about workplace support for paternity leave: while actual support is high across all relevant social groups, male employees substantially underestimate this support—including from managers—and these misperceptions are unlikely to be driven by social desirability bias. However, this evidence does not establish whether these misperceptions can be corrected; furthermore, we have no causal evidence that perceived norms impact attitudes towards leave-taking, such as willingness to encourage a co-worker to go on an extended leave. We address these questions in Sections 4 and 5, using a randomized information intervention that varies both the content and the medium through which information about managerial and peer support is delivered.

4 Design of Information Intervention

4.1 Sample

We conducted an information treatment on a sample of 5,000 married men between the ages of 25 and 49 who were employed by private companies or the government. The objective of the intervention is to examine whether providing accurate information about the actual level of support for paternity leave—and the format in which this information is delivered—can change married men's beliefs and attitudes regarding paternity leave-taking.

Table 1 reports summary statistics for the married men included in the information intervention, both overall and by treatment assignment. The experimental sample consists of prime-age, full-time employed men and closely resembles the married-men sample in the baseline survey in terms of age, education, employment type, and firm size. Observable characteristics are well balanced across the treatment arms which we describe below, indicating successful randomization.[5]

4.2 Experimental Design and Treatment Arms

Respondents were randomly assigned to one of four arms: a full animated information video (main treatment), a text-based ("boring") information video, an animated placebo control

indicate some degree of bias, the magnitudes are again far too small to account for the large misperception gaps we document, both for managerial support as well as for peer support.

[5]Throughout the analysis that follows, we present specifications that control for pre-treatment beliefs and demographic characteristics to increase precision.

video, or a pure control group that received no video.

Animated Information Video (Main Treatment). The animated information video lasts approximately one minute and uses simple, Japanese anime style illustrations. It follows a fictional married expectant father in a workplace setting. Throughout the video, thought bubbles convey the father's concerns about whether it is acceptable to take paternity leave and how his supervisor might view such a decision. These concerns are then contrasted with the supportive attitudes attributed—again through thought bubbles—to his coworkers and supervisor, illustrating that positive views toward paternity leave are more common than the protagonist believes. Appendix Figure A7 provides representative screenshots from the video.

At the end of the video, we present quantitative information on the share of coworkers and managers who support a male colleague taking paternity leave (see Appendix Figure A8).

Text-Based Information Video ("Boring" Video). The text-based information video conveys the same quantitative information as the animated information video but without animation, narrative, or visual context. This video begins by directly presenting the statistics on coworker and manager support for paternity leave and displays them in a simple text format. The numerical information is identical to that shown at the end of the animated information video; only the format and ordering differ.

Animated Placebo Control Video. The animated placebo control video uses the exact same animation style, characters, and visual drawings as the animated information video (see Appendix Table A2); only the content of the thought bubbles differs. In this version, the thought bubbles depict the father's reflections and the thoughts of other characters on an unrelated topic—choosing a baby's name—and contain no information or statistics related to paternity leave or workplace attitudes. Together with the other arms, this multi-arm design allows us to isolate the effect of conveying information through animation from the effect of merely watching an animated video: comparing the animated information video to the animated placebo separates the informational content from the animated format, while comparing the animated placebo to the pure control captures any generic effect of watching an engaging video.

Pure Control Group. Respondents in the pure control group did not watch any video.

Figure 6 summarizes the design and timing of the information treatment. After collecting basic demographic information, respondents were first asked about their own support for taking paternity leave (first-order beliefs). They were then asked to report their perceptions of coworkers' and managers' support for paternity leave (second-order beliefs).

Respondents were subsequently randomly assigned to one of the four treatment arms described above ($N \approx 1{,}250$ per arm). Participants in the two information treatment groups received information about managerial and peer support for paternity leave either through a text-based video or an animated video. Participants in the animated placebo control group viewed an unrelated animated video, while those in the pure control group did not receive any video or information.

Immediately after the intervention, respondents were re-asked about their second-order beliefs and their willingness to encourage paternity leave-taking, as captured by advice to a friend. To study the persistence of treatment effects, we conducted a follow-up survey one month later that repeated the main outcome measures—second-order beliefs and advice—and additionally assessed respondents' recall of the video content.

In the next section, we present evidence on how the information treatments affect second-order beliefs in the short and medium run. We also examine whether changes in beliefs translate into differences in respondents' perceived career costs of paternity leave-taking as well as willingness to encourage a co-worker to take such a leave.

5 Results from the Information Intervention

5.1 Belief Updating and Persistence

We first pool the two information treatments to characterize average belief updating before examining differences by treatment arm. Figure 7 reproduces, for the married men sample in the information experiment, the two key patterns documented in the prior surveys: a high level of actual support for paternity leave-taking and substantial pluralistic ignorance regarding that support. The leftmost bar shows that own support for a male colleague taking one month of paternity leave is very high, at 83 percent, closely mirroring the levels observed in the baseline survey. In contrast, prior to receiving any information, respondents substantially underestimate the share of peers and managers who support such leave, with average second-order beliefs of 45.8 percent, implying a misperception gap of more than 35 percentage points.

The right-hand portion of the figure illustrates how these beliefs evolve over time and across treatment status. Here, the treatment group pools respondents exposed to either the animated information video or the text-based ("boring") information video, while the control group pools respondents assigned to the placebo video and the pure no-video control. Immediately after the information intervention, treated respondents revise their second-order beliefs upward by 15.3 percentage points relative to controls, corresponding to a 33 percent increase over the control mean. One month later, beliefs partially revert but remain elevated: the treatment effect is 8.7 percentage points relative to a control mean of 48.4 percent. While the information treatment does not fully eliminate the gap between perceived and actual support, it leads to a sizable and statistically significant belief updating, with effects that persist, albeit attenuated, one month after the intervention.

Figure 8 distinguishes belief updating by treatment arm and survey wave. We observe that while both the text-based ("boring") and the animated information videos generate similarly sized belief updates relative to the controls immediately after the information treatment, the effect of the text-based video diminishes substantially over time. In contrast, the animated video produces a more persistent shift in second-order beliefs.[6] Table 2 presents the regression version of these results and demonstrates their robustness to the inclusion of additional controls. We also note that there are no meaningful differences in belief updating between the pure control and placebo video groups, which rules out some generic effect of watching a video about an expectant father in a workplace.[7] Overall, the divergence between the text-based and animated information videos provides our first evidence that the medium through which information is delivered affects the durability of belief updating.

Belief updating also varies systematically with respondents' baseline beliefs (see Table 3). Respondents who initially underestimate workplace support exhibit larger belief updates following the information intervention, while those with higher baseline second-order beliefs update much less. This pattern is true for both the animated and "boring" video and is consistent with the correction of pre-existing misperceptions rather than a uniform shift in

[6] Appendix Figure A9 shows the full distribution of second-order beliefs by treatment arm at each survey wave, illustrating that the information treatments shift the entire belief distribution rightward, with post-treatment beliefs concentrating around 80 percent—close to the actual support level conveyed in the videos.

[7] We observe a modest increase in second-order beliefs over time in the control groups. Two factors likely contribute to this pattern. First, repeated elicitation of beliefs may itself prompt respondents to reflect more carefully on managers' and peers' attitudes, generating gradual belief updating even in the absence of new information. Second, during the study period, as mentioned before, the Japanese government actively promoted paternity leave, which may have increased awareness of support more broadly. Importantly, these forces would operate across all groups and therefore cannot account for the differential and persistent treatment effects we document.

beliefs across respondents, and suggests that the information treatment primarily affects those with greater scope to update.

5.2 Information Format, Recall, and Belief Updating

To better understand why belief updating persists for the animated video but fades for the text-based format, we next examine attention and recall. As shown in Figure 9, respondents exposed to the animated video are more likely to remember the information one month later: 34.8 percent report recalling at least some parts of the animated video, compared to 26.4 percent for the control video and 23.7 percent for the text-based ("boring") video.

Recall is strongly associated with the persistence of belief updating. Table 4 explores heterogeneity in belief updating by respondents' recall of the treatment videos. Among respondents who do not recall the video, belief updating decays substantially over time. For example, for the animated video, the immediate belief update among non-recallers is about 16 percentage points but falls to roughly 9 percentage points one month later; for the text-based video, the corresponding estimates decline from about 14 percentage points to around 5 percentage points. In contrast, the decline in belief updating is less than half as large among respondents who recall the video.

An additional important pattern in Table 4 is that, even conditional on recalling the video, respondents exposed to the animated format exhibit larger belief updates than those exposed to the text-based format, both immediately after the intervention and one month later. This suggests that recall alone does not fully account for the larger treatment effects of the animated video on belief updating and that differences in how the information is processed at the time of exposure also contribute to the greater magnitude and persistence of belief updating.

To that point, we show in Figure 10 that the participants that received the animated video rated the information they received as more relevant and more useful than those that received the text-based and control videos; they also report feeling somewhat more positive about the information. As seen in Panel B of Figure 11, this is in part related to recall: there is a strong positive correlation across all videos between remembering the video and finding the information it provided positive, credible, relevant, useful and impactful. But even within the recall category, it appears that the animated information video is associated with somewhat more positive ratings. For example, among those that state that they do not recall the video, a greater share rate the information provided as credible and useful if they

were exposed to the animated information video.

Furthermore, as seen in Panel A of Figure 11, among those that update positively after the information intervention, there are meaningful differences in how they feel about the information that led to the belief update. Belief updaters that were exposed to the animated information video feel more positive about the information they received, and find it more credible, relevant and useful than belief updaters that were only exposed to the hard information. This suggests the possibility that a similar magnitude adjustment in beliefs under the full video and under the text-based video may trigger a larger shift in attitudes and behaviors under the animated information video. People might be more willing to act based on the same belief shock if they find the information that triggered that shock more credible or relevant.

5.3 Perceived Supervisor Support and Career Concerns

While correcting misperceptions about workplace norms shifts beliefs, endorsement of paternity leave may depend on more specific anticipated reactions, particularly support from direct supervisors and perceived career-related costs (see, e.g., Johnsen et al., 2024). We therefore examine whether the information treatments also affect these margins.[8]

Table 5 reports treatment effects on perceived own workplace support for paternity leave. Exposure to the animated information video leads to a sizable increase in perceived support from respondents' direct supervisors immediately after the intervention—on the order of 0.2 standard deviations—whereas the text-based ("boring") video produces no meaningful change along this margin. For perceived coworker support, both information treatments increase perceived support immediately after treatment, although the immediate effect is substantially larger for the animated video than for the text-based video; moreover, only the animated video generates effects that persist at the one-month follow-up. This finding is particularly notable in that the information provided in the treatment was about overall support among our surveyed managers and workers, not one's direct managers and co-workers.

We next turn to perceived career-related concerns associated with taking paternity leave. Table 6 shows that respondents exposed to the animated information video report lower perceived career costs than control respondents immediately after the intervention, including

[8]Perceived supervisor support and career-related concerns are elicited only after (immediately and one-month follow-up) the information intervention. As a result, we do not observe within-person changes in these measures and do not interpret the analysis as documenting belief updating along these dimensions. Our focus is on treatment–control differences in post-intervention perceptions and on descriptive relationships with advice-giving documented using the control group.

concerns about worsening workplace relationships, burdening colleagues, and being viewed negatively at work. These reductions attenuate by the one-month follow-up, however.

Appendix Tables A3 to A6 show that changes in perceived workplace support and career concerns are concentrated among respondents who update their beliefs about support for paternity leave and remember the information video. In particular, Appendix Table A6 shows that for respondents who recall the animated information video, reductions in some career concerns—especially concerns about workplace relationships and being viewed negatively at work—persist at follow-up, whereas no such effects are observed among respondents who forget the video.

We next turn to treatment effects on advice-giving and examine whether the information interventions affect respondents' willingness to advise a coworker to take extended paternity leave, an endorsement decision which we show descriptively to be closely related to perceived career costs and perceived supervisor support.

5.4 From Beliefs to Advice

Advising a coworker to take extended paternity leave implicitly requires assessing likely workplace reactions, including support from one's own supervisor and potential career consequences. Career concerns are a natural margin to examine, given earlier survey evidence showing that they are among the most frequently cited reasons recent fathers report for taking less paternity leave than desired. We therefore begin by examining how advice-giving relates to these perceived workplace margins, before turning to the causal effects of the information interventions on advice-giving.

Appendix Figure A10 uses control group data and relates respondents' willingness to advise a coworker to take one month of paternity leave to perceived career costs and perceived supervisor support. In particular, we ask survey respondents: "Suppose a male coworker (a colleague who works directly with you in your section) is expecting a child soon and is deciding whether to take paternity leave. What is the percent chance (out of 100) that you would encourage him to take: 0 days, <2 weeks, 2–4 weeks, 1–3 months, ≥3 months?"

We find that advice-giving is strongly decreasing in anticipated career costs and increasing in perceived supervisor support. Thus, the willingness to advise a coworker to take a longer leave appears to reflect expectations about concrete workplace consequences rather than solely a more abstract approval of paternity leave. Interpreted through this lens, the information treatments—particularly the animated video, which reduces perceived

career costs and increases perceived supervisor support—should translate into higher rates of advice-giving.

Table 7 reports treatment effects on advice-giving. Even absent any information, this outcome is relatively common: in the pure control group, 47 percent of respondents at baseline (and 45 percent at follow-up) report that they would advise an extended leave. Against this high baseline, exposure to the animated information video increases the probability of advising extended leave by about 7.5 percentage points immediately after the intervention and by 3.8 percentage points one month later. By contrast, the control (placebo) video has small and statistically insignificant effects at both horizons, indicating that the results are not driven by generic video exposure. The text-based ("boring") information video produces a modest short-run increase in advice of about 4.6 percentage points but no statistically significant effect one month out, underscoring the greater persistence, as well as perceived relevance, of the belief impact with the inclusion of the animated video.

Having established that the information treatments affect respondents' willingness to advise a co-worker to take extended paternity leave, we next examine whether these effects are linked to changes in perceived workplace support. Specifically, we assess whether treatment effects on the advice outcome are concentrated among respondents who update their beliefs about others' support for leave-taking. This exercise is not intended as a causal mediation analysis, but rather as evidence on whether belief updating is a relevant margin for the advice outcome.

Table 8 reports treatment effects on the advice outcome separately for respondents who increase their second-order beliefs following the information intervention and those who do not. The results show that the treatment effect on the advice outcome is concentrated among respondents who update their beliefs. Among these respondents, the animated video generates a sizable and statistically significant increase in the likelihood of advising extended leave, both immediately after the intervention and one month later. The corresponding effects for the text-based ("boring") video are smaller. Among respondents whose beliefs do not change, treatment effects on the advice outcome are small and statistically insignificant for both formats. These patterns indicate that changes in perceived workplace norms are closely associated with changes in advice-giving, with effects that tend to be stronger for the animated format.

Because belief updating is itself an outcome of the information intervention, heterogeneity analyses based on realized updating may reflect endogenous selection. To address this concern, Appendix Tables A7 and A8 examine whether positive belief updating can be pre-

dicted using pre-treatment characteristics and whether heterogeneity in treatment effects on advice persists when we use predicted belief updating instead of realized updating. We find that belief updating is systematically related to pre-treatment observables, including baseline beliefs and demographic characteristics. Importantly, when respondents are classified based on their predicted propensity to positively update, treatment effects on advice remain concentrated among those most likely to positively update, mirroring the results based on realized updating.

Finally, we explore whether the persistence of treatment effects on the advice outcome varies with respondents' recall of the information and whether this relationship differs by information format. Because recall is not randomly assigned, this analysis is descriptive and aimed at understanding whether treatment effects on advice are more persistent among respondents who remember the video.

Table 9 presents treatment effects on the advice outcome separately by recall status and information format. Consistent with the belief updating results, treatment effects on the advice outcome are larger and more persistent among respondents who recall the animated video. In contrast, for the text-based video, treatment effects on advice are consistently smaller in magnitude and statistically insignificant, even among respondents who recall the video. Among respondents who do not recall the video, treatment effects on the advice outcome are close to zero for both formats one month out. Taken together, these patterns indicate that recall is closely associated with the persistence of treatment effects on advice, while also highlighting that the animated format generates larger and more durable effects than the text-based format.

6 Conclusion

Changing the culture around male participation in non-market work and childcare activities is a crucial, maybe necessary, step towards allowing women to realize their full labor market potential. While many men might personally be eager to be more involved in these activities, they may feel societal and workplace pressures to stay in their "gender-stereotypical lane." We document that such perceived social pressures indeed partly drive Japanese men's decisions not to take longer paternity leave and unwillingness to support other men to take such longer leaves, but also show that most Japanese men are too pessimistic about the level of societal or workplace support for them getting out of their "lane."

We show that the standard approach to correct such misperceptions, such as by pro-

viding statistical information on the actual (much higher than perceived) level of support for paternity leave-taking among managers and coworkers, is dominated by an approach that combines this hard information with a softer qualitative component, in our context a Japanese style-anime video about an expectant father at work wondering how supportive his managers and co-workers are to paternity leave-taking. The inclusion of this story-telling component leads to a more persistent recalibration of beliefs. While we show that this is in part because the story-telling makes the information intervention more memorable, as in Graeber et al. (2024), we also find that even conditional on recalling the video, respondents exposed to the animated format exhibit larger belief updates than those exposed to the text-based format, both immediately after the intervention and one month later. Also, belief updaters that were exposed to the animated video feel more positive about the information they received, and find it more credible, relevant and useful than belief updaters that were only exposed to the hard information, suggesting that they might be more willing to act on this information. And indeed, when considering how the information treatments subsequently impacted perceived career costs of paternity leave or the willingness to advise a co-worker to take an extended leave, we find larger responses among those whose beliefs were updated via the animated video than those whose beliefs were updated via the hard information only. Overall, the animated video was more successful both in changing beliefs about others' support for an extended paternity leave and in subsequently changing views about the career costs of such a leave.

Fully unpacking the mechanisms behind some of our key findings, and in particular what beyond recall might make the animated video more effective, is beyond this paper. Nevertheless, our ongoing work digs into some possible channels. For example, we chose a Japanese-style anime for the story-telling component of the intervention because of its huge popularity in Japan. It is possible that the positive association in the Japanese population with this medium had spillover effects that made participants more positively inclined towards the information we provided them. Another channel we are exploring in ongoing work is whether particular cues in the video helped people feel more invested when receiving the information, in a way that increased its resonance: do they look like the fictitious expectant father, or do they know someone that does? Does the workplace depicted in the video look like their workplace?

In future work, we also hope to assess whether our intervention can change actual leave-taking behavior. Ideally, we would extend this intervention to a group of expectant fathers whose actual leave-taking decisions can be recorded over time.

More generally, the rather sharp contrast we document between the standard approach used in prior research to change perceived social norms (hard information on actual norms) and the narrative-anchored approach we report on in this paper raises the promise of better ways to achieve social change at scale.

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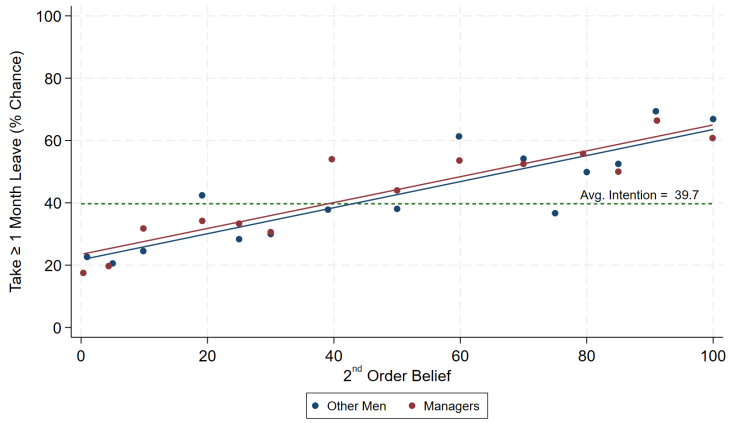
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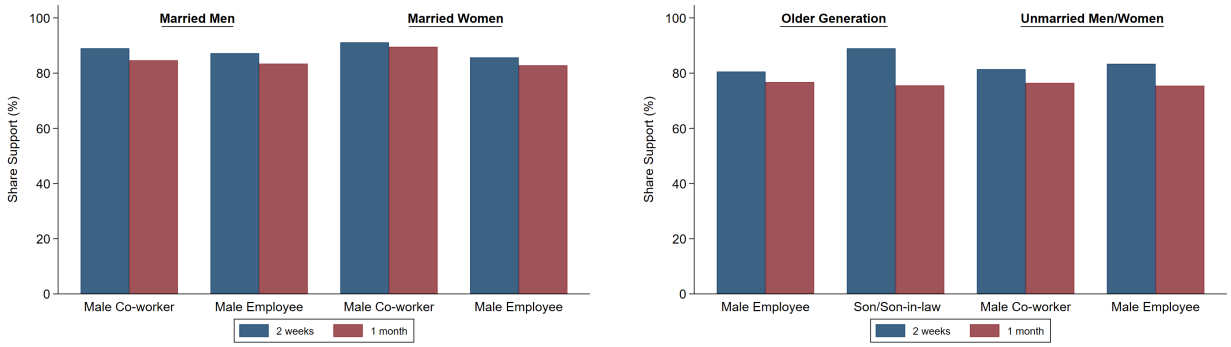
Figure 1: Leave-Taking Intentions vs. Second-Order Beliefs



Notes: The figure shows the relationship between the intention to take more than one month of paternity leave and second-order beliefs (among those who plan to have a child in the near future).

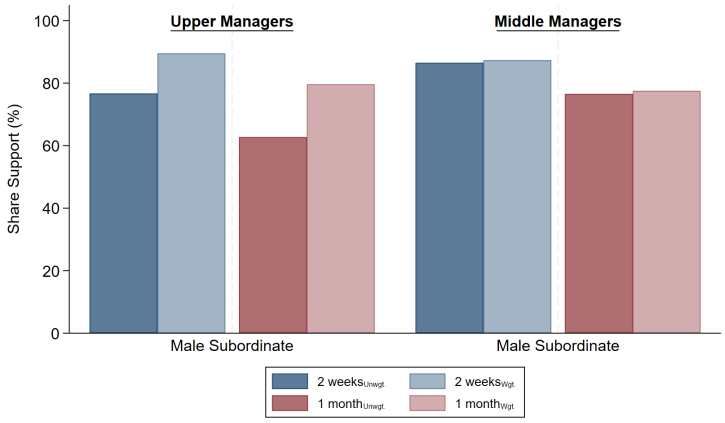
Figure 2: Support for Paternity Leave-Taking Among Peers and Older Generations

(a) Married Men and Married Women (b) Older Generation, Unmarried Men/Women



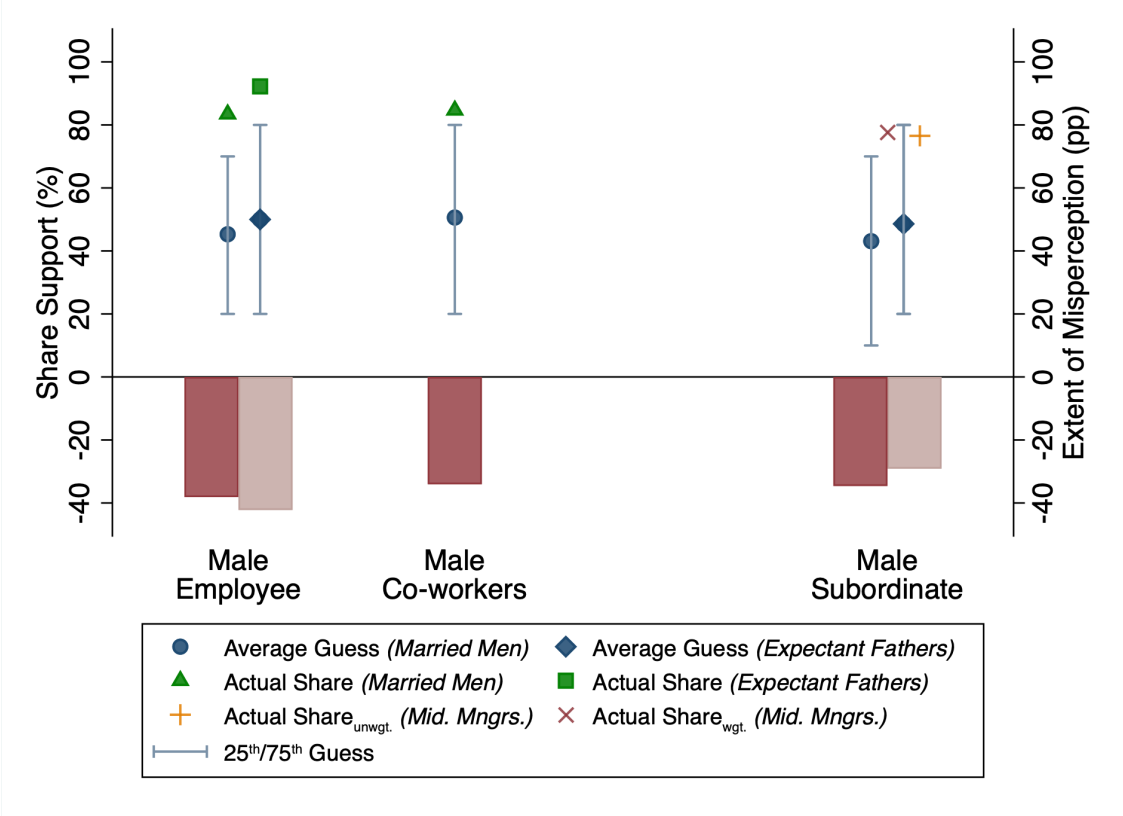
Notes: For peers (Married Men, Married Women, and Unmarried Men/Women), the figure shows the fraction of respondents who choose "*Yes, I am supportive*" to the question "Are you supportive of a male employee (or coworker) who is expecting a child soon taking [2 weeks (or 1 month)] of paternity/childcare leave to care for his child?". For the older generation, the figure shows the fraction of respondents who choose *Yes, I am supportive* to the question "Are you supportive of a male employee (or son/son-in-law) who is expecting a child soon taking [2 weeks (or 1 month)] of paternity/childcare leave to care for his child?".

Figure 3: Support for Paternity Leave-Taking Among Managers



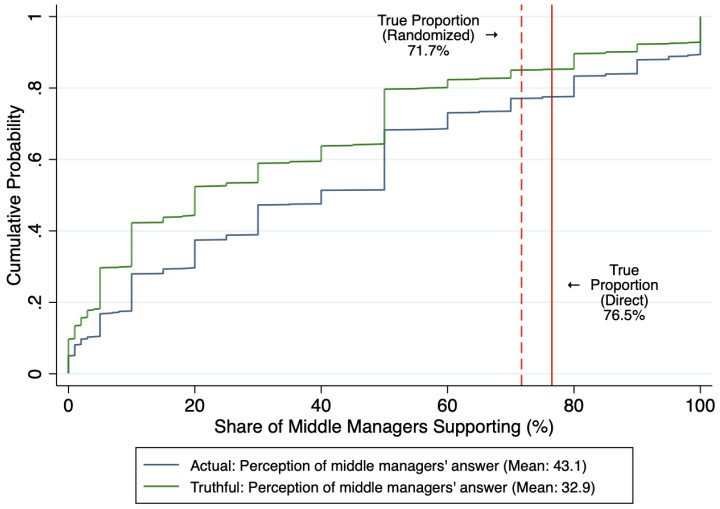
Notes: The figure shows the fraction of respondents who choose "*Yes, I am supportive*" to the question "Are you supportive of a male subordinate who is expecting a child soon taking [2 weeks (or 1 month)] of paternity/childcare leave to care for his child?".

Figure 4: Misperceptions in the Extent of Support – 1 Month Leave



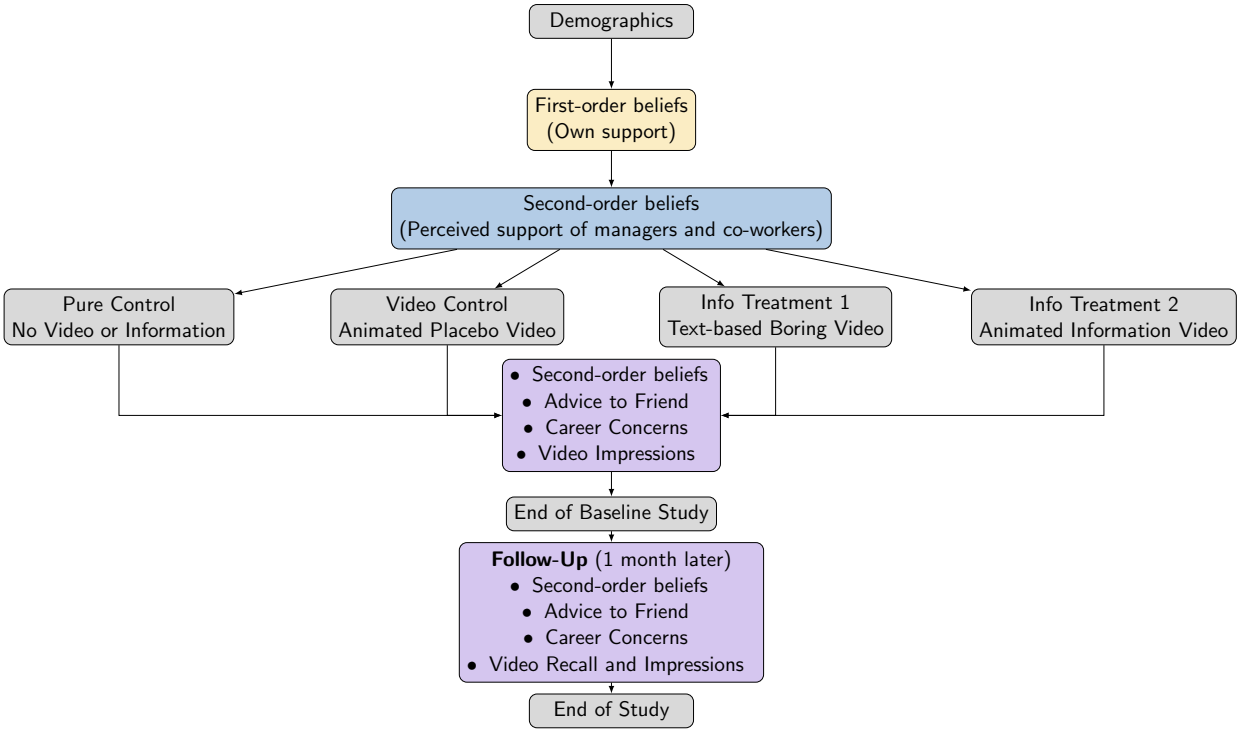
Notes: The figure shows misperceptions in the extent of support for a one-month leave. The green dots show the level of support (i.e., first-order belief, or FOB), and the blue dots just below them correspond to the guess of support from people like themselves (i.e., second-order belief or SOB), along with the 25th/75th percentiles. The bars below these dots show the level of misperception (on the right y-axis), which is the difference between the (average) perceived support and the actual share.

Figure 5: SDB: Beliefs About Managers' Support – 1 Month Leave



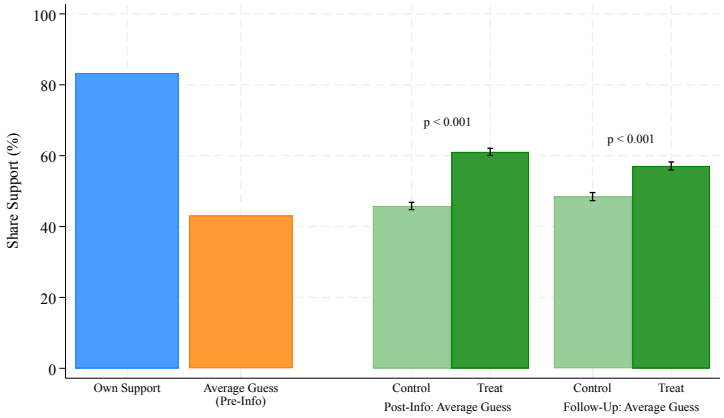
Notes: The figure summarizes the results on beliefs and actual share about managers' support for their subordinates taking 1 month of paternity leave. For first-order belief elicitation, the *direct* elicitation is our baseline question, which simply asks for their level of support. In the *randomized* elicitation, respondents answer based on a roll of the dice. Specifically, before answering one's support of paternal leave-taking, each respondent is sent to another screen where they roll an electronic die. Respondents are then asked to report whether they are supportive of paternity leave-taking *only if* the die takes the values 3, 4, and 5. In contrast, respondents who roll 1, 2, and 6 are told to report either "I am supportive", "No, I am not supportive", or "I don't know" respectively, regardless of their own support. For second-order belief elicitation, the "truthful" version simply adds the term "truly" (or "honne" in Japanese) to the "actual" version of original question as follows: "How many of these men do you think are *truly (honne)* supportive of a male co-worker/male subordinate..."

Figure 6: Married Men Survey Structure



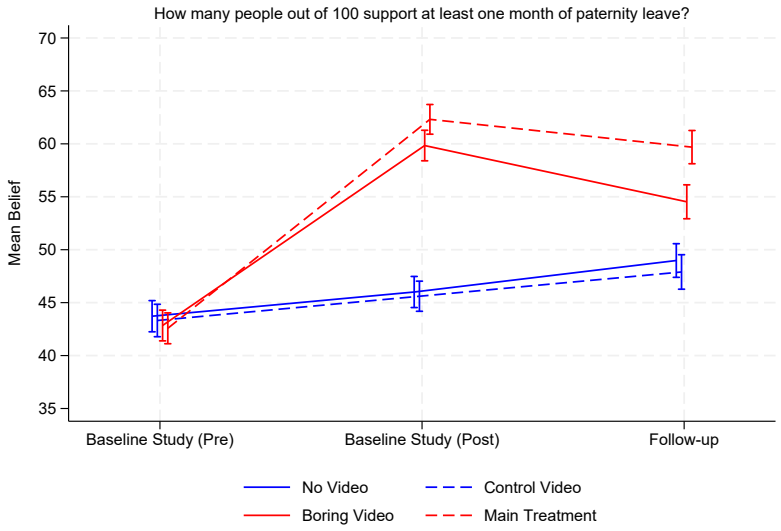
Notes: The figure shows the flow of the information treatment for the married men sample. After collecting basic demographics, we elicit own support for taking paternity leave and career impact (first-order beliefs), and then elicit perceived belief about others' support and career impact (second-order beliefs). We then divide the sample into 4 treatment arms ($N = 1,250$ each). Both information treatment groups receive the same quantitative statistics on coworker and manager support for paternity leave from our baseline surveys in Section 3, presented in the same text format. For the first treatment group, we show a simple video presenting this information in text form only. For the second treatment group, we show the same numerical information accompanied by an animated video on pluralistic ignorance around paternity leave. For the video control group, we show an animated video on how to choose baby names. For the control group, we do not provide any information nor show any video. We then elicit their beliefs immediately after the treatment and also a month later in a follow-up study.

Figure 7: First-Order and Second-Order Beliefs



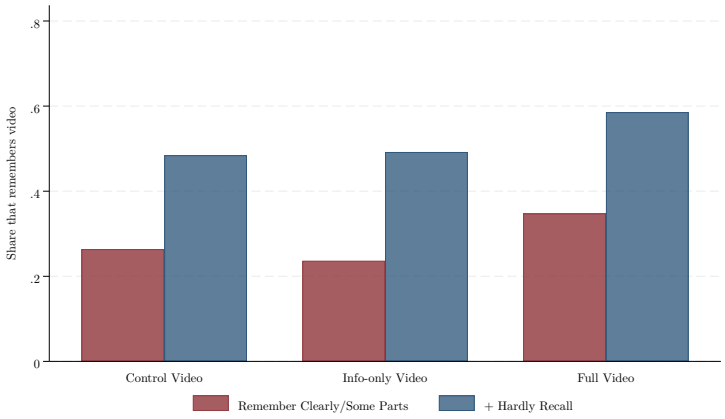
Notes: The first bar shows the fraction of the respondents who choose "*Yes, I am supportive*" in response to the question "Are you supportive of a male colleague of yours with a newborn child taking 1 month of paternity/childcare leave to care for his child?" (first-order beliefs) in the baseline study for married men. The second to sixth bars show the distribution of answers to the question of how many employees or managers out of 100 they think would say that "they would be supportive of a male colleague/male subordinate expecting a child soon, taking one month of paternity leave." (second-order beliefs) by treatment status and stage of the survey. The two information treatment arms are grouped as "Treat" while the pure and video Controls are grouped as "Control."

Figure 8: Belief Updating



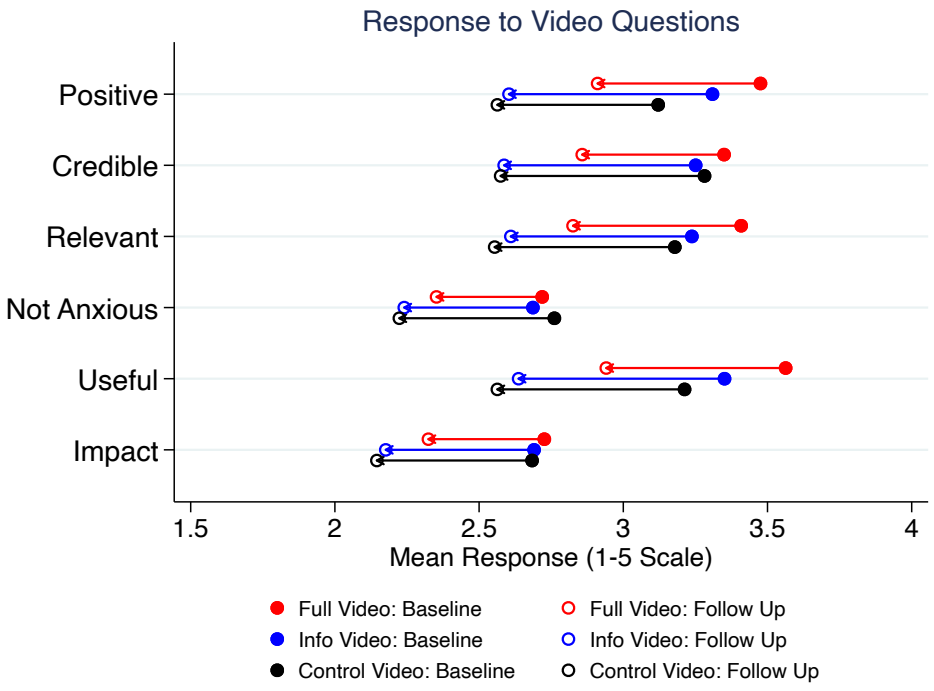
Notes: The figure shows mean second-order beliefs (with 95% confidence intervals) for each treatment group at different stages of the survey experiment for the married men sample.

Figure 9: Video Recall (1-Month Follow Up)



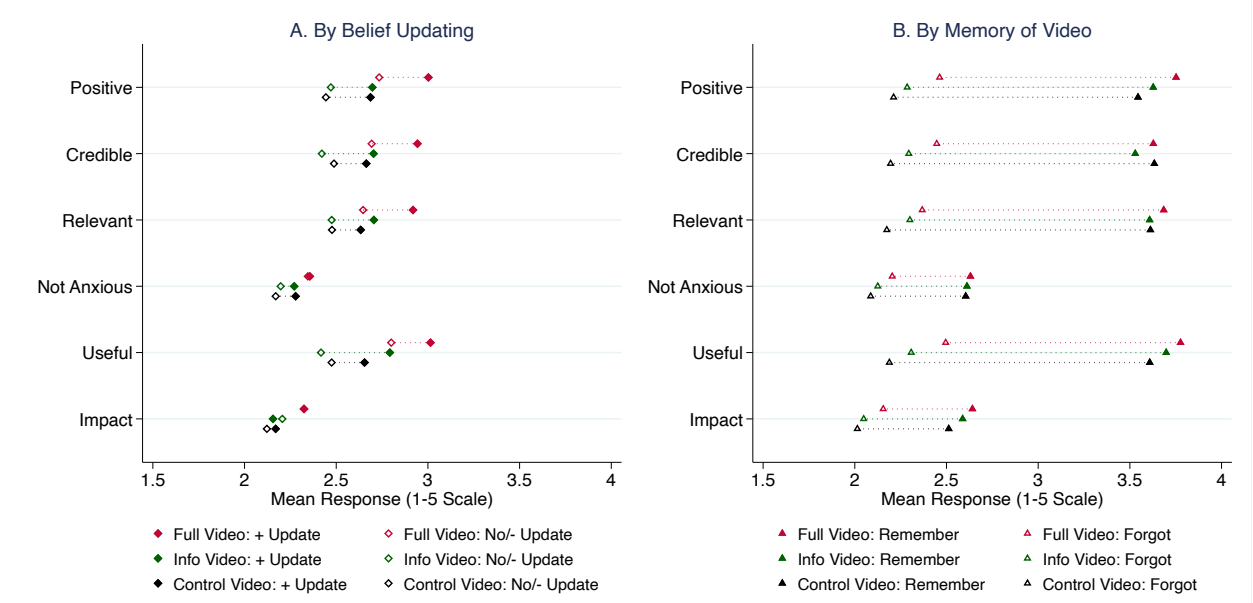
Notes: Video recall is measured based on respondents' answer to the question in the follow-up survey: "During the first survey, you watched a video. How much do you remember about this video?" Respondents could choose from five options: (1) Clearly remember watching it, can recall details of its content; (2) Vaguely remember watching it, can recall parts of its content; (3) Remember watching it, but hardly recall content; (4) Barely remember watching it; (5) Do not remember watching it al all. The maroon bars indicate the proportion of respondents who indicated options (1) or (2), while the navy bars indicate the proportion of respondents who indicated options (1), (2), or (3).

Figure 10: Value of Animation



Notes: Respondents were asked about their impression of the video immediately after they watched the video, in both the baseline and follow-up surveys. The figure shows the mean response for each video attribute indicated on the y-axis. Each attribute is measured on a 1 to 5 scale, where a larger number indicates stronger agreement about how the respondent felt about each type of video.

Figure 11: Value of Animation by Belief Updating and Memory of Video



Notes: Respondents were asked about their impression of the video immediately after they watched the video, in both the baseline and follow-up surveys. The figure shows the mean response for each video attribute indicated on the y-axis. Each attribute is measured on a 1 to 5 scale, where a larger number indicates stronger agreement about how the respondent felt about each type of video. Panel A shows the mean responses by treatment arm and belief updating, while Panel B shows the mean responses by treatment arm and video recall.

Table 1: Summary Statistics for the Information Intervention

	Married Men, Age 25-49					JGSS (2020-2021)
	All	Control	Placebo Video	Full Video	Info Video	
	(1)	(2)	(3)	(4)	(5)	(6)
Age	38.82	38.65	38.96	38.96	38.71	39.80
	(6.39)	(6.33)	(6.51)	(6.39)	(6.33)	(6.34)
Education						
High school or less	0.19	0.18	0.19	0.19	0.20	0.44
2-year college or vocational school	0.12	0.11	0.14	0.12	0.10	0.05
4-year college or more	0.69	0.71	0.67	0.69	0.69	0.51
Employment						
Income [10,000 yen]	651.25	654.20	646.41	648.72	655.57	591.56
	(532.22)	(422.18)	(494.17)	(354.38)	(764.48)	(265.08)
Hours worked [per week]	43.93	44.07	44.37	43.72	43.55	47.04
	(14.15)	(14.43)	(14.81)	(13.54)	(13.79)	(12.40)
Employer Type						
Government	0.20	0.20	0.21	0.19	0.19	0.19
Private, for-profit	0.80	0.80	0.79	0.81	0.81	0.81
Employment Status						
Company Employee	0.81	0.80	0.81	0.81	0.81	0.79
Public Servant	0.16	0.17	0.16	0.15	0.16	0.07
Others	0.03	0.03	0.03	0.04	0.03	0.15
Firm Size						
< 50	0.18	0.15	0.18	0.20	0.19	0.28
$50 - 299$	0.25	0.25	0.25	0.24	0.27	0.26
$300 - 999$	0.17	0.18	0.17	0.18	0.15	0.15
≥ 1000	0.40	0.42	0.41	0.39	0.39	0.31
Observations	4,292	1,083	1,065	1,067	1,077	685

Notes: This table reports the summary statistics for the married men sample (employees aged 25 to 49) surveyed as part of the information intervention. The sample is restricted to those who responded to both the baseline and follow-up surveys. The means and standard deviations for respondents' background characteristics are reported for the full sample in Column (1) and separately for each of the treatment arms in Columns (2) to (5). Column (6) reports similar statistics from the 2021-2022 Japanese General Social Survey (JGSS), a nationally representative public opinion and social survey conducted by researchers from the Osaka University of Commerce. The JGSS sample is restricted to married men between the ages of 25 to 49 who have a job to match the profile of the married men sample.

Table 2: Treatment Effects on Belief Updating

	Dep. Var: Belief Updating			
	Baseline	Baseline	Follow-Up	Follow-Up
	(1)	(2)	(3)	(4)
Control Video	0.009	-0.134	-0.675	-0.756
	(0.998)	(0.865)	(1.25)	(1.07)
Info-only Video	14.71***	14.31***	6.43***	5.97***
	(1.07)	(0.909)	(1.28)	(1.07)
Full Video	17.46***	16.87***	11.86***	11.21***
	(1.09)	(0.906)	(1.29)	(1.07)
Control Mean	2.28	2.28	5.26	5.26
Controls		X		X
R^2	0.093	0.375	0.028	0.331
Observations	4,292	4,292	4,292	4,292

Notes: The outcome is belief updating which is measured as the difference in mean second-order beliefs post-treatment and pre-treatment from the baseline survey (Columns (1) and (2)) and the difference in mean second-order beliefs in the follow-up survey and pre-treatment from the baseline survey (Columns (3) and (4)). The omitted category in all regressions is the Pure Control, which had no video. Controls include pre-treatment second-order beliefs, own support, age, college dummy, no. of children, expecting to have another child. Robust standard errors in parentheses. Significance levels: *** p< 0.01, ** p< 0.05, * p< 0.10.

Table 3: Belief Updating by Pre-Information Second-Order Beliefs

	Dep. Var: Belief Updating							
	Baseline				Follow-Up			
	Underestimate SOB < 80		Overestimate SOB ≥ 80		Underestimate SOB < 80		Overestimate SOB ≥ 80	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Control Video	0.747	0.187	-2.92	-1.92	0.427	-0.169	-5.41	-4.37
	(0.960)	(0.894)	(3.12)	(2.68)	(1.21)	(1.11)	(3.64)	(3.21)
Info-only Video	16.13***	15.99***	3.12	0.454	7.24***	7.10***	-0.941	-3.90
	(1.02)	(0.937)	(3.22)	(2.87)	(1.25)	(1.12)	(3.66)	(3.29)
Full Video	19.03***	18.50***	5.61*	4.71*	13.23***	12.66***	1.35	0.429
	(1.06)	(0.952)	(3.00)	(2.64)	(1.25)	(1.13)	(3.52)	(3.18)
Control Mean	5.19	5.19	-18.48	-18.48	9.04	9.04	-21.76	-21.76
Controls		X		X		X		X
R^2	0.127	0.292	0.017	0.221	0.039	0.221	0.008	0.191
Observations	3,761	3,761	531	531	3,761	3,761	531	531

Notes: The outcome is belief updating which is defined as the difference in mean second-order beliefs post-treatment and pre-treatment from the baseline survey (Columns (1) to (4)) and the difference in mean second-order beliefs in the follow-up survey and pre-info from the baseline survey (Columns (5) to (8)). Columns (1), (2), (5), and (6) restrict the sample to respondents who underestimate the extent of managers' and colleagues' support for 1-month of paternity leave, i.e., respondents with pre-information second-order beliefs that are less than 80% (actual share who are supportive). Columns (3), (4), (7), and (8) restrict the sample to respondents who overestimate the extent of support, i.e., respondents with pre-treatment second-order beliefs greater than or equal to 80%. The omitted category in all regressions is the Pure Control, which had no video. Controls include pre-treatment second-order beliefs, own support, age, college dummy, no. of children, expecting to have another child. Robust standard errors in parentheses. Significance levels: *** p< 0.01, ** p< 0.05, * p< 0.10.

Table 4: Belief Updating by Video Recall

	Dep. Var: Belief Updating							
	Baseline				Follow-Up			
	Remember Video		Forgot Video		Remember Video		Forgot Video	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Control Video	1.85	1.32	-0.653	-0.698	1.56	1.12	-1.48	-1.43
	(1.63)	(1.36)	(1.07)	(0.929)	(1.88)	(1.63)	(1.38)	(1.16)
Info-only Video	15.90***	15.15***	14.35***	14.05***	10.87***	10.05***	5.05***	4.74***
	(1.77)	(1.49)	(1.17)	(0.987)	(2.05)	(1.72)	(1.39)	(1.16)
Full Video	19.70***	18.01***	16.26***	16.25***	16.77***	14.82***	9.24***	9.35***
	(1.66)	(1.32)	(1.22)	(1.02)	(1.77)	(1.43)	(1.48)	(1.23)
Control Mean	2.28	2.28	2.28	2.28	5.26	5.26	5.26	5.26
Controls		X		X		X		X
R^2	0.102	0.369	0.089	0.356	0.052	0.332	0.018	0.319
Observations	1,990	1,990	3,385	3,385	1,990	1,990	3,385	3,385

Notes: The outcome is belief updating which is defined as the difference in mean second-order beliefs post-treatment and pre-treatment from the baseline survey (Columns (1) to (4)) and the difference in mean second-order beliefs in the follow-up survey and pre-treatment from the baseline survey (Columns (5) to (8)). Columns (1), (2), (5), and (6) restrict the sample to respondents who remember the video, i.e., those who state that they remember watching the video and can recall details/parts of its content. Columns (3), (4), (7), and (8) restrict the sample to respondents who forgot the video, i.e., those who state that they hardly recall the content or barely remember/do not remember watching the video. The omitted category in all regressions is the Pure Control, which had no video. Controls include pre-treatment second-order beliefs, own support, age, college dummy, no. of children, expecting to have another child. Robust standard errors in parentheses. Significance levels: *** p< 0.01, ** p< 0.05, * p< 0.10.

Table 5: Impact of Information on Perceived Support by Supervisor and Co-Workers

	Supervisor Support (std)				Colleague Support (std)			
	Baseline	Baseline	Follow-Up	Follow-Up	Baseline	Baseline	Follow-Up	Follow-Up
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Control Video	-0.010	0.005	-0.086*	-0.072*	0.036	0.051	-0.037	-0.024
	(0.044)	(0.041)	(0.044)	(0.042)	(0.043)	(0.040)	(0.043)	(0.040)
Info-only Video	0.046	0.061	-0.028	-0.014	0.111***	0.127***	-0.014	0.000
	(0.043)	(0.041)	(0.043)	(0.041)	(0.043)	(0.040)	(0.043)	(0.041)
Full Video	0.194***	0.211***	0.035	0.051	0.279***	0.296***	0.085**	0.101**
	(0.043)	(0.041)	(0.044)	(0.042)	(0.042)	(0.039)	(0.043)	(0.041)
Controls		X		X		X		X
R^2	0.007	0.123	0.002	0.092	0.012	0.157	0.002	0.119
Observations	4,292	4,292	4,292	4,292	4,292	4,292	4,292	4,292

Notes: The outcome is the perceived support of the direct manager or co-workers if a male co-worker asked to take one month of paternity leave to care for his newborn child in the baseline or follow-up survey. Perceived support is elicited on a 1 (strongly support) to 5 (strongly oppose) scale. The outcomes are standardized using the control group mean and standard deviation. The omitted category in all regressions is the Pure Control, which had no video. Controls include pre-treatment second-order beliefs, own support, age, college dummy, no. of child, expecting to have another child. Robust standard errors in parentheses. Significance levels: *** p< 0.01, ** p< 0.05, * p< 0.10.

Table 6: Impact of Information on Career Concerns

	Promotion Delay		Relationship Worsen		Guilt Colleagues		Viewed Negatively	
	Baseline	Follow-Up	Baseline	Follow-Up	Baseline	Follow-Up	Baseline	Follow-Up
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Control Video	0.023	0.096**	-0.004	0.049	-0.020	0.048	-0.013	0.038
	(0.041)	(0.042)	(0.041)	(0.043)	(0.042)	(0.042)	(0.042)	(0.042)
Info-only Video	-0.008	0.093**	-0.076*	0.026	-0.077*	0.003	-0.058	0.035
	(0.041)	(0.042)	(0.041)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)
Full Video	-0.024	-0.014	-0.123***	-0.049	-0.079*	-0.052	-0.122***	-0.065
	(0.042)	(0.043)	(0.042)	(0.042)	(0.043)	(0.043)	(0.042)	(0.042)
Controls	X	X	X	X	X	X	X	X
R^2	0.032	0.029	0.057	0.044	0.024	0.012	0.058	0.048
Observations	4,292	4,292	4,292	4,292	4,292	4,292	4,292	4,292

Notes: The outcomes are respondents' views about the percent chance that a particular (negative) career-related event happens (i.e., promotion delay, relationship with boss/colleague suffers, feeling bad/guilty for boss and colleagues, and viewed negatively at work for prioritizing family over work) if a male co-worker takes 1 month of paternity/childcare leave compared to if he does not take any leave in the baseline or follow-up survey. The outcomes are elicited on a 1 (very low chance, 0% to 20%) to 5 (very high chance, 81% to 100%). The outcomes are standardized using the control group mean and standard deviation. The omitted category in all regressions is the Pure Control, which had no video. Controls include pre-treatment second-order beliefs, own support, age, college dummy, no. of child, expecting to have another child. Robust standard errors in parentheses. Significance levels: *** p< 0.01, ** p< 0.05, * p< 0.10.

Table 7: Impact of Information on Advice to Friend

	Dep. Var: Pct Chance $\geq$ 1 Month Leave			
	Baseline	Baseline	Follow-Up	Follow-Up
	(1)	(2)	(3)	(4)
Control Video	2.07	2.61*	1.30	2.02
	(1.62)	(1.51)	(1.69)	(1.60)
Info-only Video	4.14**	4.62***	0.856	1.34
	(1.62)	(1.51)	(1.70)	(1.63)
Full Video	6.82***	7.48***	3.12*	3.81**
	(1.64)	(1.54)	(1.70)	(1.62)
Control Mean	46.92	46.92	45.08	45.08
Controls		X		X
R^2	0.004	0.131	0.001	0.091
Observations	4,292	4,292	4,292	4,292

Notes: The outcome is the percent chance (out of 100) that the respondent would advise a male co-worker to take more than one month of paternity leave in the baseline study (Columns (1) and (2)) or follow-up survey (Columns (3) and (4)). The omitted category in all regressions is the Pure Control, which had no video. Controls include pre-treatment second-order beliefs, own support, age, college dummy, no. of child, expecting to have another child. Robust standard errors in parentheses. Significance levels: *** p< 0.01, ** p< 0.05, * p< 0.10.

Table 8: Treatment Effects on Advice to Friend by Belief Updating

	Dep. Var: Pct Chance $\geq$ 1 Month Leave							
	Baseline				Follow-Up			
	+ Update		No/- Update		+ Update		No/- Update	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Control Video	2.07	2.58*	2.07	2.72*	1.30	2.04	1.30	2.04
	(1.62)	(1.51)	(1.62)	(1.51)	(1.69)	(1.60)	(1.69)	(1.60)
Info-only Video	4.88***	6.34***	2.75	1.05	4.91**	6.22***	-4.88**	-5.94***
	(1.80)	(1.69)	(2.33)	(2.17)	(1.96)	(1.89)	(2.25)	(2.16)
Full Video	8.91***	10.45***	2.97	1.43	6.11***	7.52***	-2.62	-3.72
	(1.83)	(1.75)	(2.34)	(2.19)	(1.89)	(1.82)	(2.41)	(2.33)
Control Mean	47.37	47.37	46.64	46.64	47.41	47.41	42.67	42.67
Controls		X		X		X		X
R^2	0.007	0.131	0.001	0.145	0.004	0.098	0.003	0.105
Observations	3,540	3,540	2,900	2,900	3,481	3,481	2,959	2,959

Notes: The sample is restricted by whether the respondents who watched the boring or full animated information video updated their second order beliefs positively or not/negatively. The belief updating split applies only to respondents in the Boring Video and Full Video treatment arms; respondents in the pure control and control video arms are not classified by updating status and therefore appear in both the "+ Update" and "No/– Update" columns. The outcome is the percent chance (out of 100) that the respondent would advise a male co-worker to take more than one month of paternity leave in the baseline study or follow-up survey. The omitted category in all regressions is the Pure Control, which had no video. Controls include pre-treatment second-order beliefs, own support, age, college dummy, no. of child, expecting to have another child. Robust standard errors in parentheses. Significance levels: *** p< 0.01, ** p< 0.05, * p< 0.10.

Table 9: Treatment Effects on Advice to Friend by Memory of Video

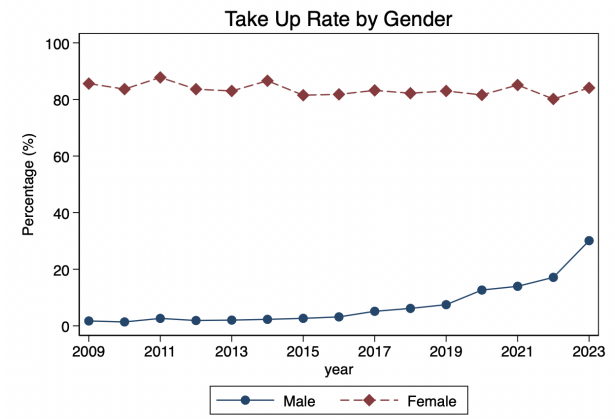
	Dep. Var: Pct Chance $\geq$ 1 Month Leave							
	Baseline				Follow-Up			
	Remember Video		Forgot Video		Remember Video		Forgot Video	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Control Video	1.92	0.721	2.13	3.36**	-1.00	-2.05	2.13	3.51**
	(2.44)	(2.30)	(1.77)	(1.64)	(2.51)	(2.38)	(1.85)	(1.75)
Boring Video	3.87	2.80	4.22**	5.17***	4.19	2.93	-0.179	0.837
	(2.57)	(2.44)	(1.75)	(1.63)	(2.74)	(2.65)	(1.83)	(1.75)
Full Video	9.14***	8.08***	5.59***	7.07***	8.77***	7.75***	0.113	1.72
	(2.26)	(2.19)	(1.86)	(1.74)	(2.29)	(2.22)	(1.93)	(1.85)
Control Mean	46.92	46.92	46.92	46.92	45.08	45.08	45.08	45.08
Controls		X		X		X		X
R^2	0.009	0.121	0.003	0.142	0.008	0.103	0.001	0.092
Observations	1,990	1,990	3,385	3,385	1,990	1,990	3,385	3,385

Notes: The outcome is the percent chance (out of 100) that the respondent would advise a male co-worker to take more than one month of paternity leave in the baseline study or follow-up survey. Columns (1), (2), (5), and (6) restrict the sample to respondents who remember the video, i.e., those who state that they remember watching the video and can recall details/parts of its content. Columns (3), (4), (7), and (8) restrict the sample to respondents who forgot the video, i.e., those who state that they hardly recall the content or barely remember/do not remember watching the video. The omitted category in all regressions is the Pure Control, which had no video. Controls include pre-treatment second-order beliefs, own support, age, college dummy, no. of child, expecting to have another child. Robust standard errors in parentheses. Significance levels: *** p< 0.01, ** p< 0.05, * p< 0.10.

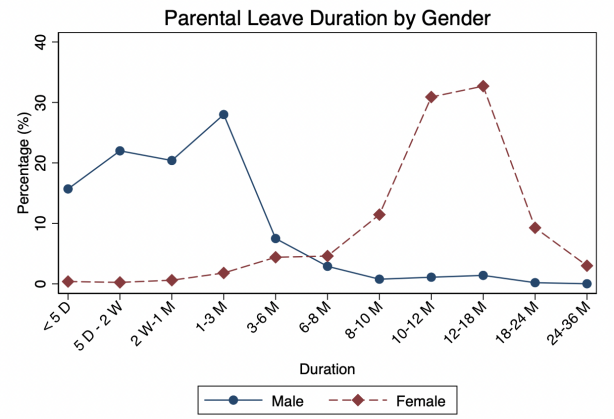
Appendix

Figure A1: Paternity Leave-Taking in Japan

(a) Trends of take-up rate by gender

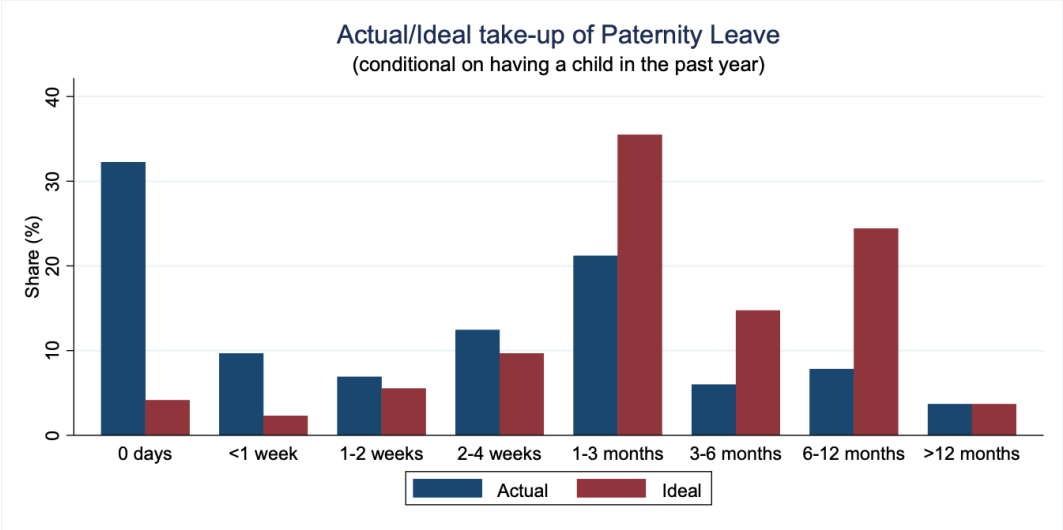


(b) Duration by gender in 2023



Notes: The data is from the Japan Ministry of Health, Labor, and Welfare. Panel (a) shows the take-up rate of leave by gender from 2009-2023, and panel (b) shows the duration of leave taken by gender in 2023.

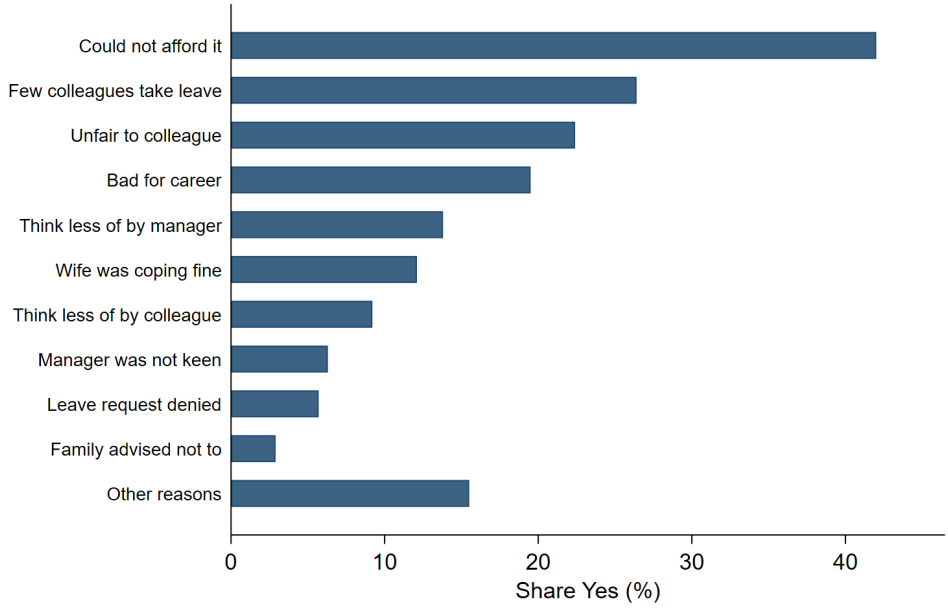
Figure A2: Actual vs. Ideal Take-Up of Paternity Leave



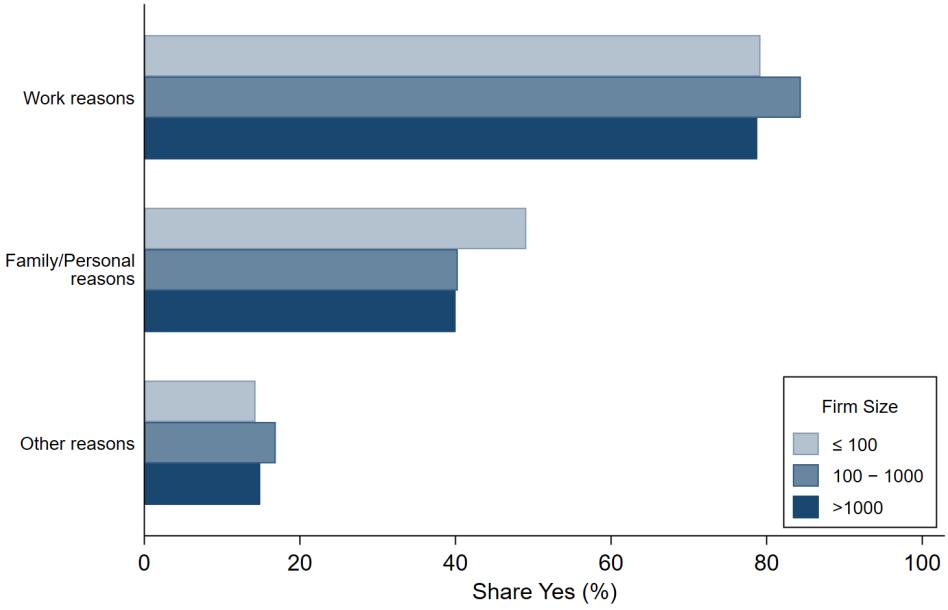
Notes: The figure shows the distribution of answers to both ideal and actual lengths of paternity leaves. For ideal length, we ask "In an "ideal" scenario/setting, how many days of paternity leave would you have liked to take within the first year of your child's birth?", conditional on having a child in the past year. The median actual take-up is 10 days, while the ideal take-up is much longer, 30 days. Also, 80% took less leave than they would have liked.

Figure A3: Perceived Barriers to Taking Leave

(a) Each Item (multiple choices allowed)

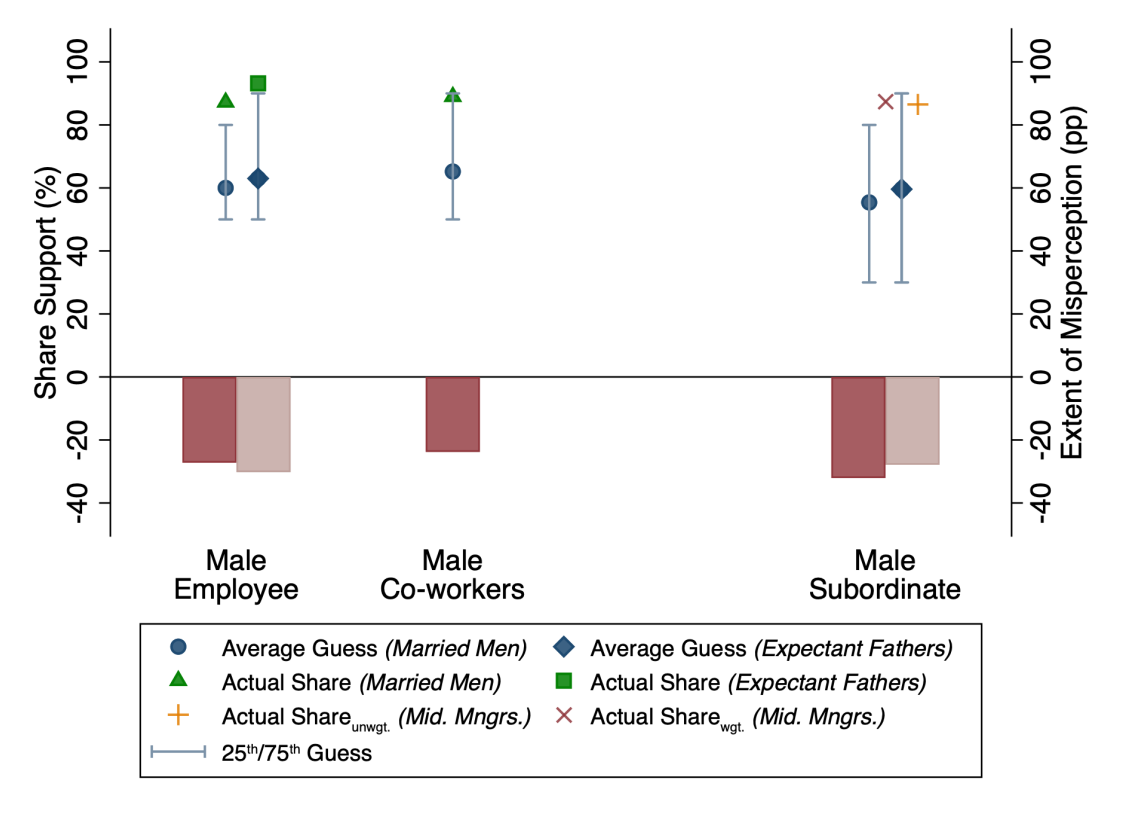


(b) Broad Categories



Notes: This figure shows the distribution of perceived barriers to taking leave in the initial survey of expectant fathers. Panel (a) shows the distribution of answers to the question, "Why did you take (or plan to take) fewer days of paternity leave than you would have liked?", with multiple choices allowed. Panel (b) groups the perceived barriers reported in panel (a) into three broad categories: work reasons, family/personal reasons, and other reasons.

Figure A4: Misperceptions in the Extent of Support – 2 Weeks' Leave



Notes: The figure shows misperceptions in the extent of support for a two-week leave. The green dots show the level of support (i.e., first-order belief, or FOB), and the blue dots just below them correspond to the guess of support from people like themselves (i.e., second-order belief or SOB), along with the 25th/75th percentiles. The bars below these dots show the level of misperception (on the right y-axis), which is the *difference* between the (average) perceived support and the actual share.

Figure A5: Randomized Elicitation Instructions

QA1Y. For the following situations, we would like you to indicate your level of support. But we want you to consider the number of a die throw.

- If 1 shows on the die, tell us "no, I am not supportive"
- If 2 shows on the die, tell us "I don't know"
- If 6 shows, tell us "yes, I am supportive"
- But, if another number, like 3 or 4 or 5 shows, tell us your own opinion about the question that I will ask you after you throw a die.

私たちがあなたの出したサイコロの目が分からないように、以下のリンクをクリックしてサイコロの出た目を覚えておいてください。【説明文を追加】

(To ensure that we cannot see the outcome, please click on the link below and make sure to remember the number you rolled.)

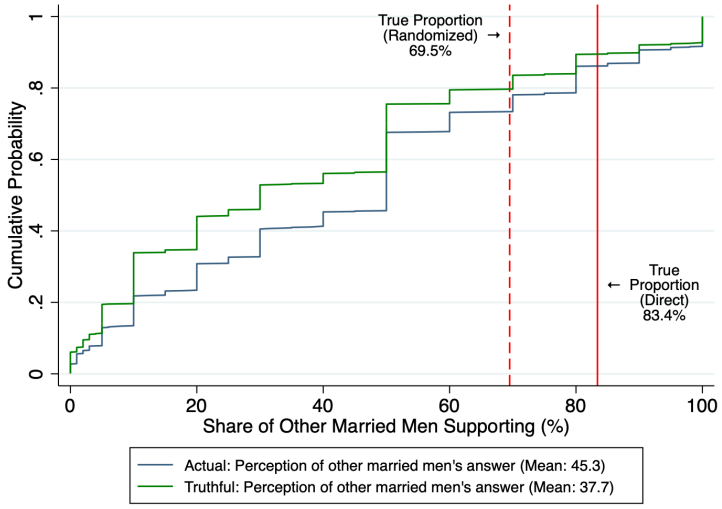
右のリンクをクリックし、サイコロを振ってください。 (https://dice.onl.jp/)

(Click here to roll the die (https://dice.onl.jp/))

リンクをクリックし、サイコロを振ったこと、出た目を覚えていることを確認してください。

(Please confirm that you clicked on the link, rolled a die, and remember the number.)

Figure A6: SDB: Beliefs About Peers' Support (1 Month)



Notes: The figure summarizes the results on beliefs and actual share about other married men's support for their subordinates taking 1 month of paternity leave. For first-order belief elicitation, the *direct* elicitation is our baseline question, which simply asks for their level of support. In the *randomized* elicitation, respondents answer based on a roll of the dice. Specifically, before answering one's support of paternal leave-taking, each respondent is sent to another screen where they roll an electronic die. Respondents are then asked to report whether they are supportive of paternity leave-taking *only if* the die takes the values 3, 4, and 5. In contrast, respondents who roll 1, 2, and 6 are told to report either "I am supportive", "No, I am not supportive", or "I don't know" respectively, regardless of their own support. For second-order belief elicitation, the "truthful" version simply adds the term "truly" (or "honne" in Japanese) to the "actual" version of original question as follows: "How many of these men do you think are *truly (honne)* supportive of a male co-worker/male subordinate..."

Figure A7: Screenshots from the animated information video on paternity leave

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Figure A8: Screenshot of statistical information on support for paternity leave provided in animated and "boring" videos

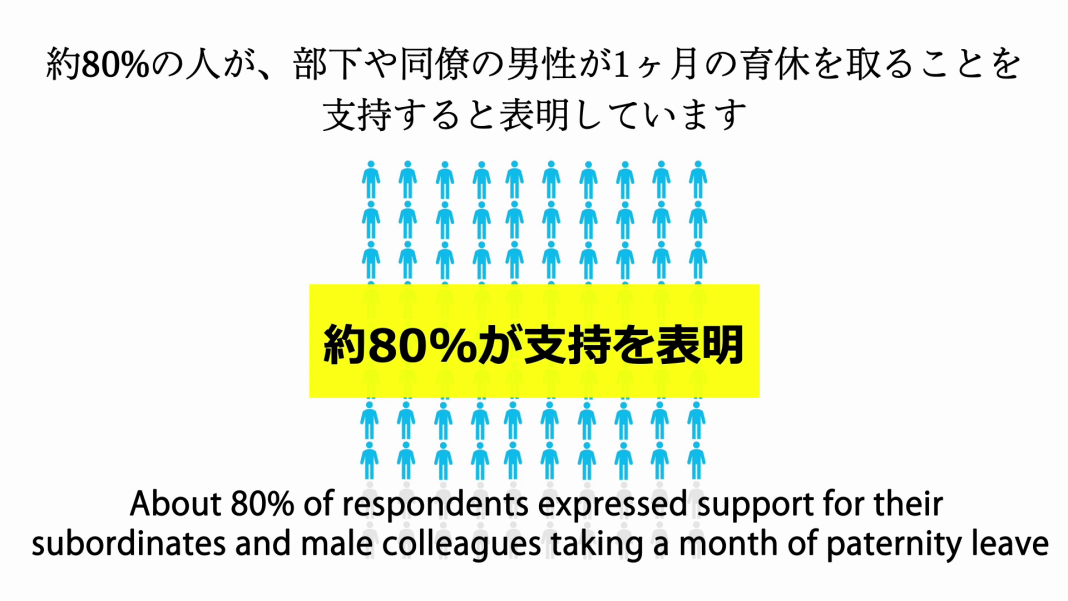
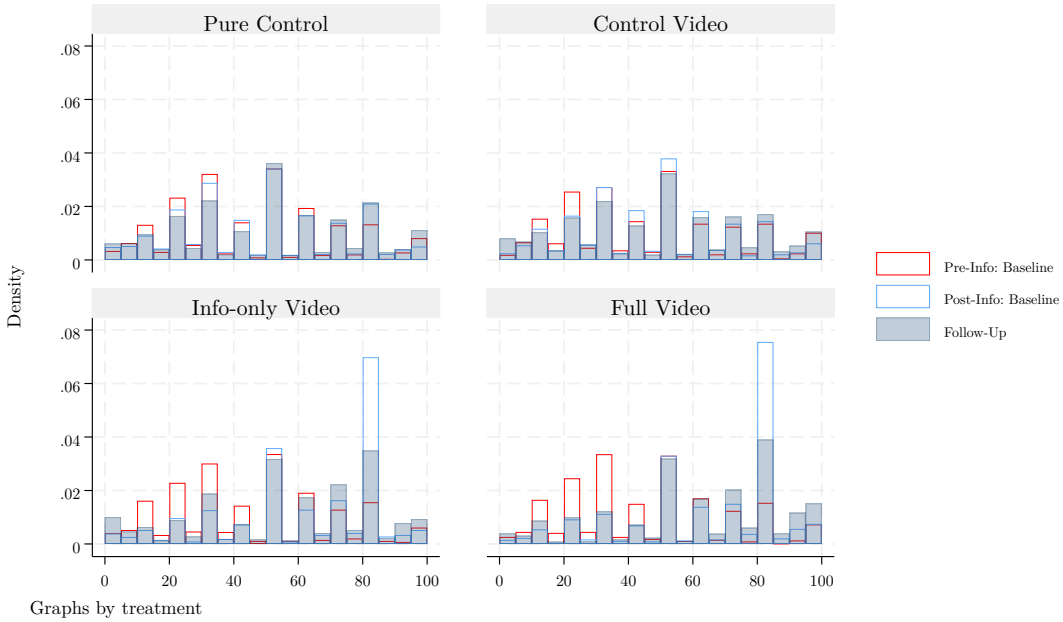
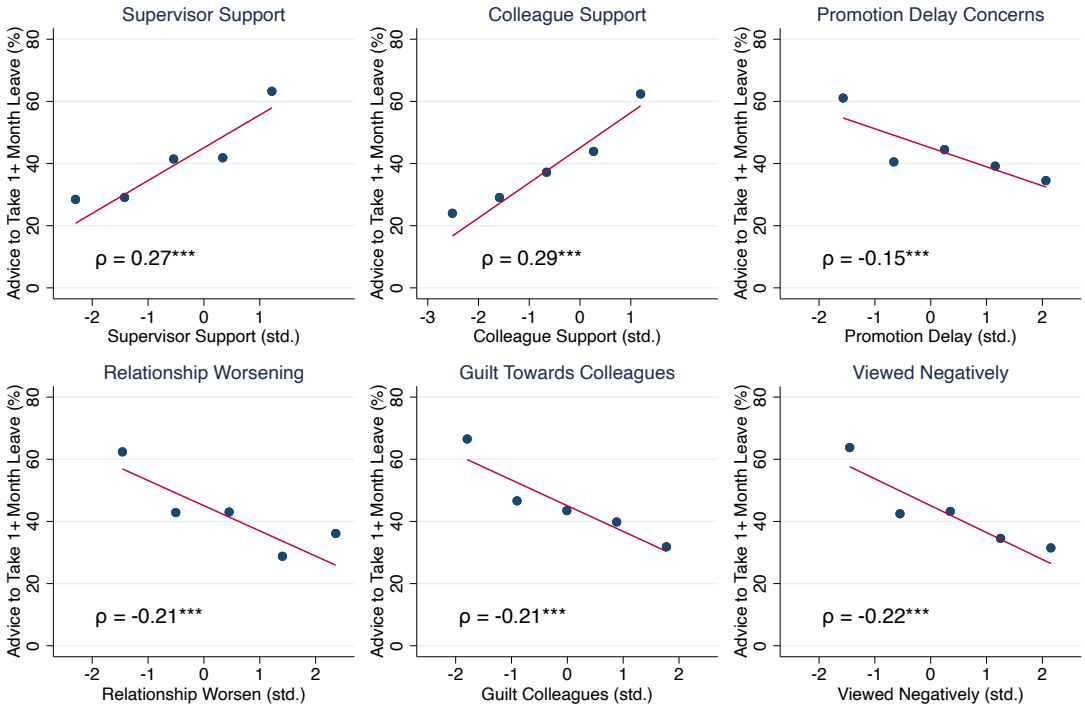


Figure A9: Distribution of Second-Order Beliefs



Notes: The figure shows the distribution of second-order beliefs by treatment arm at different stages of the survey.

Figure A10: Correlations between Advice to Friend and Perceived Support in Own Workplace / Career Concerns



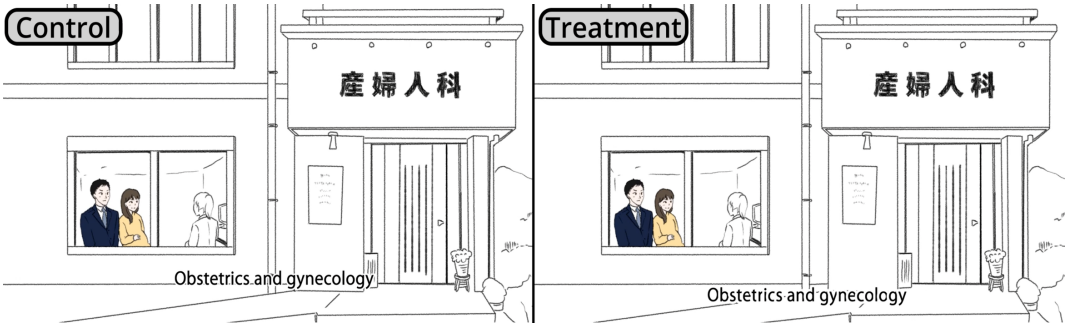
Notes: The figure uses control group data and relates respondents' willingness to advise a coworker to take one month of paternity leave to perceived career costs and perceived supervisor and coworker support (i.e. second-order belief or SOB). For the advice outcome, we asked the question: "Suppose a male coworker (a colleague who works directly with you in your section) is expecting a child soon and is deciding whether to take paternity leave. What is the percent chance (out of 100) that you would encourage him to take: 0 days, <2 weeks, 2–4 weeks, 1–3 months, ≥3 months?".

Table A1: Summary Statistics for the Baseline Surveys

	Married Men	Married Women	Unmarried	Older Generation	Upper Manager	Middle Manager	Expectant Fathers
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Age	38.95	37.28	37.15	68.29	59.24	53.73	35.96
	(5.80)	(7.00)	(7.23)	(3.27)	(7.88)	(7.47)	(5.40)
Education							
High school or less	0.18	0.22	0.23	0.28	0.18	0.15	0.12
2-year college or vocational school	0.12	0.33	0.20	0.21	0.12	0.12	0.13
4-year college or more	0.70	0.45	0.58	0.50	0.70	0.73	0.76
Employment							
Income [10,000 yen]	627.63	246.18	390.88	306.66			631.95
	(278.29)	(187.54)	(209.29)	(264.57)			(215.75)
Hours worked [per week]	44.21	28.95	39.50	26.50			45.27
	(12.53)	(13.93)	(12.30)	(14.69)			(7.17)
Employer Type							
Government	0.21	0.12	0.12	0.10	0.01	0.07	0.31
Private, for-profit	0.79	0.60	0.88	0.69	0.99	0.93	0.69
Employment Status							
Company Employee	0.79	0.50	0.72	0.23			0.74
Public Servant	0.18	0.06	0.08	0.06			0.24
Others	0.03	0.43	0.20	0.71			0.02
Firm Size							
< 50	0.15	0.33	0.25	0.34	0.71	0.19	0.19
$50 - 299$	0.24	0.26	0.27	0.31	0.17	0.28	0.23
$300 - 999$	0.16	0.14	0.16	0.14	0.07	0.19	0.12
≥ 1000	0.45	0.27	0.32	0.21	0.05	0.34	0.46
Observations	5,315	2,000	2,000	2,000	2,001	2,001	103

Notes: This table reports summary statistics (means and standard deviations) for the baseline survey samples as indicated in the first row.

Table A2: Comparison of Control and Treatment Videos

Frame	**Scene (Left: Control, Right: Treatment)**
1	

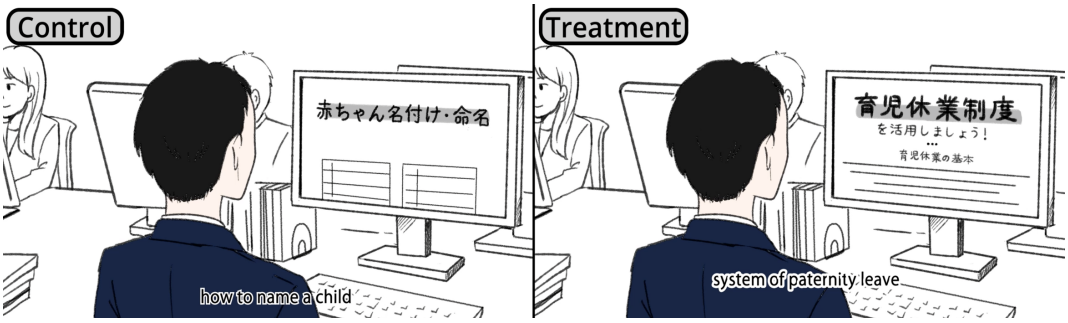
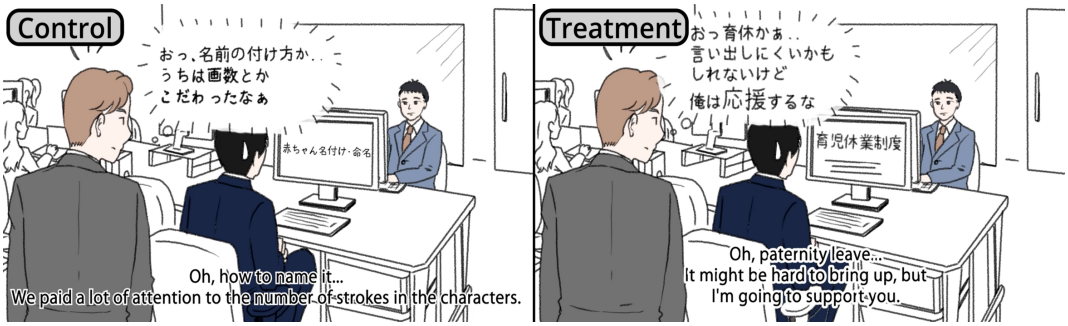
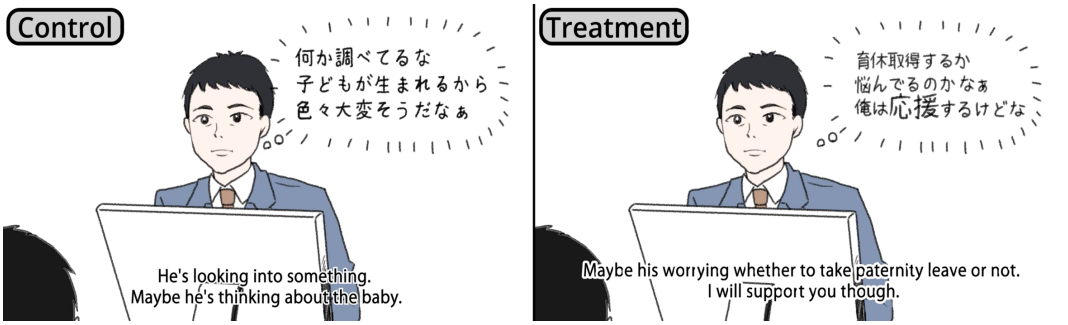
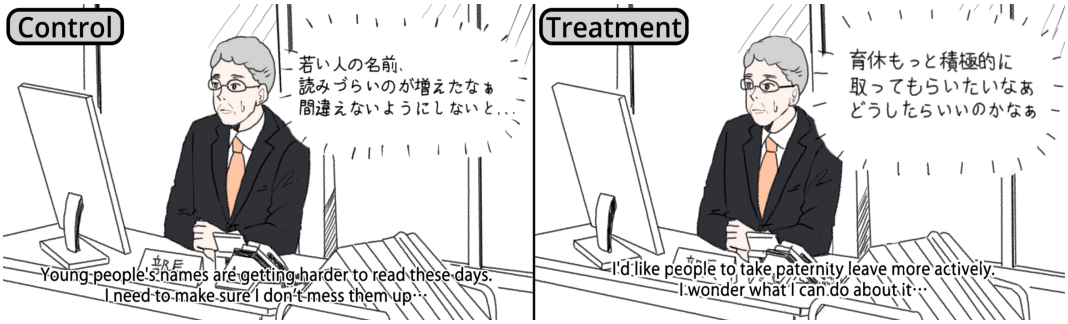
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Table A2 – continued from the previous page

Frame	Scene (Left: Control Video, Right: Treatment Video)
2	
3	
4	
5	

Continued on the next page...

Table A2 – continued from the previous page

Frame	Scene (Left: Control Video, Right: Treatment Video)
6	
7	
8	
9	

Continued on the next page...

Table A2 – continued from the previous page

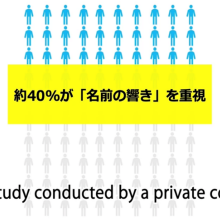
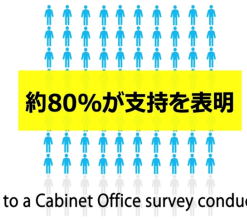
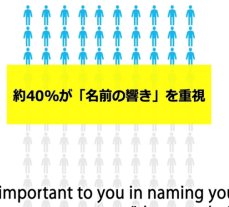
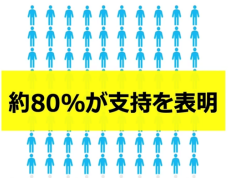
Frame	Scene (Left: Control Video, Right: Treatment Video)
10	Control 3年に民間会社が実施した調査によると ※株式会社リクルート「ゼクシィBaby」名前に関する調査概要（2023年）  According to a study conducted by a private company in 2023,
	Treatment 実施された内閣府の調査によると ※内閣府経済社会総合研究所実施  According to a Cabinet Office survey conducted last year
11	Control けで大切にしたことは？」という質問で、 最も多かった回答は「名前の響き」でした  "What was important to you in naming your child?" the most common answer was "the sound of the name."
	Treatment 部下や同僚の男性が1ヶ月の育休を取ることを 支持すると表明しています  About 80% of respondents expressed support for their subordinates and male colleagues taking a month of paternity leave
12	Control 名付けの基本的なルールとして • 子どもの名前には、戸籍法施行規則第６０条に 「子の名に用いることができる文字」が定められています • 記号や算用数字、アルファベットは、名前に使える文字として 認められていません Symbols, arithmetic numbers, and letters of the alphabet are not recognized as characters that can be used in names.
	Treatment 先ほどの質問であなたは、 部下や同僚の男性が1ヶ月の育休を取ることを 何%の人が支持したと思いましたか？ what percentage of people did you think would express support for a male subordinate or colleague taking a month's paternity leave?
13	Control あなたなら、どのように名前を決めますか？ How would you decide on a name?
	Treatment 大多数の人は、男性の育休を支持しています Most of people support male paternity leave.

Table A3: Treatment Effects on Perceived Support by Belief Updating

	Supervisor Support (std)				Colleague Support (std)			
	Baseline		Follow-Up		Baseline		Follow-Up	
	+ Update	No/- Update	+ Update	No/- Update	+ Update	No/- Update	+ Update	No/- Update
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Control Video	0.007	0.005	-0.071*	-0.072*	0.052	0.051	-0.023	-0.025
	(0.041)	(0.041)	(0.042)	(0.042)	(0.040)	(0.040)	(0.040)	(0.040)
Boring Video	0.165***	-0.129**	0.169***	-0.283***	0.261***	-0.127**	0.207***	-0.300***
	(0.045)	(0.057)	(0.047)	(0.054)	(0.044)	(0.058)	(0.046)	(0.054)
Full Video	0.369***	-0.075	0.210***	-0.265***	0.443***	0.018	0.270***	-0.232***
	(0.045)	(0.059)	(0.046)	(0.062)	(0.043)	(0.056)	(0.045)	(0.059)
Controls	X	X	X	X	X	X	X	X
R^2	0.141	0.126	0.095	0.115	0.172	0.160	0.124	0.145
Observations	3,540	2,900	3,481	2,959	3,540	2,900	3,481	2,959

Notes: The outcome is the perceived support of the direct manager or co-workers if a male co-worker asked to take one month of paternity leave to care for his newborn child in the baseline or follow-up survey. Perceived support is elicited on a 1 (strongly support) to 5 (strongly oppose) scale. The outcomes are standardized using the control group mean and standard deviation. The sample is restricted by whether the respondents who watched the boring or full animated information video updated their second order beliefs positively or not/negatively. The belief updating split applies only to respondents in the Boring Video and Full Video treatment arms; respondents in the pure control and control video arms are not classified by updating status and therefore appear in both the "+ Update" and "No/– Update" columns. The omitted category in all regressions is the Pure Control, which had no video. Controls include pre-treatment second-order beliefs, own support, age, college dummy, no. of child, expecting to have another child. Robust standard errors in parentheses. Significance levels: *** p< 0.01, ** p< 0.05, * p< 0.10.

Table A4: Treatment Effects on Perceived Support by Memory of Video

	Supervisor Support (std)				Colleague Support (std)			
	Baseline		Follow-Up		Baseline		Follow-Up	
	Remember	Forgot	Remember	Forgot	Remember	Forgot	Remember	Forgot
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Control Video	-0.009	0.009	-0.103	-0.060	0.107*	0.029	0.027	-0.043
	(0.064)	(0.045)	(0.070)	(0.045)	(0.061)	(0.043)	(0.063)	(0.043)
Boring Video	0.163**	0.029	0.117*	-0.054	0.191***	0.106**	0.098	-0.031
	(0.067)	(0.044)	(0.068)	(0.044)	(0.067)	(0.043)	(0.068)	(0.044)
Full Video	0.323***	0.155***	0.189***	-0.020	0.400***	0.239***	0.276***	0.008
	(0.058)	(0.045)	(0.058)	(0.048)	(0.054)	(0.044)	(0.055)	(0.046)
Controls	X	X	X	X	X	X	X	X
R^2	0.127	0.117	0.095	0.090	0.161	0.150	0.117	0.116
Observations	1,990	3,385	1,990	3,385	1,990	3,385	1,990	3,385

Notes: The outcome is the perceived support of the direct manager or co-workers if a male co-worker asked to take one month of paternity leave to care for his newborn child. Perceived support is elicited on a 1 (strongly support) to 5 (strongly oppose) scale. The outcomes are standardized using the control group mean and standard deviation. Columns (1), (2), (5), and (6) restrict the sample to respondents who remember the video, i.e., those who state that they remember watching the video and can recall details/parts of its content. Columns (3), (4), (7), and (8) restrict the sample to respondents who forgot the video, i.e., those who state that they hardly recall the content or barely remember/do not remember watching the video. The omitted category in all regressions is the Pure Control, which had no video. Controls include pre-treatment second-order beliefs, own support, age, college dummy, no. of child, expecting to have another child. Robust standard errors in parentheses. Significance levels: *** p< 0.01, ** p< 0.05, * p< 0.10.

Table A5: Treatment Effects on Career Concerns by Belief Updating

	Follow-Up Survey							
	Promotion Delay		Relationship Worsen		Feel Guilty for Colleagues		Viewed Negatively	
	+ Update	No/- Update	+ Update	No/- Update	+ Update	No/- Update	+ Update	No/- Update
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Control Video	0.095**	0.095**	0.049	0.050	0.048	0.046	0.037	0.037
	(0.042)	(0.042)	(0.043)	(0.043)	(0.042)	(0.042)	(0.042)	(0.042)
Boring Video	0.017	0.184***	-0.104**	0.194***	-0.023	0.026	-0.097**	0.206***
	(0.050)	(0.054)	(0.049)	(0.056)	(0.050)	(0.055)	(0.048)	(0.054)
Full Video	-0.140***	0.207***	-0.196***	0.215***	-0.128**	0.075	-0.193***	0.160***
	(0.048)	(0.060)	(0.047)	(0.058)	(0.050)	(0.059)	(0.048)	(0.059)
Controls	X	X	X	X	X	X	X	X
R^2	0.034	0.032	0.051	0.048	0.016	0.012	0.055	0.051
Observations	3,481	2,959	3,481	2,959	3,481	2,959	3,481	2,959

Notes: The outcomes are respondents' views about the percent chance that a particular career-related event happens (i.e., promotion delay, relationship with boss/colleague suffers, feeling bad/guilty for boss and colleagues, and viewed negatively at work for prioritizing family over work) if a male co-worker takes 1 month of paternity/childcare leave compared to if he does not take any leave. The outcomes are elicited on a 1 (very low chance, 0% to 20%) to 5 (very high chance, 81% to 100%) scale. The outcomes are standardized using the control group mean and standard deviation. The sample is restricted by whether the respondents who watched the boring or full animated information video updated their second order beliefs positively or not/negatively. The belief updating split applies only to respondents in the Boring Video and Full Video treatment arms; respondents in the pure control and control video arms are not classified by updating status and therefore appear in both the "+ Update" and "No/– Update" columns. The omitted category in all regressions is the Pure Control, which had no video. Controls include pre-treatment second-order beliefs, own support, age, college dummy, no. of child, expecting to have another child. Robust standard errors in parentheses. Significance levels: *** p< 0.01, ** p< 0.05, * p< 0.10.

Table A6: Treatment Effects on Career Concerns by Memory of Video

	Follow-Up Survey							
	Promotion Delay		Relationship Worsen		Feel Guilty for Colleagues		Viewed Negatively	
	Remember	Forgot	Remember	Forgot	Remember	Forgot	Remember	Forgot
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Control Video	0.180***	0.066	0.097	0.034	0.112	0.028	0.121*	0.010
	(0.068)	(0.045)	(0.070)	(0.046)	(0.070)	(0.045)	(0.070)	(0.045)
Boring Video	0.107	0.089**	0.031	0.026	0.028	-0.001	0.036	0.037
	(0.075)	(0.044)	(0.074)	(0.045)	(0.073)	(0.045)	(0.072)	(0.044)
Full Video	-0.056	0.007	-0.119*	-0.007	-0.024	-0.063	-0.124**	-0.030
	(0.062)	(0.047)	(0.062)	(0.046)	(0.065)	(0.047)	(0.062)	(0.047)
Controls	X	X	X	X	X	X	X	X
R^2	0.029	0.027	0.039	0.045	0.013	0.012	0.048	0.047
Observations	1,990	3,385	1,990	3,385	1,990	3,385	1,990	3,385

Notes: The outcomes are respondents' views about the percent chance that a particular career-related event happens (i.e., promotion delay, relationship with boss/colleague suffers, feeling bad/guilty for boss and colleagues, and viewed negatively at work for prioritizing family over work) if a male co-worker takes 1 month of paternity/childcare leave compared to if he does not take any leave. The outcomes are elicited on a 1 (very low chance, 0% to 20%) to 5 (very high chance, 81% to 100%) scale. The outcomes are standardized using the control group mean and standard deviation. The sample for each column is restricted based on whether the respondent reports that he/she remembers or forgot the video. The omitted category in all regressions is the Pure Control, which had no video. Controls include pre-treatment second-order beliefs, own support, age, college dummy, no. of child, expecting to have another child. Robust standard errors in parentheses. Significance levels: *** p< 0.01, ** p< 0.05, * p< 0.10.

Table A7: Positive Belief Update by Beliefs and Pretreatment Covariates

	Dep. Var: Positive Belief Update
Own Support	0.195***
Pre Belief (decile 2)	0.00982
Pre Belief (decile 3)	-0.0543
Pre Belief (decile 5)	-0.0647
Pre Belief (decile 6)	-0.272***
Pre Belief (decile 8)	-0.214***
Pre Belief (decile 9)	-0.518***
Pre Belief (decile 10)	-0.762***
Age	-0.00224
Employed part-time	-0.0784
One Child	-0.0152
Two Children	0.00387
$\geq$ 3 Children	0.0123
College	-0.0184
Firm Size (10-49)	0.0463
Firm Size (50- 99)	0.00118
Firm Size (100-299)	0.102**
Firm Size (300-499)	0.0549
Firm Size (500-999)	0.0831*
Firm Size ($\geq$ 1000)	0.0855**
Wife emp part-time	0.0721***
Wife self-emp	-0.00528
Wife emp (other)	0.0188
Ln income	0.00444
Ln wife income	0.00248
R^2	0.207
Observations	2,144

Notes: The covariates in this table are pre-treatment characteristics. The outcome is a dummy variable that is equal to one if the respondent updated their second-order beliefs positively between the follow-up survey and pre-treatment in the baseline survey. The "Pre Belief" variables are decile dummies for second-order beliefs. Robust standard errors in parentheses. Significance levels: *** p< 0.01, ** p< 0.05, * p< 0.10

Table A8: Treatment Effect by Predicted Updating

	Dep. Var: Pct Chance $\geq$ 1 Month Leave							
	Above Median		Below Median		Top 25%		Bottom 25%	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Control Video	2.38	3.22	0.247	0.993	4.40	4.34	0.569	0.800
	(2.34)	(2.27)	(2.43)	(2.25)	(3.14)	(3.12)	(3.42)	(3.27)
Boring Video	2.97	2.79	-1.23	0.085	5.28*	5.18	-4.31	-2.54
	(2.37)	(2.31)	(2.45)	(2.30)	(3.16)	(3.15)	(3.49)	(3.28)
Full Video	4.56*	4.98**	1.64	2.60	8.85***	8.90***	-1.89	-1.08
	(2.36)	(2.28)	(2.45)	(2.31)	(3.27)	(3.25)	(3.52)	(3.36)
Control Mean	44.57	44.57	45.59	45.59	44.26	44.26	51.39	51.39
R^2	0.002	0.063	0.001	0.125	0.007	0.020	0.002	0.103
Observations	2,141	2,141	2,151	2,151	1,165	1,165	1,099	1,099
Controls		X		X		X		X

Notes: The outcome is the percent chance (out of 100) that the respondent would advise a male co-worker to take more than one month of paternity leave in the follow-up survey. "Above Median" and "Below Median" restrict the sample to respondents whose predicted belief updating is above or below the median, respectively. "Top 25%" and "Bottom 25%" restrict the sample to respondents whose predicted belief updating is in the top 25% or bottom 25%, respectively. The omitted category in all regressions is the Pure Control, which had no video. Controls include pre-treatment second-order beliefs, own support, age, college dummy, no. of children, expecting to have another child. Robust standard errors in parentheses. Significance levels: *** p< 0.01, ** p< 0.05, * p< 0.10