Union Leaders: Experimental Evidence From Myanmar*

Laura Boudreau† Rocco Macchiavello‡ Virginia Minni§

Mari Tanaka¶

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Abstract

Economic theory suggests that leaders may play a key roles in enabling social movements to overcome collective action problems through a variety of distinct mechanisms. Empirical tests of these theories outside the lab are scarce due to both measurement and identification challenges. We conduct multiple field experiments to test theories of leadership in the context of Myanmar's burgeoning labor union movement. We collaborate with a confederation of labor unions as it mobilizes garment workers in the run-up to a national minimum wage negotiation. We present three sets of results. First, we document that union leaders differ from union members and non-members along several traits that psychologists and organizational sociologists have associated with ability to influence collective outcomes. Second, we randomly embed leaders in group discussions on workers' preferred and expected minimum wage levels. A leader's presence in the group improves group engagement and increases workers' consensus around the unions' preferred minimum wage levels. Third, we conduct a mobilization experiment in which workers are invited to participate in an unannounced activity that features strategic complementarity in turnout. Leaders influence participation through both coordination and social pressure mechanisms rather than by simply motivating workers.

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†Columbia University, CEPR, and IGC. l.boudreau@columbia.edu

‡STICERD, IGC and Department of Economics, LSE. r.macchiavello@lse.ac.uk

§STICERD and Department of Economics, LSE. v.m.minni@lse.ac.uk

¶Hitotsubashi University, Graduate School of Economics. mari.tanaka@r.hit-u.ac.jp

1 Introduction

Social movements have been critical drivers of institutional changes, as historically observed: In the 19th century, the eight-hour day movement, in the early 1900s, the suffragettes, in the 1950s, the civil rights movements, and in this century, the green movement (Della Porta and Diani, 2020), to name but a few. To succeed, social movements must form a *consensus* around common objectives and tactics and also *mobilize* members to participate in activities with high private costs and uncertain public benefits (Ganz, 2010). Unlike other organizations, however, social movements cannot rely on formal hierarchies and contracts to align objectives and to mobilize members. In the absence of these organizational tools, *leaders* may play a critical role. Indeed, according to Hermalin (2012)'s definition of leadership, "...one of the essences of leadership is the ability to induce others to follow absent the power to compel or to provide formal contractual incentives...A leader is someone with followers, who follow voluntarily."

A large theoretical literature has formalized several channels through which leaders might influence members' behaviour, e.g., through signalling (Hermalin, 1998; Loeper et al., 2014); coordination (Dewan and Myatt, 2008; Acemoglu and Jackson, 2015; Akerlof and Holden, 2016) and various forms of social pressure (Kosfeld and Rustagi, 2015). Empirical tests of these theories outside the lab, however, remain scarce due to both measurement and identification challenges. On the measurement front, it is difficult to observe many leaders trying to solve the same collective action problem. On the identification front, it is difficult to distinguish if a given individual influences others (i.e., is in fact a leader) or if her behaviour is simply the ambassador of underlying group dynamics - a version of the well-known "reflection problem" (Manski, 1993).

This paper provides experimental evidence on the roles of union leaders in Myanmar's burgeoning labor movement, which is broadly representative of the struggles in organizing labour movements in newly industrializing countries (see, e.g., Visser et al. (2019)). To do so, we collaborated with a confederation of labor unions in the garment sector that represents workers' interests in the national minimum wage setting-process, the Confederation of Trade Union in Myanmar (CTUM). In the run-up to the negotiations, the confederation organized weekend sessions with workers to discuss the minimum wage and

to gather systematic information on skills and cost of living.

While helping the CTUM to organize the discussions and to conduct the surveys, we embedded multiple experiments to examine 1) whether and how union leaders matter in the process of consensus formation regarding the minimum wage and 2) how they mobilize workers to participate in privately costly activities for the common good. As the member unions are organized at the factory level, we are able to conduct multiple experiments to study the behaviour of many union leaders across numerous garment factories, thereby overcoming the empirical challenges highlighted above.

We present three sets of empirical results. We first document that union leaders are distinct from union members and non-members in several demographic and psychological traits that organizational sociologists and psychologists associate with the ability to influence collective outcomes (Zaccaro et al., 2004; Duckworth and Quinn, 2009). In each factory, the union leadership is structured around an elected union president and executive committee that negotiates with the factory management and coordinates activities with the confederation. Below these formal roles, several (typically) non-elected line leaders (LLs) organize and voice the concerns of other union members. We find that, relative to other workers, presidents and leaders are more educated, have more work experience, and have higher Raven scores. They also have greater grit, altruism, locus of control, and lower neuroticism.

We then presents results from two sets of field experiments. In these experiments, we focus on understanding how LLs influence workers' behavior. There are two justifications for our choice to focus on LLs. First, LLs are tasked by the union to directly interact, mobilize, and gather and channel the concerns of the workers. Second, we confirm that LLs, of whom there is a far greater number, resemble formal leaders along several characteristics. In the experimental design, we can thus observe the behavior of several leaders who, albeit not (yet) formally elected to leadership positions within the union, share many of the traits of (and are likely to subsequently become) union leaders.[1]

In the first experiment, we test whether (and how) leaders shape consensus about the movement's objectives. We randomly embed leaders in group discussions about workers'

[1]We also conducted two experiments involving presidents. Due to the COVID-19 pandemic, however, we could only cover 60% of the sample. Given the much lower number of presidents (one per factory) compared to LLs, we are underpowered to detect effects in these experiments.

preferred and expected minimum wage levels. We find that leaders improve group engagement and increase workers' consensus around their unions' preferred minimum wage levels. By experimentally varying whether a leader is assigned to a group with workers from her own or from another factory, we show that it is the leader's own attributes, including her resemblance to formal leaders, rather than her *social connections* or *formal role* in the organization, that drive the increase in consensus.

In the second experiment, we test whether (and how) leaders are able to mobilize workers to undertake a privately costly action for the common good. We invited workers to participate in an unannounced survey, which is a costly activity that features strategic complementarity in turnout at the discussion group level (the research team would donate to a skills training center for each full discussion group that attended the survey). Specifically, we vary whether workers: (i) are invited to the survey by the leader (motivation arm); (ii) are informed about how many discussion group members are motivated by the leader (coordination arm); (iii) whether they are informed that the leader will observe their decision to participate (social pressure arm). Coordination by the leader influences workers' take-up of the offer; in contrast, motivation by the leader alone does not increase take-up. Finally, observation of the workers' choice by the leader also increases take-up through a signaling channel.

Related Literature We contribute to three main strands of the literature. First, we relate to the literature on leaders' role in overcoming coordination and free-riding problems. There is a large theoretical literature on the importance of leaders in social movements (Hermalin (1998); Loeper et al. (2014); Acemoglu and Jackson (2015); Akerlof and Holden (2016)). Empirically, the literature is largely composed of lab-experiments (Potters et al. (2007); Komai et al. (2010); Sahin et al. (2015)) with the exception of few field-experiments engaged with leaders in real world (e.g. on signalling and reciprocity (Jack and Recalde, 2015), and on sanction enforcement (Grossman and Baldassarri, 2012)). We contribute to this literature by providing novel evidence on leaders' role in overcoming coordination and free-riding problems from experiments with many different real-world leaders in a burgeoning labor movement.

Secondly, the paper is related to the literature on industrial relations and labor unions in developing countries (see, e.g. Freeman (2010) for a survey). On the one hand,

unions' influence might be detrimental if they misalign prices from competitive market equilibrium (e.g. Calvo (1978)) and can also directly affect firm productivity via strikes and disputes that could reduce production efficiency (Krueger and Mas, 2004). On the other, unions might also foster workers-management collaboration by aggregating workers' preferences and increasing information flow to management (Brown and Medoff (1978); Freeman and Lazear (1995); Jäger et al. (2019)). Moreover, by providing a vehicle through which workers "voice" their issues, unions can lead to longer tenure and higher firm-specific human capital investment (Hirschman (1970); Freeman and Medoff (1984); Adhvaryu et al. (2019)). More broadly, we contribute to a recent literature on the causes and consequences of industrial relations institutions in developing countries (Tanaka, 2020; Boudreau, 2021; Macchiavello et al., 2020; Breza et al., 2019; Akerlof et al., 2020; Lin et al., 2019). We contribute well-identified evidence on the role of union leaders in shaping unions' effectiveness in achieving their objectives.

Finally, we contribute to an emerging empirical literature on the determinants of social movements' formation and growth. One stream of this literature focuses on how information about others' participation affects individuals' decisions to participate in protests; it underscores that coordination problems present an important challenge to turn-out and emphasizes the importance of mechanisms to enhance coordination (mainly, communication technology) (González, 2020; Enikolopov et al., 2020; Manacorda and Tesei, 2020).[2] A second stream focuses on how the presence of leaders affects individuals' decisions to participate. Dippel and Heblich (2021) and Cagé et al. (2020) provide novel evidence from different historical social movements that exposure to leaders increases participation, but both are constrained in their ability to speak to the mechanisms through which leaders influence collective outcomes. We contribute experimental evidence on leaders' effects on individuals' participation in collective action, in particular their coordinating role. Further, we provide causal evidence on the mechanisms through which leaders exert influence.

The remainder of this paper is organized as follows. Section 2 provides institutional

[2]In contrast to other recent papers on this topic, Cantoni et al. (2019) provide causal evidence of strategic substitutability in protest turn-out in the context of Hong Kong's long running democracy movement. In these types of settings, even if leaders do not serve a coordinating role, in principle, they may still play important roles through other channels such as social pressure.

background on the CTUM, its role in setting Myanmar's minimum wage, and its member unions. Section 3 presents our research design. Section 4 presents descriptive evidence on leaders' characteristics and how they compare to their followers in our setting. Section 5 discusses the design and results from the consensus-building experiment. Section 6 presents the theory, design, and results from the mobilization experiment. Finally, Section 7 concludes.

2 Context

We study union leaders in Myanmar's labor movement in the garment sector. Myanmar's national laws regarding industrial relation are very recent: Unions have only been legally allowed only since 2011 (The Labor Organization Law, 2011). Since then, the number of unions has been growing rapidly. According to the Ministry of Labour, Immigration and Population (MoLIP), as of mid-2020, there were 2,861 registered trade unions.[3] Unlike in some countries, unions in Myanmar are not formed to represent or to oppose certain political figures. Therefore, Myanmar offers a suitable setting to examine the roles of leaders at the early stage of labor movements that are not politically influenced.

At the same time, the export-oriented garment sector has expanded rapidly after the trade liberalization and domestic policy reforms that took place in 2011. The garment sector is the largest exporting industrial sector in Myanmar. As of 2020, approximately 600 factories employ nearly 500,000 workers (Myanmar Garment Manufacturers Association, 2020).

2.1 The Confederation of Trade Unions in Myanmar (CTUM)

We collaborated with the Confederation of Trade Unions in Myanmar (CTUM), the largest confederation of trade unions in Myanmar. In 2015, the CTUM was officially recognized as the only trade union confederation in Myanmar, marking a significant phase in Myanmar's ongoing labor movement.[4] In particular, there were 42 garment factories in

[3]These consist of 2,683 basic organizations, 147 township organizations, 22 state/regional organizations, 8 federations, and 1 confederation. Source here (last accessed on June 22, 2020).

[4]Member federations include the Agriculture and Farmers Federation of Myanmar (AFFM), the Building and Wood Workers Federation of Myanmar (BWFM), the Industrial Workers' Federation of

Myanmar that had a factory-level basic union affiliated to the CTUM, representing 10% of the garment sector and 58% of unions in the industrial sector affiliated to the CTUM. Factory unions usually negotiate with management about a number of issues. From our survey, pay is the most common topic of negotiation, but also working conditions, leave, working hours.

In 2019, the CTUM sought a collaboration with our research team in order to provide evidence for the approaching policy dialogue on Myanmar's minimum wage revision in 2020. Myanmar's statutory minimum wage is scheduled to be reconsidered every two years, according to the Minimum Wage Law (2013), in conformity with the rapidly changing situations of the economy. Since the minimum wage was set at MMK 4800 in 2018 (USD 3.14), the next revision was scheduled for May 2020.[5] In the 2018 minimum wage setting process, the CTUM advocated for a MMK 6600 minimum wage and mobilized workers to demonstrate in favor of its position.

The CTUM was part of a tripartite National Minimum Wage Committee together with the government and the employers' representatives. We agreed to conduct workers' surveys and discussion groups in the garment sector to collect rigorous and detailed data on living costs, skill levels, working conditions, and workers' well-being and views about the minimum wage. Using this information, we produced a joint-report with the CTUM on skills and living costs in order to inform its position on the 2020 minimum wage revision. While conducting the surveys and discussions, we also agreed to run field experiments to understand the role of leaders in shaping collective outcomes. Throughout the activities, we ensured to limit direct effects of the CTUM on participants' actions and survey responses by only allowing the research staff to be on-site when the sessions were taking place.

Myanmar (IWFM), Mining Workers' Federation of Myanmar (MWFM), Myanmar Transport and Logistics Federation (MTLF) as well as Public Sector and Education Sector Unions. Some of them are affiliated with global unions while not all union federations are members of CTUM.

[5]Due to COVID-19 and the November 2020 elections, there were delays in the minimum wage negotiations and the minimum wage was not revised in 2020. Due to the seize of power by the military on February 1, 2021 (the day before the Parliament of Myanmar was due to swear in the members elected at the November 2020 general election), as of early 2021, Myanmar's future democratic prospects are highly uncertain. Anecdotally, union leaders in garment factory have been playing an active role in mobilizing workers for resistance to the military takeover (source here, last accessed on April 29, 2021).

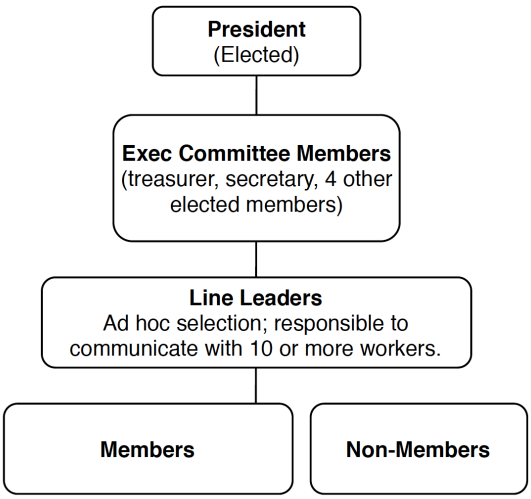
2.2 Who are union leaders in Myanmar?

The leaders in our setting are elected and informal leaders of factory-level unions. The Myanmar Labor Organization Law (2011) sets the terms required to establish a union officially recognized by the law. According to the Labor Law, any group of minimum 30 workers can form a factory-level union. To form a union, seven union leaders need to be elected and they form the Executive Team. The president is at the top of union's hierarchy, below whom there is an Executive Committee (EC) that includes one secretary, one treasurer, and four other elected members (see Figure 1). The basic requirements to become a union leader are that the worker has worked at the factory for at least six months, is at least 21 years old, and has a valid national identification number. The EC regularly attends meetings with the factory management, negotiating matters such as wages, leave, worker benefits. Finally, the Labor Law prescribes that elections are held every two years (unless the President resigns from the position, in which case an emergency election is held). There is no term limit on union leaders.

Below the EC, there are the team/line leaders (LLs) to facilitate the communications with the workers[6]. Line leaders are not elected by the union members but are instead recommended by union members, selected by the president or the EC, or are self-nominated. Their tasks mostly revolve around communicating with union members as well as recruiting new members. Typically, union membership fees are around 2000 kyats (USD 1.4) per month.

[6]The CTUM aims to have 1 LL for every 10 workers in each unionized factory. In practice, there are fewer LLs. In our sample, the average LL oversees 33 workers, and the 10th percentile is 7 workers while the 90th percentile is 65.

Figure 1: Union Organizational Structure



In our setting, being a union leader is not a paid job. Union leaders are workers in the factories and evidence from our survey suggests that there are non-trivial costs of becoming a union leader. 70% of presidents and 40% of LLs reported having experienced disadvantages at their factory related to their union activity. Moreover, although the estimates are noisy, Presidents (LLs) seem to face a 20% (15%) wage penalty after controlling for skill measures (average sewing efficiency, number of operations, factory skill grade), demographics (age, gender, migrant (0/1), education, months in factory, months in sector) and personality traits (extraversion, agreeableness, conscientiousness, neuroticism, and openness (Rammstedt and John, 2007)).

3 Research design

In this section, we describe our sampling protocol and field activities. The field activities entailed surveys and group discussions with workers at garment factories that had a factory-level basic union affiliated to the CTUM for the purpose of soliciting their inputs to the CTUM's position on the minimum wage.

3.1 Sampling

We implemented the field activities with workers at garment factories in the Yangon region that had a factory-level basic union affiliated to the CTUM from December 2019 to March 2020. We focused on Yangon and Bago regions where a majority of garment factories in Myanmar locate. There were 41 garment factories that had a union affiliated with the CTUM in these regions. We planned for around 30-35 factory-level unions to participate and the final list included 32 garment unions expected to be part of the intervention. The selection of the factories was done together with the CTUM and the main criteria were strength of the affiliation to the CTUM, location of the factory with respect to the survey location and time of union foundation at the factory (some factories were just in the process of finalizing the establishment of the union in the factory). Unfortunately, due to COVID-19, we had to stop our data collection activities earlier than the scheduled end; 17 unions in Yangon region fully completed the data collection activities and 19 partially completed them.

We used a random sampling protocol that we designed to obtain a sample that was representative of the target population, sewing operators in the targeted factories. It entailed three stages.

First, the CTUM convened the presidents and secretaries of the 32 garment basic unions for an introduction meeting. During the meeting, the CTUM explained the research, requested the unions' participation, and introduced the survey team. Union leaders also completed (1) a factory information form about the factory's sewing lines, their sizes, and their union membership rate and (2) a union information form about the union's organizational structure. Leaders were informed in advance that the survey team would request this information.

Second, the research team matched LLs and EC members to sewing lines and stratified sewing lines by their quartile of the share of workers unionized. We then implemented a stratified random selection of up to 11 sewing lines; in factories with fewer than 11 LLs and EC members, the research team selected a number of lines equal to the total number of LLs and EC members.[7]

[7]We prioritized LLs, only selecting EC members in factories with fewer than 11 LLs. In factories with fewer than 11 sewing lines, we selected the minimum of {Number of sewing lines, Number of LLs

For each randomly selected line, if it had a LL on it, we assigned the LL to make a complete list of workers on the line, including their union membership status and skill level (higher/low). If a line had multiple LLs, we randomly selected one to make the list. If a line had no LLs, we selected the LL from the nearest non-randomly selected line and broke ties using random selection. We also invited these LLs to participate in the field activities.

LLs brought the lists of workers to their union's first session, which we describe below. At this stage, the survey team conducted a stratified random selection of around 90 workers per factory; in addition to factory, we stratified by line, union membership, and skill level.

In total, we invited 18 presidents and 1 secretary (19 factories)[8], all of whom participated. We invited 190 LLs from the 19 factories, and 170 participated. For the workers' sessions, we could only cover 17 factories, as Covid-19 closures kicked in during the week we were supposed to run the worker session for the two factories that participated in session 1 the week before. We invited 1511 workers from the 17 factories, and 916 participated (61 % take-up). Among them, we invited 936 union members and 594 participated (63% take-up) while we invited 575 non-union members and 322 participated (56% take-up).

Throughout the empirical analysis, we weight observations so that they are representative at the factory level.

3.2 Field activities

We embedded a series of experiments in the survey and discussion process. For each factory, we scheduled two consecutive sessions on Sundays. In each session, we included two factories. The sessions were held on Sundays because it is the weekday when most workers have a day off of work. Participation in the session is costly, as it is workers' only free day (and for some workers, a day to earn an extra wage through overtime work). We

+ EC members}. In factories with greater than 50 workers per line, we randomly selected the front or back half of the line to participate. When when factories were >80% unionized (<20% unionized), we slightly oversampled lines from bottom (top) quartile unionization rate. This was to ensure adequate representation of non-union (union) members in field activities. We excluded sewing lines if the president was the only union leader on the line, although in practice, this was rare.

[8]One union was replacing its president, and the Secretary stepped in the role ad interim.

compensated every participant for their transportation cost (5000 kyats) and time at the average wage rate of a typical working day (6000 kyats)[9].

Figure 2: Overview of field activities

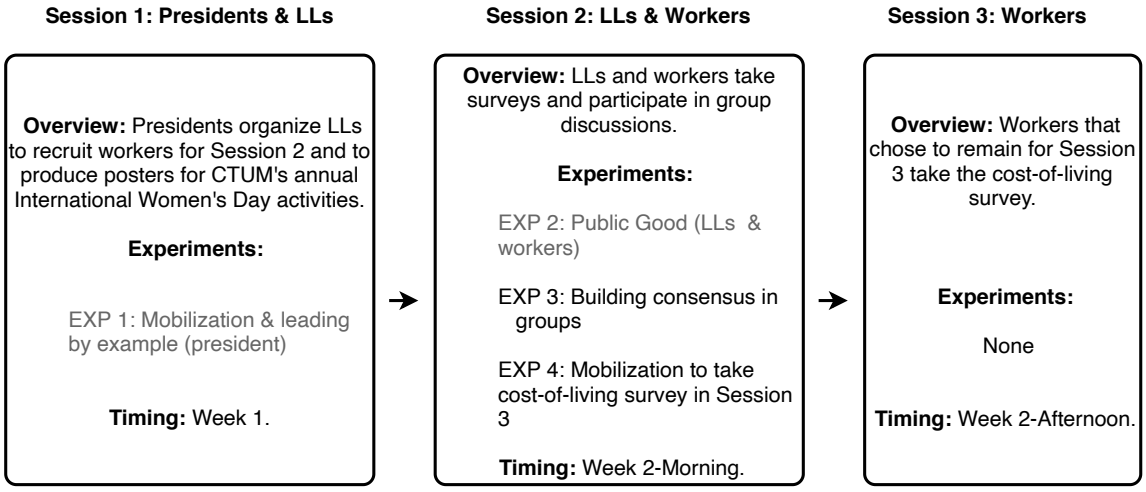


Figure 2 provides an overview of the field activities. In session 1, only presidents and LLs attended. We implemented a survey and a skill assessment exercise as well as a mobilization experiment. The survey covered basic demographic questions as well as information on wages, behavioral characteristics, and psychological traits. The mobilization experiment (EXP 1) was about presidents motivating LLs to mobilize workers to attend the session the next Sunday (session 2) and encouraging LLs to produce posters for CTUM's annual International Women's Day activities (March 8, 2020). Given the much more limited number of presidents compared to LLs, and the more limited number of LLs compared to workers - and, crucially, both issues having been exacerbated by the smaller sample size than initially planned due to the Covid-19 outbreak - our preliminary results for this experiment are under-powered compared to those with workers. As such, we present this experiment in the Supplementary Materials.[10]

In session 2, only LLs and workers participated. In the morning, we implemented

[9]Many unions preferred to organize communal transportation, in which case we did not reimburse participants.

[10]EXP 1 entailed a cross-cutting design with two main treatment arms: A speech arm, in which LLs received a speech by the president about the importance of mobilizing workers for the survey, and a poster arm, in which LLs were shown a sample poster about CTUM's annual International Women's Day activities that was made by the president. The outcome for the speech arm was worker turnout in session 2 and the outcome for the poster arm was the number of posters produced by the LLs in a 30-min poster session.

a survey, a skill assessment, a public good experiment, and a group discussion experiment on the minimum wage. After providing participants with lunch, we conducted a mobilization experiment. In this experiment, we invited workers to remain for an additional (unanticipated) living cost survey for the rest of the afternoon. The survey covered questions about living expenses and working conditions. In addition to the surveys, we collected audio and video recordings of some of the main activities. Moreover, the field team filled out detailed observation forms while running the different activities.

Partway into the intervention, we realized that the public good experiment was not working as planned (EXP 2). This experiment was designed to test leaders' potential role of leading by example in the provision of a public good (e.g., Jack and Recalde (2015)). The endowment of 1500 kyats we gave to participants (slightly more than USD 1), however, was too little: Only 7% of leaders and 18% of workers donated less than the full amount (regardless of treatment arm). As such, we report the contribution levels in Appendix Figure A.1, but we do not discuss them further in the text.[11]

4 Descriptive analysis

Beginning with the characteristics of the factories in our sample, we report summary statistics in Appendix Table A.1. The average factory size is 1187 workers and 40% of workers are union members. Average union tenure is 29 months (number of months the union has been in place at the factory) and average tenure as a union president is 18 months.

Turning to the union leaders and workers in our sample, we report summary statistics in Table 1. The descriptive statistics highlight three types of leadership traits. First, union leaders tend to be more educated and experienced compared to workers. They also have more moderate views about the minimum wage both in terms of beliefs about the next revision (*Min Wage Guess*) and about their personal preferences (*Min Wage Ideal*). This evidence supports the view of leaders as *experts* (see e.g. Loeper et al. (2014) on the influence of experts on coordinating large groups of agents). One reason to follow a leader is that the follower believes the leader knows better what action should be taken,

[11] We provide additional information on the public good experiment in the Supplemental Materials.

which can be proven if leaders undertook activities to learn the relevant knowledge such as higher education and longer factory work experience.

Second, leaders appear to be more social and central in workplace networks. This evidence is consistent with Akerlof and Holden (2016) who show how social connectedness can make leaders emerge as movers and shakers, increasing participation not only by making agents aware of a project but, even more importantly, by making agents aware that others are aware and are considering participating. Third, zooming into psychological traits, leaders tend to have higher Raven Score (Bilker et al., 2012), greater grit (Short Grit Scale, Duckworth and Quinn (2009)), altruism[12], and locus of control[13], and score differently on Big Five Inventory (BFI) personality traits (extraversion, agreeableness, conscientiousness, neuroticism, and openness, Rammstedt and John (2007)). This evidence lends support to the view that leaders' *charisma* matters for their ability to shape preferences (Hermalin, forthcoming). This is consistent with a rich literature on social psychology that documents that leaders tend to have greater cognitive ability, grit, and score differently on certain personality traits (see e.g. Zaccaro et al. (2004) and Duckworth and Quinn (2009)).

We report robustness checks for the descriptive patterns highlighted in Table 1 by controlling for psychological traits in Appendix Table A.2 and demographics in Appendix Tables A.4 and A.3.

Overall, this evidence is in line with the view of leadership as a phenomenon that exists independent of office or title, where one of the essences of leadership is precisely the ability to induce others to follow absent the power to compel or to provide formal contractual incentives (Hermalin, 2012). To be able to do so, leaders must have particular characteristics and a psychological predisposition to influence followers.

[12]Altruism is assessed via an incentivized question: the respondent chooses how much to keep for herself or donate to a local orphanage institution, out of an endowment of 1500kyats.

[13]This question is taken from the World Values Survey and asks to indicate using a 5-point Likert scale how much freedom of choice and control the respondent feels to have over the way her life turns out.

Table 1: Summary Statistics

	Presidents	Line Leaders	Union Workers	Non-Union Workers	Total
Female	0.260	0.871	0.964	0.969	0.928
	(0.452)	(0.336)	(0.187)	(0.174)	(0.259)
Education (Yrs)	6.752	7.459	7.693	7.840	7.655
	(4.057)	(2.482)	(2.772)	(2.669)	(2.718)
Raven Score	4.874	4.416	4.487	4.864	4.574
	(3.077)	(2.474)	(2.748)	(2.842)	(2.720)
Income	240915.7	232485.3	239176.0	236788.9	237060.7
	(61729.5)	(40007.9)	(37759.9)	(40867.4)	(39728.7)
Migrant	0.596	0.555	0.523	0.519	0.531
	(0.505)	(0.498)	(0.500)	(0.500)	(0.499)
Months in Factory	37.91	36.10	33.28	20.81	30.91
	(34.19)	(30.21)	(35.27)	(27.25)	(32.74)
Months in Sector	62.91	71.90	51.96	43.01	54.58
	(54.76)	(52.14)	(48.75)	(50.21)	(51.04)
Min Wage Guess	6099.6	6318.5	6493.7	6478.5	6440.4
	(984.3)	(1357.5)	(1191.6)	(1150.8)	(1219.5)
Min Wage Ideal	7245.7	7410.0	9362.7	7510.5	8397.9
	(835.4)	(2102.1)	(21169.2)	(2159.1)	(14991.1)
Socialized with union members	4.994	2.040	0.885	0.419	1.128
	(8.120)	(2.902)	(1.666)	(1.105)	(2.387)
Consulted by union workers	3.800	6.311	.	.	6.091
	(2.422)	(14.03)	(.)	(.)	(13.43)
Consulted by non-union workers	1.590	3.304	.	.	3.153
	(1.996)	(10.93)	(.)	(.)	(10.47)
Grit	3.556	3.345	2.573	2.558	2.770
	(0.604)	(0.569)	(0.485)	(0.534)	(0.625)
Altruism	1446.9	1405.2	1275.0	1234.5	1298.9
	(212.6)	(287.4)	(416.3)	(484.8)	(411.1)
Degree of Choice	4.561	4.114	4.026	4.008	4.054
	(0.655)	(1.288)	(1.267)	(1.382)	(1.293)
Extraversion	3.605	3.644	3.380	3.415	3.455
	(0.726)	(0.797)	(0.755)	(0.717)	(0.762)
Agreeableness	3.212	4.040	3.864	3.898	3.899
	(1.574)	(0.711)	(0.771)	(0.830)	(0.807)
Conscientiousness	4.419	4.040	3.905	4.063	3.987
	(0.470)	(0.854)	(0.769)	(0.781)	(0.792)
Neuroticism	1.888	2.572	2.645	2.674	2.618
	(0.885)	(0.853)	(0.817)	(0.882)	(0.850)
Openness	2.404	2.965	2.960	3.016	2.963
	(0.655)	(0.724)	(0.748)	(0.781)	(0.753)
Obervations	18	170	594	322	1104

Notes. Unit of observation is worker. The table summarizes basic demographic characteristics by type of worker. *Education* range from 0 (no education) to 15 (Bachelor's degree). *Income* is the self-reported last month's income in Myanmar kyat. *Socialized with union members* is number of times union leaders and members met other union members for social activities in the past 4 months. Consulted by union/non-union workers is number of times union leaders were consulted about issues at the factory in the past month. Altruism is amount donated to local orphanage out of an initial endowment of 1500kyats. Probability weights used.

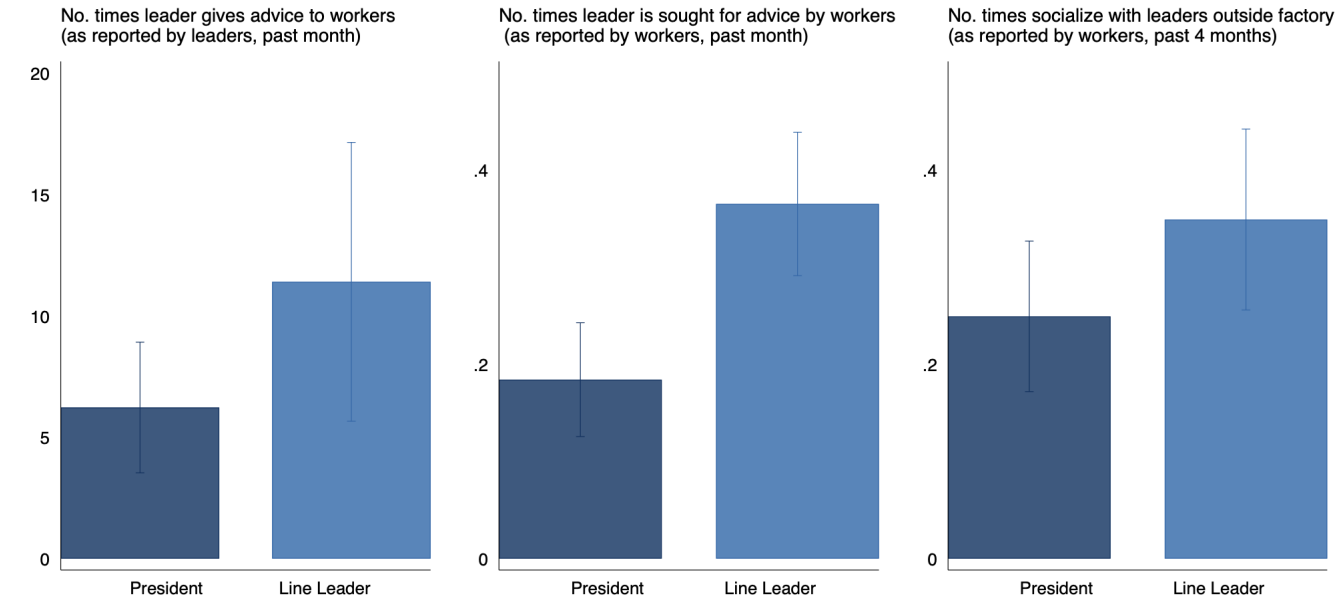
4.1 Presidents and LL quality

In this section we focus on the characteristics of LLs compared to Union Presidents and we justify our choice of LLs as our union leaders in the experiments that we run. This choice can be substantiated by two main reasons. First, presidents typically negotiate with management and represent workers in courts while LLs communicate with workers, monitoring them and recruiting new union members. As a result, LLs are usually much more in contact with both union members and non members[14]. In this respect, Figure 3 shows that LLs are sought after for advice and social activities by workers much more often than presidents. Hence, while presidents and LLs fill different roles, both may act as leaders, and it is the LLs, instead of the president, that have to engage day-to-day with persuading and mobilizing of workers towards the union goals. We also asked LLs about their aspirations to become union presidents, and they were 13.3 percentage points (pps) more likely to report that they have a goal to become members of the Executive Team compared to union workers (statistically significant at 5% level).

Second, LLs look more similar to presidents compared to workers (both union and non-union members). In Figure 4, we summarize the differences between presidents, LLs, union members, and non-union members. We show the cumulative distribution of the predicted probability of workers and LLs being similar to presidents using a probit model with factory fixed effects, demographic controls, personality metrics, and psychological metrics. The horizontal dotted line at 0.5 indicates that while LLs in the bottom half of the quality distribution are indistinguishable from workers in terms of their characteristics, LLs in the the top half of the distribution are different from the workers and are closer to presidents' characteristics.

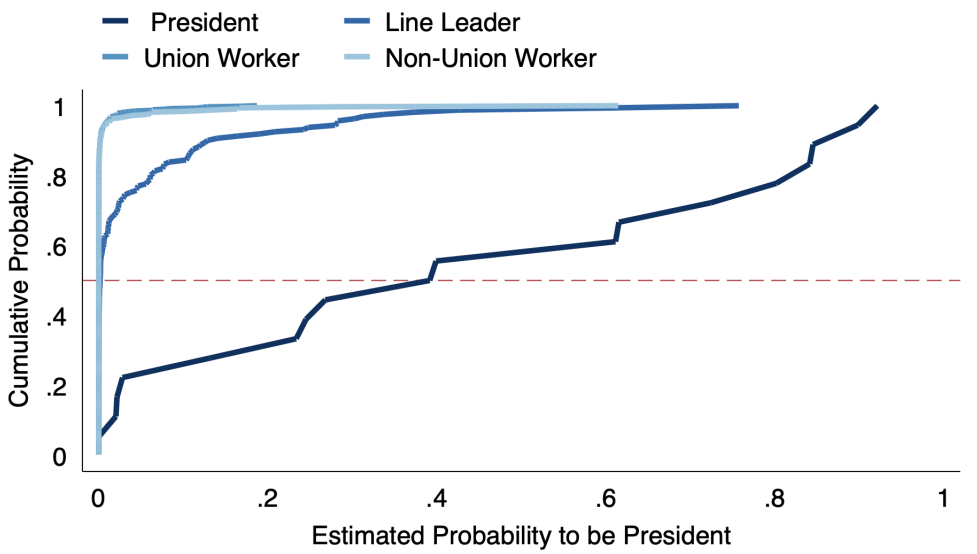
[14]We asked Presidents and LLs about their time-use in union related activities. In Appendix Figure A.2 we show how Presidents and LLs allocate their time differently among various union-related activities.

Figure 3: Presidents and line leaders' contact with workers



Notes. Whiskers show the 95 percent confidence intervals of the means.

Figure 4: Presidents and line leaders' quality



The figure shows the cumulative distribution of the probability of a worker being a president estimated by a probit model with factory fixed effects, demographic controls (gender, age, education migrant(0/1), months in factory/sector), personality metrics (extraversion, agreeableness, conscientionsness, neuroticism, openness) and psychological metrics (raven score, grit, altruism, choice in life). Robust standard errors used.

We use this predicted similarity to the president as a measure of leader quality in our analysis. As such, we validate it by correlating it against a number of other quality measures collected throughout the sessions: *Share of Workers Present*, which measures the share of workers a LL mobilises to the survey sessions; *Poster Effort*, which measures how many posters per minute a LL produces when prompted to produce posters for International Women's Day; *Union Effort*, which measures effort on union activities derived from baseline survey questions and *Leadership Tenure*, which measures the number of years a LL has been in this role. Table 2 presents the results. As leader quality is a generated variable, we report bootstrap standard errors using 500 replications. There is a positive, statistically significant correlation between our leader quality measure and most of these indicators (p =0.10 for *Share of Workers Present* and p =0.11 for *Leadership Tenure*).

Finally, an additional advantage that follows from studying LLs instead of presidents is the much larger sample size: there are 170 LLs in our sample compared to 18 presidents.

In light of our discussion of LLs' characteristics, and as they are the focus of the empirical analysis, we denote them as *leaders* in the rest of the paper.

Table 2: Line leaders' quality: Validation with other measures

	Share of Workers Present	Poster Effort	Union Effort	Leadership Tenure
	(1)	(2)	(3)	(4)
Leader High Quality	0.0710	0.162**	0.227***	0.269
	(0.0432)	(0.0749)	(0.0852)	(0.181)
Stratification FEs	Yes	Yes	Yes	Yes
R-squared	0.638	0.310	0.403	0.281
Mean	0.64	0.67	0.20	1.14
Number of obs.	117	142	168	168

Notes. Unit of observation is line leader. *Leader Quality* is estimated by a probit model, which includes factory fixed effects, demographics (gender, age, education, migrant(0/1)), months in factory/sector, personality metrics (extraversion, agreeableness, conscientionsness, neuroticism, openness) and psychological metrics (raven, score, grit, altruism, choice in life). In this table, we construct the binary version, *Leader High Quality*, =1 if predicted quality is above median. Col. 1 reports *Share of Workers Present* amongst all workers invited by each line leader and controls for the treatment status, the total workers invited by each line leader, and the share of union workers in each line. Col 2 reports the number of completed posters per minute and controls for treatment and poster literacy. Col 3. reports an index of effort for union-related activities, which is an average of the following: number of times the line leader met with factory management, EC members, and union leaders (President/Treasurer/Secretary), the number of times LL approached non-union members and the number of union meetings attended. Col 4. reports the number of years an LL has been Union Line Leader. Probability weights and bootstrap standard errors used. Controlling for Factory FEs.

5 Consensus-building experiment

In this section, we describe an experiment to investigate whether leaders help to form consensus over groups' objectives and shared understandings. To test this possibility, we designed an experiment in which workers from the same factory were randomly exposed to union leaders during group discussions around the minimum wage. We organized workers into discussion groups of 5-6 workers and asked them to discuss their preferences and beliefs; we informed groups that their feedback would be provided to the CTUM to determine its position on the minimum wage.

5.1 Theoretical foundations

It was important for the CTUM to achieve consensus among workers on their preferred minimum wage, and possibly, its divergence from more probable minimum wage levels,

in order for it to determine a credible public position and for it to mobilize workers to turn out in support of its position. Accordingly, we explore two potentially important ways that union leaders may build consensus among workers around their *preferred* and *expected* minimum wage levels.

The first is providing *information*. We hypothesize that as union "insiders," leaders may have superior knowledge of their union's preferred minimum wage and of more probable potential minimum wage outcomes of the policy-setting process compared to workers. If so, leaders may play the role of expert (Hermalin, 2012), providing information to workers to influence their choice of the preferred minimum wage and their beliefs about the potential minimum wage levels. In our experiment, leaders can make public statements to a group of workers. Accordingly, we consider the possibility that leaders provide public information that serves to coordinate workers' choices of their preferred and expected minimum wage levels (in the sense of Morris and Shin (2002)).[15]

The second is influencing workers through *charisma*, those personal qualities associated with an individual's ability to influence others. As discussed in Section 4, in our setting, union leaders score higher than workers on the psychological traits associated with these qualities. Hermalin (forthcoming) models the potential for leaders to exert influence through charisma to make emotional appeals to followers; more effective leaders use emotional appeals when "just the facts" does not provide followers with sufficiently strong incentives. Antonakis et al. (2020) test this possibility in a field experiment with temp workers; they vary the charisma in a leader's motivational speech and find that it increases workers' effort to prepare envelopes for a fundraiser. Accordingly, we consider the possibility that leaders influence workers' preferences and beliefs through their personal traits.

Finally, we considered the possibility that leaders influence group outcomes not due to their own information or leadership qualities, but due to their *social ties* with other workers (Bandiera et al., 2009). We took this possibility into account in our experimental

[15] A theoretical literature in economics on group decision making considers the potential for an information sender, such as a leader, to persuade group members to support their position. These models largely consider the sender's ability to persuade group members under varying assumptions about the availability of private communication, decision making rules, and group size (e.g., Caillaud and Tirole (2007)). Our experiment is not designed to test these theories, as it does not vary these aspects of the game.

design by randomizing workers' exposure either to leaders with whom they may have social ties or to leaders with whom they are very unlikely to have social ties.

5.2 Experimental design

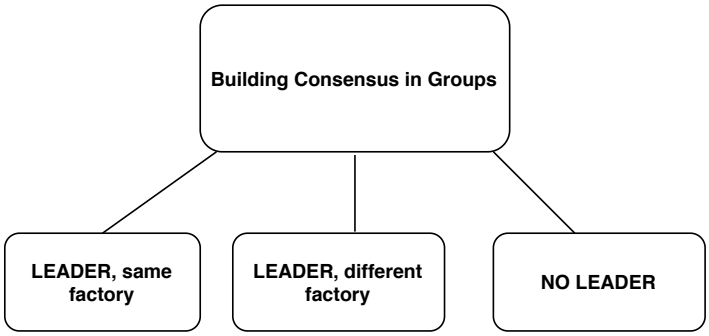
This experiment took place in Session 2, after workers completed the baseline survey. We stratified workers by their factory and union membership and randomly assigned them to one of three types of discussion groups, which Figure 5 displays. In the first type of group, we randomly assigned a leader from the same factory to participate in the group's discussion. In the second type, we randomly assigned a leader from a different factory to participate in the group's discussion. This treatment arm allows us to test whether leaders' effects are due to social ties or to leaders' attributes. The final type, with no leader participation, is the control condition.

We report balance tests across the three experimental arms in Appendix Table A.5. While the treatment and control arms are balanced across nearly all tests, there are a few statistical imbalances. When available, we present treatment effects with controls for the baseline value of the outcome variable. We also present results controlling for covariates selected using the post double selection (PDS) lasso (Belloni et al., 2014).[16]

When forming the groups, we randomized the size of discussion groups (including the leaders) to be either 5 or 6 persons; hence, the leaders' groups are not necessarily larger. The field team implemented the randomized assignment during the worker survey. At the end of the worker survey, they provided workers and leaders with cards that identified their discussion group number. Thus, workers and leaders arrived in the group discussion room concurrently. We did not provide leaders with any specific identification or instructions to lead the discussion.

[16]This approach allows us to test our results' robustness to the possibility that chance imbalances between the treatment and control groups influence our estimates.

Figure 5: Group discussion experiment



The field team explained to discussion groups that they would discuss the minimum wage. The team provided a brief background of the minimum wage-setting process and its history in Myanmar and then explained the prompt below, which we also provided to discussion groups in writing. Finally, the field team told groups that they would have 30 minutes to discuss and requested participants to turn off their cell phones (barring a specific need to keep them on). The prompt was:

> *The CTUM will prepare a proposal for the government on the minimum wage increase. The CTUM wants to gather workers' expectations and opinions to help determine its proposal. For 30 minutes, we would like for you to please discuss the following questions:*
>
> - *How do you think that a minimum wage increase may benefit workers? How do you think that a minimum wage increase may harm workers? Do you think it will affect different groups of workers, for example, skilled versus unskilled, union members versus non-members, differently?*
> - *In 2020, at what level do you think the government will set the new minimum wage for an eight-hour work day?*
> - *In your opinion, what would be the ideal minimum wage level for an eight-hour work day?*
>
> *Your summary will be provided to the CTUM to help it prepare its proposal to the government. We provide some white blank papers so that you can take*

notes on these papers while you discuss. At the end of the 30 minutes, please take five minutes to summarize the group's opinions about these questions using this sheet.

We provided discussion groups with reporting templates and scrap paper to summarize their groups' opinions, which were placed in the center of the discussion group. At the end of the 30 minutes, groups had 5 minutes to summarize their discussion using the templates. We informed groups that the discussion summaries would be shared with the CTUM in order to help it to prepare its minimum wage proposal. At the end of the group discussion session, workers and leaders participated in a follow-up survey about their group's discussion and about their preferences and beliefs about the minimum wage.

We estimate the effects of leaders' participation on convergence to the leaders' preferred minimum wage, on convergence to the leaders' expected minimum wage, and on workers' engagement in the discussion. For convergence in preferences (beliefs) to the leaders' ideals (beliefs), we face the challenge that control groups did not have a leader, so we need to determine a reference leader for these groups. Our preferred measure is constructed as follows: We take the average of preferred (expected) minimum wage among all union leaders within the factory, including the president, measured during the baseline leader survey. We measure the absolute deviation in workers' views from this average before and after the group discussion. For the external leader arm, we use the average of leaders at the external factory.[17] We present several alternative measures (e.g., convergence to the discussion group member who is most similar to a leader among the control) and several placebo tests. Our results are robust to all of these specifications.

We measure workers' engagement in the discussion in two ways. First, we use several questions about workers' enjoyment of and engagement in the group discussion from the follow-up survey to construct a worker-level summary index of engagement. Second, we use the field team's assessment of how active a group discussion is, which we also summarize using a group-level summary index. See Appendix B.1 for the variables included in each index.

[17] Our results are robust to using the median of leader views or to only using the president's view.

5.3 Results

First, we test whether a leader's participation in the discussion induces convergence in workers' preferences and beliefs to the union leaders'. We test: (1) the effect of having a leader, and (2) the effect of having a leader from one's own factory versus from a different factory.

$$Y_i = \alpha_0 + \alpha_1 Leader_i + \mathbf{X}_i'\beta + \epsilon_i \tag{1}$$

$$Y_i = \alpha_0 + \alpha_1 OwnLeader_i + \alpha_2 ExternalLeader_i + \mathbf{X}_i'\beta + \epsilon_i \tag{2}$$

where Y_i is the outcome for worker i. $Leader_i$ is an indicator for having a leader participate in your group's discussion. X_i is a vector of strata fixed effects and group size fixed effects. Finally, ϵ_i is the residual. For individual-level regressions, we report standard errors clustered by group. For group-level regressions, we report robust standard errors. In equation 2, $OwnLeader_i$ is an indicator for having a leader from your own factory in your group, and $ExternalLeader_i$ is an indicator for having a leader from a different factory in your group. When available, we include a control for the baseline value of the dependent variable. We also present the results using the post double selection (PDS) lasso to select control variables (Belloni et al., 2014). The set of potential controls include all variables in Appendix Table A.5, personality traits, and psychological traits.

Table 3 presents the results. Panel A presents the main effect of having a leader participate, while Panel B presents the effects separately for internal and external leaders. Columns (1)-(2) show that leaders' participation causes workers' *preferences* for the minimum wage to converge to the union's preferred level. There is a 20% decrease in the average absolute deviation from union leaders' preferred view ($p<0.05$). Interestingly, this effect is not solely driven by union leaders from workers' own factory, although the effect is qualitatively larger for this group; Panel B shows that leaders from external factories induce convergence to their own union leaders' preferred minimum wage. In our placebo and robustness tests, we will show that this effect is not an artifact of how we construct the outcome variable. These results support the hypothesis that it is the leader's role, and not social connections, that underlie the effects. In sum, we find that union leaders play a crucial role in building consensus around the union's preferred min-

imum wage level among diverse workers in the minimum wage bargaining process. This result is consistent with sociological theories of leadership in social movements, which describe one of leaders' roles as building consensus among participants of "the world as it should be" (Ganz, 2010).

Turning to *beliefs*, we next test whether leaders play a role in terms of conveying information about the likely outcome of the minimum wage-setting process. Columns (3)-(4) show the effect on the deviation from the union leaders' average expected minimum wage. While negative, suggesting less divergence from leaders' expectation, the point estimates are small and not statistically significant. This is also true when we split by own versus external leader. In sum, we do not find strong evidence of leaders' acting as experts by providing insider information about the likely outcome of the minimum wage setting process.

Appendix Figure A.2 is helpful to interpret this finding; it ranks presidents' and line leaders' time spent on activities according to how presidents spend their time. Compared to presidents, line leaders spend much less time in tasks that may convey insider information about the minimum wage-setting process, such as meetings with management, meetings with leaders in other unions, and going to court. Consequently, the null result may be due to their more specialized leadership role, which does not lead them to acquire insider information about the likely outcome of the minimum wage setting process. Hence, the differential results on leaders inducing convergence in preferences but not in beliefs indicate an important role for leaders providing information.

Next, we turn to the *engagement* outcomes in order to test for supporting evidence of leaders' influence on the nature of the group discussions. Beginning with workers' self-reported engagement, columns (5)-(6) show that leaders' participation positively affects workers' self-reported engagement in the discussion. On average, workers report 0.14 standard deviation (sd) higher engagement when a leader participates ($p<0.01$). Columns (7)-(8) show that the field team also rates groups with leaders 0.13 sds higher in terms of having an active discussion ($p<0.05$).[18]

[18]We did not inform workers of the presence of a leader in their group. In the follow-up survey, we asked workers whether a union leader participated in the group discussion. In Appendix Table A.6, we test whether workers in groups with union leaders were more likely to perceive a union leader's presence. We find that workers with leaders in their group were about three times as likely to report the presence of a leader (41 pp increase on a control mean of 22 pp). Workers were more likely to detect leaders

In Panel B, columns (5)-(8), we test whether these effects may be driven by social connections with the leader, as opposed to the leader's characteristics and behavior. The estimated treatment effects for leaders from the workers' own factory and from an external factory are similar for both self-reported engagement and field team-rated engagement. Social ties do not explain leaders' effects on workers' engagement in the group discussion.

To provide more qualitative insights into how leaders are building consensus around the unions' preferred minimum wage level, we divide the engagement index into three sub-indexes. The first sub-index includes survey questions that measure enjoyment, interest, and how worthwhile the group discussion was. The second includes survey questions that measure the extent to which the group reached consensus on question prompts. The third includes survey questions that measure the worker's own participation in the group discussion.

Appendix Table A.7 presents the results. Column (1) shows that leaders have a small, positive effect on the enjoyment index ($p<0.10$). Column (2) shows that the largest effect, by far, is on groups' achieving agreement on question prompts; leaders' participation increases reported consensus by 0.3 sds ($p<0.01$). The effect on self-reported participation, however, is small and not statistically significant (0.09 sd increase, $p=0.203$). We interpret the fact that agreement substantially increases, and enjoyment significantly increases, without a statistically significant increase in participation, as suggestive evidence that leaders are not simply facilitating the discussion among workers, but are influencing their preferred and expected minimum wage levels through information and/or charisma. In the next subsection, we provide suggestive evidence of the extent to which one or both of these mechanisms may be in play. We are also currently transcribing recordings of the group discussions, which we will analyze to provide greater insight into mechanisms.

from their own factory, although workers in external leader groups were also substantially more likely to detect a leader in their group.

Table 3: Group Discussions: consensus-building

	Deviation from Leaders' Preference		Deviation from Leaders' Belief		Engagement		Active Group	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Leader								
Leader	-223.0**	-223.5**	-19.82	-19.82	0.148***	0.137***	0.131**	0.131**
	(94.63)	(92.95)	(55.04)	(53.85)	(0.0462)	(0.0425)	(0.0545)	(0.0518)
R-squared	0.246	0.227	0.340	0.296	0.090	0.126	0.392	0.393
Panel B: Own versus External LL								
External Leader	-182.9	-185.9*	-11.05	-11.05	0.128*	0.122**	0.139*	0.139*
	(111.2)	(109.1)	(76.99)	(75.27)	(0.0669)	(0.0604)	(0.0758)	(0.0717)
Own Leader	-248.9**	-247.7**	-25.43	-25.43	0.161***	0.147***	0.126**	0.126**
	(105.4)	(103.6)	(64.38)	(62.94)	(0.0483)	(0.0446)	(0.0626)	(0.0592)
R-squared	0.247	0.228	0.340	0.296	0.090	0.126	0.392	0.392
Control Mean	1130.078	1130.078	712.308	712.308	-0.039	-0.039	0.127	0.127
Number of obs.	914	914	914	914	914	914	201	201
p-values								
Own Leader = External Leader	0.532	0.551	0.869	0.866	0.621	0.681	0.877	0.870
PDS lasso selected controls	N	Y	N	Y	N	Y	N	Y

Notes. Unit of observation is worker in all columns but in Col. 7 and Col.8, where it is discussion group. *Engagement* is an index of the following self-reported survey measures of participants' engagement: group consencus on minimum wage prediction/preferences (*GroupAgreePrediction*, *GroupAgreeIdeal*), freedom to express views (*GroupExpressIdeas*, *GroupUnease*[reverse]), interest and enjoyment of the discussion (*GroupInterested*, *GroupEnjoy*, *GroupWaste*[reverse]) and active participation by all members (*GroupAllParticipate*). *Active Group* is an index created from research staff observations which assess group behavior (*ShareEngaged, ShareDistracted, ActiveFacilitation AskingOpinions SummerizingOpinions TakingNotes*). The dependent variables in col. 1, col.2 and col.3, col.4 represent the deviation from the factory average of baseline leaders' preferences and views respectively. Probability weights and standard errors clustered at the group level. Controlling for group size FE and stratification FEs (Factory FEs x Union FEs). Selected controls for Col.6 are *GritIncompleteSGSz* and *AgreeablenessBFI2*. *MWIdealz* is selected for Col.2. No controls are selected for Col.4 and Col.8. R-squared for columns that applied PDS lasso selected controls are estimated by the correlation between the observed outcome and the predicted outcome.

Finally, in Appendix Table A.8, we test how exposure to a leader influences workers' decisions to take-up our surprise invitation for the afternoon session. This surprise invitation happens later in the day, after lunch, during the mobilization experiment. We only use workers in the control group (no leader exposure) for the mobilization experiment. While our small sample size limits our statistical power, we see that workers are 11 pps more likely to accept our invitation if exposed to a leader during the group discussion. The effect is large effect compared to the control group mean, a 33% increase. Again, the effect is similar for leaders from one's own versus an external factory.

5.3.1 Potential mechanisms

While we did not design the experiment to perfectly discern among different possible mechanisms, we provide suggestive evidence from multiple tests. In the previous section, we discuss how our pattern of large effects on convergence in preferences but no effects on convergence in beliefs suggests that leaders need to have insider information in order to influence workers' choices and beliefs. In this subsection, we test for evidence of the extent to which leaders influence also depends on their charisma/leadership qualities versus on their affiliation with their union or with the CTUM.[19]

In the tests that follow, we mobilize the concept of charismatic leadership using our measure of leader quality, which we describe in Section 4.1. This measure is constructed to reflect traits that arguably correlate with charisma, such as personality and psychological metrics, but may also reflect broader traits associated with moving up the union hierarchy. As such, we focus on the role of leader quality, broadly defined. We partition leaders into above (high) and below (low) median quality types (Kolmogorov-Smirnov test for equality of quality distributions $p<0.000$). We make one assumption about high and low quality leaders from the same factory, which is that they have the same information about their union's leaders' preferred and expected minimum wage levels. We think that this assumption is reasonable because of the high rates of engagement and interaction among union leaders. For example, both high and low quality leaders report attending around 9 meetings in the previous 4 months (p-value of diff=0.818). And while high

[19]Note that the leaders whom we study have no formal authority or responsibility in the context of the group discussion experiment, but it's still possible that their affiliation with their union or with the CTUM plays a role.

quality leaders report meeting with the union president/secretary/treasurer more often, low quality leaders also report meeting with them often (6/5/4 times, respectively).

Next, we note that high and low quality leaders in our experiment hold the same positions and so have the same formal authority in the union. Further, in Appendix Table A.6, we provide supporting evidence that workers do not differentially perceive the presence of a union leader in high versus low quality leader groups. Workers' awareness of high and low quality leaders is statistically indistinguishable (column 4). More specifically, this is true for workers' awareness of high and low quality leaders from their own factory, although workers assigned to groups with external leaders are actually more likely to perceive the presence of a low quality leader compared to a high quality one (column 5). If leaders influence group outcomes solely through their authority due to their affiliation with their union or with the CTUM, then we should expect the same effects for high and low quality leaders from workers' own factory. For leaders from an external factory, we should find stronger effects for low compared to high quality leaders.

Having established that leaders from the same union have the same information and authority, but vary in their purported leadership quality, we turn to our first test. We test for a role for leader quality by comparing the effects of high versus low quality leaders. If leaders' leadership quality or charisma matters, we expect that high quality leaders will be more effective. Panel A of Appendix Table A.9 presents the results. Across the board, we find that the effects are larger in magnitude for high quality leaders compared to low quality ones. For 2 out of the 3 outcomes for which we find a main effect, we reject that the effects of high and low quality leaders are the same ($p<0.05$).

In Panel B, we further examine the importance of leader quality and authority by distinguishing between leaders from workers' own factory compared to an external factory. We assert that leaders from a worker's factory's own union, compared to an external factory's union, have more formal authority. Our data support this claim: Workers are significantly more likely to report the presence of a leader from their own factory compared to an external one, both for high and low quality leaders (Table A.6). Returning to Table A.9, Panel B shows that the effects of high quality leaders from an external factory are statistically indistinguishable from those of high quality leaders from workers' own factory. This is despite external, high quality leaders' being significantly less likely to be

formally perceived, which again suggests an important for leaders' quality or charisma.

In contrast, for low quality leaders, leaders from external factories have no effects, while those from workers' own factory increase consensus around the union's preferred minimum wage and increase self-reported engagement. As 34% of workers formally perceive external leaders who are low quality, we interpret this as suggestive evidence that authority (and/or information) is not sufficient to influence outcomes. As workers are significantly more likely to perceive leaders from their own factory who are low quality, we also interpret these results as suggestive evidence that authority is a substitute for charisma. High quality or charismatic leaders do not require more formal authority to influence others, but recognition of authority is key for those lacking in these personal traits.

Finally, thus far, we have pooled union members and non-members in our analyses. It is possible, though, that union leaders' authority, and possibly their charisma, is limited to members of their organization. We explore this possibility in Appendix Table A.10, which presents heterogeneous treatment effects by union affiliation. We do not find a consistent pattern of heterogeneity by union affiliation. For engagement and mobilization, we actually find suggestive evidence that leaders' effects are more important for non-members (p=0.133 and p=0.089, respectively). We interpret this as evidence that a key role for charismatic leadership in our setting may be to engage and to mobilize potential union members. In contrast, for preferences, there is suggestive evidence that leaders induce more convergence among union members (p=0.238).

5.3.2 Placebo and robustness tests

We conduct three placebo tests. For the first test, for each control discussion group, we identify the worker with the highest predicted leader quality score, and we assign this worker as the placebo leader for the group. For leader groups, we use the assigned leader's baseline view. We test whether we identify greater convergence in treatment groups to the real leader's view compared to the placebo leader's view. Appendix Table A.11 presents the results. Column (1) shows that we find much stronger convergence to the real leaders' minimum wage preferences relative to the placebo leaders' preferences. Column (2) shows that the evidence of convergence is especially strong for the own

leader treatment arm, although there is suggestive evidence of greater convergence to the external leaders' preferences compared to the placebo control leaders'. Consistent with our main results, we find no evidence of effects on expectations about the likely minimum wage level (columns (4) and (5)).

Next, we return to the baseline construction of our outcome variable, but for groups assigned to the external leader arm, we test for convergence to their *own* union leaders' average preferences (beliefs). If our main specification is simply picking up the fact that leaders and workers have different beliefs, so that we are capturing the effect of having *any* union leader participating, then we would expect to find a similar amount of convergence in the external arm using their own leaders' beliefs. Appendix Table A.11 presents the results. Column (3) shows that the estimated coefficient for the external leader arm is about 50% smaller compared to the estimate for this group in column (4) of Table 3; these coefficients are statistically different at the 5% level. Evidently, our main specification is not simply capturing convergence due to *any* leaders' participation; instead, it is capturing convergence to the position of the participating leader's union. Consistent with our main results, column (5) shows that there is no evidence of convergence in beliefs for the external arm we use own and when we use external union leaders' beliefs.

Finally, we examine the real leaders' quality relative to placebo control leaders, whom we define in the same way as the first placebo test above. We use the quality score to partition the control group into high and low placebo leader quality. Appendix Table A.12 presents the results. For minimum wage preferences and beliefs, we use the baseline construction of the outcome (first 2 columns, respectively), and we use the assigned leader's baseline views as the reference view (third column, respectively). Across numerous specifications, our main results continue to hold: High quality union leaders are the most effective at inducing convergence to the union's preferred minimum wage and increasing engagement in the discussion. Interestingly, for engagement and group activity, we cannot reject that the effects of low quality union leaders and placebo leaders are the same. This is consistent with the finding that leader quality, beyond formal authority, matters.

We also conduct multiple robustness checks. First, we check whether union leaders have effects on group discussion outcomes even conditional on the predicted leader quality

of the workers in their discussion group. In Appendix Tables A.13 and A.14, we show that our results hold controlling for the average (A.13) or the maximum (A.14) of leader quality among workers in the discussion group. It is clear that leaders influence groups' outcomes above and beyond even other potentially prominent individuals in the group. Second, we conduct a robustness test for our leader quality measure, which is that we drop one family of variables in the prediction model at a time (i.e., demographics, personality traits, psychological traits, and education/tenure) and re-estimate the results. Our results are robust to dropping each family of variables (results not reported). Third, as leaders are somewhat more likely than workers to be men (12.9% compared to 3.3%), which is an observable characteristic and affects the group's gender composition, we test our main results' robustness to controlling for groups' gender composition and find that they are robust (results not reported).

5.4 Consensus-building experiment: Discussion

We have four main findings from the consensus-building experiment. First, the participation of a leader in a group dialogue causally affects consensus-building. In particular, it induces convergence in preferences to a shared ideal. In contrast, in our setting, leaders do not appear to have insider information about the potential outcomes of the policy-setting process, and we find no effects on convergence in beliefs. Second, consistent with leaders' mattering for consensus-building, their participation increases both self-reported and observed measures of engagement. Third, leaders' influence is not solely due to their social ties or to their formal authority. Leaders without social ties to workers still affect outcomes, and leaders' quality or charisma matters. Further, leaders' influence extends beyond their organization's boundaries: Their participation also affects non-union members. Finally, more formal authority appears to be a substitute for personal quality or charisma; leaders who lack charisma can influence outcomes, but their ability to do so depends on their being formally perceived as a leader.

6 Mobilization experiment

In this section, we describe an experiment to investigate possible channels through which leaders may influence individual participation in collective action. Economic theory suggests several different channels; we focus on three that we hypothesized may be particularly important for mobilizing workers to advocate for the CTUM's preferred minimum wage level.

6.1 Theoretical foundations

We designed the experiment to test three potential channels through which leaders may influence workers' willingness to participate in collective action to influence the minimum wage.

The first is *motivation*. In our setting, the national minimum wage policy-setting process will result in uncertain public benefits, but it is common to workers' shared experience that their wages crucially affect their livelihoods. As such, a key role for leaders may be to emotionally appeal to workers to exert effort to influence this process (Ganz, 2010). Similar to Section 5, we thus test for a role of leaders' influencing outcomes through their own charisma.

The second channel is *coordination*. Workers' decision to participate in collective action around the minimum wage may be a coordination game among workers who may have incomplete information, which often have multiple equilibria. As such, we consider that a key role for leaders may be to select and to communicate an equilibrium to be played (Dewan and Myatt, 2008; Akerlof and Holden, 2016). The potential for leaders to play a coordinating role is analogous to our hypothesis in Section 5 that leaders provide public information to coordinate workers' choices (beliefs), but in this context, we explore coordination on equilibrium selection.

The third channel is *social pressure*, which can take two forms. First, the CTUM's member unions are responsible to turn out workers in support of the CTUM's position, which requires overcoming free-riding problems. As such, a key role for leaders may be monitoring behavior and determining and enforcing sanctions on group members who free-ride. Having a leader act as the judge, compared to having a shared responsibility

among workers, may prevent against workers shirking the responsibility to play these roles and increases the predictability of sanctions (Hermalin, 2012). Second, workers who aim to increase their involvement or to pursue leadership positions in the union may want to signal their type to the leader (e.g., Ganz (2010)). For both of these channels, we expect the effects of social pressure to be larger for union members. In the former case, this is because the punishment would be socially enforced, which only works for workers who are closely connected to other group members. In the latter case, this is because we expect that union members care more about how union leaders perceive them compared to non-members.

6.2 Experimental design

The experiment entails three main ingredients. The first ingredient is a costly action: An invitation to workers to stay after for the afternoon in order to participate in the cost-of-living survey (unannounced at the invitation time). Secondly, there is a common public good cause, which is the cost of living survey to inform the CTUM's policy position. Finally, we create a strategic complementarity in attendance at the group level by announcing that, for each full discussion group that attends the survey, the research team would donate 8000 kyats (about $5.60) to the CTUM Skills Training Centre.[20]

The experiment's design follows directly from its theoretical foundations. It entailed a two-level randomization, which is illustrated in Figure 6. First, we stratified discussion groups by factory and discussion treatment arm and then randomized them to high or to low mobilization by the leader. In the former, all but one group member were invited by the leader. In the latter, only one group member was invited by the leader. Within group, we experimentally varied exposure to the three potential leadership channels:

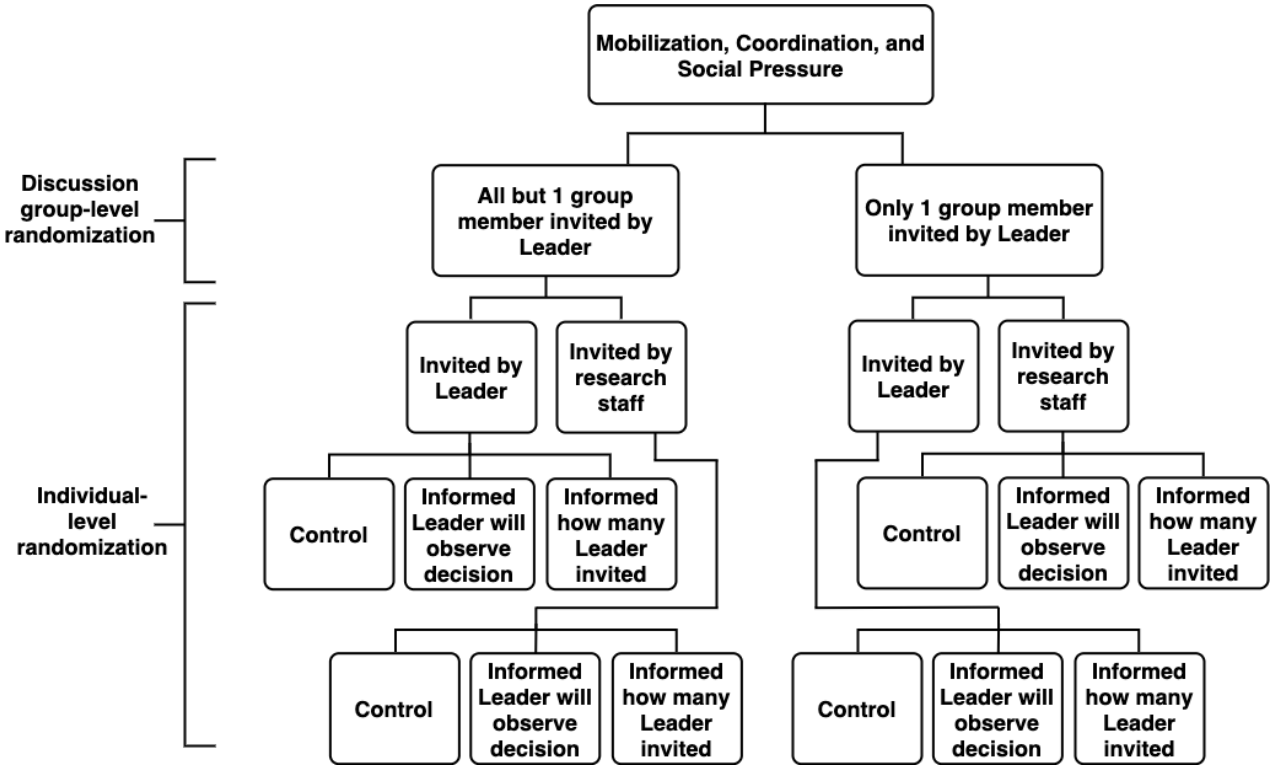
1. **Motivation:** We varied whether workers are invited by a leader versus by the research staff. We provided leaders and research staff with the same invitation script.

2. **Coordination:** We varied whether workers are informed about how many group members are motivated by the leader.

[20]The CTUM Skills Training Centre serves all garment workers, not only union members.

3. **Social pressure:** We varied whether workers are informed that the leader will observe their decision to participate.

Figure 6: Mobilization Experiment



The experiment was implemented as follows: After workers completed the group discussion and follow-up survey, we provided them with lunch. The field team told workers that they would receive their participation payment after lunch, at which time the session would end and a bus would transport workers back to their factory (the meeting point for workers' sharing transportation).

During lunch, the field time prepared the final experiment.[21] At the end of lunch, the field team informed workers that they would be called into a separate room to sign for their payment and provided them with two paper cards: One that included their number in the order in which they would receive the payment, starting from 1 in each discussion group, and one that was a color-code corresponding to their treatment assignment. Workers

[21]During lunch, the field team calculated workers' survey incentive payments and implemented the randomized assignment for the mobilization experiment. The field team also randomly assigned the order in which motivated or non-motivated workers would be invited (either all motivated first or all motivated second). Workers ate lunch with their discussion group members in the discussion room.

were not informed about the meaning of the color-coding. The field team also requested that workers turn off their cell phones, barring a critical need to keep it on.

In a separate room, the field team informed leaders about the surprise survey session. Among leaders who could stay, the field team randomly assigned two of them to the room where leaders invited workers to stay for the afternoon session and they were provided with the invitation script. The rest of the leaders that accepted to stay for the surprise survey session were sent to the room where the survey would take place.

After lunch, the field team called workers by their numbers. When workers entered the payment room, they went to the desk corresponding to the color of their card. Each desk was staffed with a member of the field team, and in the leader motivation treatment arms, a leader. The field team member provided the worker with an envelope containing their payment, the worker signed, and the invitation for the afternoon session corresponding to the desk's treatment arm was made. Appendix Section B.2 provides the scripts for each invitation treatment arm.[22]

The research team carefully planned workers' movement from the discussion room to the payment room and then either directly to the afternoon survey room (if they accepted the invitation) or to the bus (if they did not). We also ensured that there were small amounts of buffer time between workers. These aspects of the design were important in order to prevent information spillovers across workers and were carefully enforced. While they increased the amount of time required to issue the payments, the field team quickly became adept at implementing the procedures. We report the balance table across the experimental arms in Appendix Table A.15. As our implementation did not involve deception, this resulted in some treatment arms having a lower number of workers as we had to respect the design constraints of the motivation and coordination arms; in particular, in the coordination arm workers were informed about how many workers in their discussion group had been motivated by the leader (i.e. were in the motivation arm).

[22]Note that our implementation ensured that we did not deceive participants.

6.3 Results

First, we test for evidence of leaders as motivators and/or as coordinators. If a key role for leaders in our setting is to motivate their followers, then we should find that workers invited to participate in the afternoon session by the leader are more likely to take-up the offer. If a key role for leaders in our setting is to coordinate their followers, then we should find that workers informed that they are in a high-coord leader motivation group (i.e., that the leader invited all but one member of their group) should be more likely to take-up the offer compared to those who are informed that they are in a low-coord leader motivation group (i.e., that the leader invited one member of their group). We estimate the following model:

$$Y_i = \alpha_0 + \alpha_1 Leader_i + \alpha_2 HighCoord_i + \alpha_3 LowCoord_i + \mathbf{X}_i'\beta + \epsilon_i \quad (3)$$

where Y_i is take-up of the afternoon session offer for worker i. $Leader_i$ is an indicator for being motivated by the leader, $HighCoord_i$ is an indicator for being informed that you are in a high coordination group, and $LowCoord_i$ is an indicator for being told that you are in a low coordination group. X_i is a vector of strata fixed effects (factory x discussion group) and treatment assignment for the social pressure arm, which we abstract from for the purpose of presentation. Finally, ϵ_i is the residual. We report robust standard errors. As with the previous experiment, we also present the results using the post double selection (PDS) lasso to select control variables. The set of potential controls include all variables in Appendix Table A.15, personality traits, and psychological traits.

It is plausible that leaders influence mobilization through multiple channels and that these channels complement or substitute for each other. We next test whether motivation and coordination by the leader are complements or substitutes. We estimate the following model:

$$\begin{aligned} Y_i = \alpha_0 + \alpha_1 Leader_i * HighCoord_i + \alpha_2 NoLeader_i * HighCoord_i + \\ \alpha_3 Leader * LowCoord_i + \alpha_4 NoLeader_i * LowCoord_i + \mathbf{X}_i'\beta + \epsilon_i \end{aligned} \quad (4)$$

where $NoLeader_i$ is an indicator for being invited by the research team (no leader motivation).

Finally, we consider the possibility that the nature of a leader's influence may be general or may be specific to their organization. As such, we test for heterogeneous treatment effects by a worker's union affiliation.

Table 4 presents the results. In all columns, the reference group is workers who are invited by the research staff and are not provided with coordination or social pressure information. Columns (1)-(2) show that motivation by the leader does not affect take-up of the offer; the estimated effect is close to zero and actually slightly negative. Evidently, in this setting, we do not find evidence of a role for motivation through charismatic leadership. That said, we are pooling all leaders; it's possible that our main effects mask heterogeneity by leader type. Unfortunately, we cannot explore this possibility in this experiment, as we do not observe which leader is responsible for inviting a given worker. In any case, unlike the group discussions, the scope for heterogeneity analysis would be limited in this experiment as there were only two LLs per factory inviting workers.

In contrast, high coordination by the leader substantially increases take-up compared to low coordination. Moving from being informed that the leader will invite one group member only to being informed that they will invite all but one group member increases take-up by 13 pp or 38% compared to the control group mean (p=0.084). Evidently, in our setting, leaders do not appear to play a key role as motivators but do appear to play an important coordinating role.

Turning to our test for complementarity or substitution effects, in columns (3)-(4), we see that the effects of moving from low to high coordination by the leader is qualitatively much larger for those who are also motivated by the leader: There is a 26 pp or 75% increase in take-up (p=0.019) compared to a 12 pp or 34% increase in take-up (p=0.267) when not motivated. While motivation by the leader alone may not influence take-up, it does work as a complement to coordination in increasing turn-out.

Finally, in columns (5)-(6), we present the results for our test of heterogeneous treatment effects by union affiliation. Beginning with motivation, we find that union members are no more likely to take-up the offer when invited by the leader, while non-members are somewhat less likely to take-up the offer when invited by the leader. The estimated

treatment effects, however, are not statistically significant, nor is the difference in the treatment effect of motivation by the leader between these groups. As such, this evidence should be interpreted as suggestive evidence that motivation by the leader is relatively more important for union members compared to non-members.

Table 4: Mobilization Session 3, motivation and coordination

	Take-up of surprise offer to participate in survey					
	All		by Leader Invitation		by Union	
High Coord.	0.0790	0.0790				
	(0.0656)	(0.0577)				
Low Coord.	-0.0514	-0.0514				
	(0.0641)	(0.0563)				
Leader	-0.0135	-0.0135	0.0169	0.0157		
	(0.0436)	(0.0384)	(0.0750)	(0.0656)		
High Coord., No Leader			0.101	0.100		
			(0.114)	(0.1000)		
Low Coord., No Leader			-0.0170	-0.0175		
			(0.0778)	(0.0683)		
High Coord., Leader			0.0735	0.0778		
			(0.0777)	(0.0685)		
Low Coord., Leader			-0.178	-0.178*		
			(0.112)	(0.0980)		
High Coord., Union					0.0589	0.0321
					(0.0795)	(0.0688)
Low Coord., Union					-0.0293	-0.0449
					(0.0809)	(0.0705)
High Coord., Non-Union					0.112	0.129
					(0.0956)	(0.0823)
Low Coord., Non-Union					-0.0916	-0.0821
					(0.0954)	(0.0827)
Leader, Union					0.0174	0.0197
					(0.0540)	(0.0471)
Leader, Non-Union					-0.0768	-0.0688
					(0.0675)	(0.0584)
Union					-0.0515	-0.0207
					(0.0750)	(0.0664)
R-squared	0.332	0.311	0.334	0.313	0.336	0.335
Control Mean	0.341	0.341	0.341	0.341	0.341	0.341
Number of obs.	790	790	790	790	790	790
p-values						
Low Coord. = High Coord.	0.130	0.0844				
No Leader, Low Coord. = High Coord.			0.332	0.267		
Leader, Low Coord. = High Coord.			0.0430	0.0194		
Union, Low Coord. = High Coord.					0.395	0.396
Non Union, Low Coord. = High Coord.					0.0880	0.0386
PDS lasso selected controls	N	Y	N	Y	N	Y

Notes. Unit of observation is worker. Probability weights and robust standard errors used. Dependent variable is an indicator for whether worker shows up to take the minimum wage survey. Stratification FEs are included: Factory FEs x Discussion Group FEs.*MDE* is *0.105* for Invited LL; *0.112* for InvitedLLxInfoMost and InfoLeast; *0.169* for InvitedLLxInfoLeast and InfoMost. MDE is determined from power calculations using planned sample size of 1792 workers, 358 discussion groups, 308 LL, and 28 unions, at a 10% significance level and 80% power. No controls are selected for Col.2. *meetoutside_all_union2* is selected for Col.4.*MonthsInFactoryz*, *RelationshipManagersz*,*RavenScore2*, *meetoutside_all_union2* are selected for Col.6. R-squared for columns that applied PDS lasso selected controls are estimated by the correlation between the observed outcome and the predicted outcome.

Turning to coordination, the effect of moving from low to high coordination is larger and is statistically significant for non-union compared to union members (although the differences between union and non-union members for each respective effect is not statistically significant). While it may be initially puzzling that the response is greater

for non-union members, we can explain this finding based on Bayesian updating with normally-distributed priors. In our data, non-union members have lower average priors about their group members' likelihood of participation compared to union members, but with higher variance and a slightly fatter right tail. As such, in the high coordination arm, we expect them to update more positively about the likelihood of their group members' take-up, which could generate the more positive effect. In the low coordination arm, the more negative effect could be driven by the non-union members in the right tail of of the distribution of priors. Hence, the potential for leaders to influence coordination appears to be greater for non-union compared to union members due to the underlying differences in priors between the two groups. In short, we conclude that leaders' coordinating role matters more when there is a greater need for coordination (i.e. for non-union members). This evidence is also consistent with the results from the consensus-building experiment, in which we do not find strong evidence of organization-specific charisma.

We next analyze how being informed that a leader will observe their decision affects workers' take-up of the invitation. We estimate the following model:

$$Y_i = \alpha_0 + \alpha_1 SocialPressure_i + \mathbf{X}_i'\beta + \epsilon_i \tag{5}$$

where $SocialPressure_i$ is an indicator for being in the social pressure treatment arm. Now, $\mathbf{X}_i'$ is a vector of strata fixed effects and treatment assignments for the motivation and coordination arms.

As discussed in Section 6.1, we identify two potential mechanisms through which observation of the workers' decision by the leader may influence take-up: Leaders acting as judges, sanctioning workers who do not turn out, or workers perceiving that turning out sends a positive signal about their type to the leader. Depending on workers' priors, these mechanisms generate different effects. Under the sanctioning hypothesis, workers with higher priors about their group members' likelihood of accepting the offer should be more likely to take-up when their decision is observed by the leader. In equation 6 below, $\alpha_2 < \alpha_1$. Under the signalling hypothesis, workers with lower priors should be

more likely to take-up; in this case, $\alpha_2 > \alpha_1$.

$$Y_i = \alpha_0 + \alpha_1 SocialPressure_i \times HighPrior_i + \\ \alpha_2 SocialPressure_i \times LowPrior_i + \alpha_3 HighPrior_i + \mathbf{X}_i'\beta + \epsilon_i \quad (6)$$

As we did not directly measure workers' priors, we use a random forest algorithm to predict them using the control group's characteristics and take-up. We implement the random forest algorithm using the randomForest package in R, which is widely used and implements a standard algorithm. We include variables that measure demographics, personality, sociability, employment characteristics, union membership, and group discussion treatment status and engagement. We use the control group as the training set and grow a forest with 250,000 trees; we use the default settings for other parameters, such as the number of variables to randomly sample at each split for growing trees. We stratify the random sampling of control workers by factory. Once we have created the random forest model, we apply it to the rest of the sample in order to generate each worker's predicted likelihood of take-up. We use these predicted likelihoods to construct, for each worker, the expected probability that all other workers in their group will take-up the offer. We then partition the sample at the median into high- and low-predicted priors.

Table 5 presents the results. In columns (1)-(2), we show that informing workers that the leader will observe their decision increases take-up by 4.7 pp or about 14% (not statistically significant). In columns (3)-(4), we test whether the effect is heterogeneous by union membership. As discussed in Section 6.1, we hypothesize that the treatment effects should be larger for union members under both potential channels. Indeed, as shown in column (4), the effect is entirely driven by union members, for whom the effect is a 7.0 pp or 21% increase in take-up, while for non-union members, it is small and actually negative. Due to power limitations, we are unable to reject, however, that the effects are the same (p=0.200).

Turning to the potential roles of sanctioning versus signaling, in columns (5)-(6), we present results for workers with high and low priors, respectively. Among workers with above median priors about their groupmates' likelihood of take-up, there is no effect, which indicates that sanctioning does not appear to be the key channel. In contrast,

among workers with below median priors, being told that a leader will observe their decision increases take-up by 10 pp or 30%. Evidently, there is strong evidence in favor of a signaling mechanism in which workers aim to signal their type to the leader in order to increase their prestige or status with the leader.

Table 5: Mobilization Session 3, social pressure

	Base		Cov = Union			Cov = High Prior		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Social Pressure	0.0474	0.0474						
	(0.0454)	(0.0399)						
Social Pressure, Cov=1			0.0766	0.0701	-0.0147	-0.0147		
			(0.0565)	(0.0495)	(0.0392)	(0.0385)		
Social Pressure, Cov=0			-0.0198	-0.0338	0.102***	0.102***		
			(0.0757)	(0.0646)	(0.0382)	(0.0384)		
Social Pressure*High Prior, Cov=1							0.00992	-0.00160
							(0.0481)	(0.0437)
Social Pressure*Low Prior, Cov=1							0.149***	0.147***
							(0.0462)	(0.0467)
Social Pressure*High Prior, Cov=0							-0.0801	-0.0718
							(0.0626)	(0.0599)
Social Pressure*Low Prior, Cov=0							0.00351	-0.0277
							(0.0613)	(0.0580)
R-squared	.33	.31	.33	.33	.34	.32	.35	.35
Control Mean	.34	.34	.34	.34	.34	.34	.34	.34
Number of obs.	790	790	790	790	790	790	790	790
p-values								
Social Pressure (Cov=0) = Social Pressure (Cov=1)			.31	.2	.031	.029		
Union: Social Pressure Low Prior = Social Pressure High Prior							.036	.02
Non Union: Social Pressure Low Prior = Social Pressure High Prior							.32	.58
PDS lasso selected controls	N	Y	N	Y	N	Y	N	Y

Notes. Unit of observation is worker. Probability weights used. Robust standard errors in Columns 1-2 and bootstrap standard errors in Columns 3-4. Dependent variable is an indicator for whether worker shows up to take the minimum wage survey. Stratification FEs are included: Factory FEs x Discussion Group FEs. The *MDE* for Social Pressure is *0.105*. MDE is determined from power calculations using planned sample size of 1792 workers, 358 discussion groups, 308 LL, and 28 unions, at a 10% significance level and 80% power. *PDS* indicates that post-double lasso control selection procedure is applied. *RavenScore2* is selected for Col.4 and Col.8. No controls are selected for Col.2 and Col.6. R-squared for columns that applied PDS lasso selected controls are estimated by the correlation between the observed outcome and the predicted outcome.

Finally, in columns (7)-(8), we further explore the social signaling mechanism. Based on the theory, we expect that the effect of being observed by the leader is strongest for union members with low priors. In these columns, we interact the social pressure treatment with having a high or low prior, respectively, and then with an indicator for union membership. We see that the effect is entirely driven by union members with low priors (+15 pp), while there is no effect on non-union members with low priors (p-val of difference <0.0001). Similarly, there is no effect on union members with high priors, and the effect on non-union members with high priors is actually negative.

6.4 Mobilization experiment: Discussion

We have four main findings from the mobilization experiment. First, leaders' role in mobilizing workers is *not* simply to motivate them to participate. Second, leaders *do* play a key role in coordinating workers to achieve an equilibrium that provides higher turn-out/participation. Third, leaders also appear to influence participation through exerting social pressure; in our setting, this influence is limited to members of the leaders' organization (i.e., union members). In principle, this social pressure could take the form of sanctioning bad behavior or rewarding good behavior. Our fourth finding is that we find no evidence of the former, but we do find evidence of the latter: Workers with low priors about their group-mates' take-up are *more* likely to take-up the invitation when told that the leader will observe their decision.

7 Conclusion

Social movements are critical drivers of institutional change, but to succeed, they must overcome severe collective action problems. Unlike other organizations, however, social movements cannot rely on formal hierarchies and contracts to align incentives and to mobilize members. In the absence of these organizational tools, we identify leaders as playing potentially important roles. We define leaders as individuals who have "...the ability to induce others to follow absent the power to compel or to provide formal contractual incentives" (Hermalin, 2012). While a large theoretical literature has formalized several channels through which leaders may influence collective action, empirical tests in real-world social movements remain scarce.

In this paper, we present experimental evidence on leaders' role in building consensus around common objectives and on mobilizing members to take privately costly actions that convey uncertain public benefits. We study union leaders in Myanmar's garment sector. We first document that union leaders are distinct from union members and non-members at their factories in several demographic and psychological traits that organizational sociologists and psychologists associate with the ability to influence collective outcomes. Relative to other workers, leaders are more educated, more experienced, and have higher Raven scores. They also have greater grit, altruism, locus of control, and

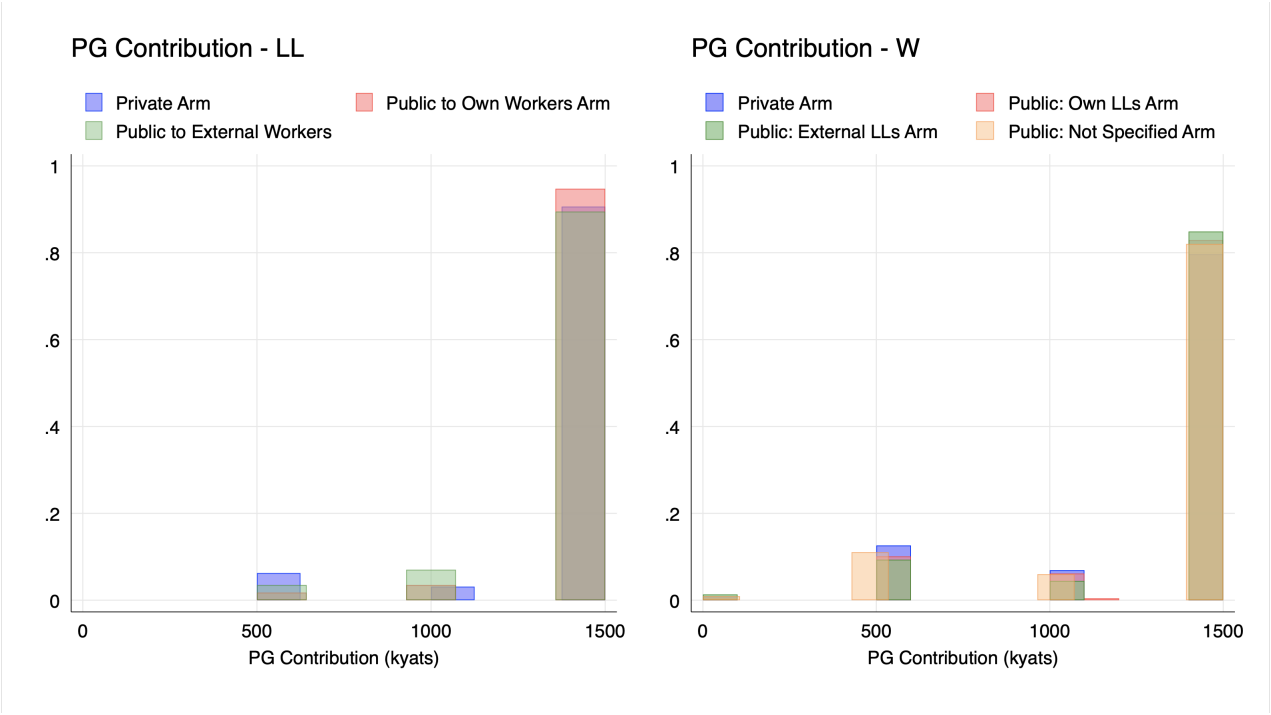
lower neuroticism.

Next, we present experimental evidence that leaders shape consensus about the labor movement's objectives by improving group engagement and increasing workers' consensus around their unions' preferred minimum wage levels. We do not find evidence that leaders provide insider information about the potential outcome of the minimum wage policy process. Our results suggest that leaders need to provide valuable, "insider" information in order to increase consensus but also that higher quality, or possibly more charismatic, leaders are more effective at doing so. Finally, we investigate how leaders mobilize workers to undertake a privately costly action for the common good. We find that leaders in our setting play an important role in coordinating workers' participation; in contrast, motivation by leaders alone does not increase participation. Finally, monitoring by leaders also increases take-up through a signaling channel.

A Appendix: additional figures and tables

A.1 Field activities

Figure A.1: Censoring in the Public Good Experiment



A.2 Descriptive analysis

Table A.1: Factory/Union-level descriptive statistics

Variable	Mean	Std. Dev.	Min.	Max.	N
Number of Workers	1187.5	673.3	450.0	2860.0	17
Number of Union Members	505.8	426.0	100.0	1938.0	17
Proportion Unionized	0.4	0.2	0.1	0.8	16
Female Union President	0.5	0.5	0.0	1.0	19
Union set goals (binary)	0.8	0.4	0.0	1.0	18
Union Tenure	29.1	23.7	4.0	87.0	19
Union Tenure President	17.6	15.2	6.0	72.0	17
Firm Tenure President	46.5	37.2	12.0	145.0	18
Firm Tenure LL	40.6	30.4	13.0	119.0	19
Firm Tenure Union W	31.4	22.4	9.1	78.2	17
Firm Tenure Non Union W	22.2	22.1	4.4	95.1	16
Sector Tenure President	76.4	64.0	20.0	246.0	18
Sector Tenure LL	72.8	44.9	25.8	167.6	19
Sector Tenure Union W	50.4	27.5	20.4	116.1	17
Sector Tenure Non Union W	46.3	29.9	16.6	142.8	16

Notes. Unit of observation is factory. The data in this table comes from the pre-sessions held by CTUM with the unions to explain about the intervention. The number of observations can be less than 19 factories as not all the factories had available the information requested. *Union set goals* is an indicator for whether the union has a stated goal. *Union Tenure* is number of months the union has been active at the factory. *Firm Tenure* indicates tenure at the factory (months) while *Sector Tenure* indicates tenure in the garment sector (months).

Table A.2: Demographic characteristics, with controls

	(1) Female	(2) Education(Yrs)	(3) Income	(4) Migrant	(5) Months in Factory	(6) Months in Sector
President	-0.741***	0.0752	7118.8	0.0440	10.38**	12.98
	(0.105)	(0.849)	(17543.0)	(0.144)	(4.623)	(10.99)
Line Leader	-0.152***	0.207	-1981.7	-0.0424	7.207***	10.85**
	(0.0395)	(0.321)	(6172.3)	(0.0676)	(2.706)	(4.693)
Union Worker	-0.00699	0.0945	1419.7	-0.0257	4.564***	-3.514
	(0.0164)	(0.189)	(2537.3)	(0.0388)	(1.582)	(3.354)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Factory FE	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.280	0.225	0.415	0.077	0.621	0.530
Non-Union Worker Mean	0.969	7.840	2.37e+05	0.519	20.814	43.007
Number of obs.	1103	1103	1103	1103	1103	1103

Notes. Unit of observation is worker. Probability weights and robust standard errors used. Controlling for Factory FE. Each column also controls for the following worker characteristics except for the dependent variable: female (0/1), education level, last month's income, grade FE at the factory, migrant (0/1), months in factory/sector, raven score, grit, likelihood to donate, degree of choice in life, extraversion, agreeableness, conscientiousness, neuroticism, and openness.

Table A.3: Psychological traits, with demographic controls

	(1) Raven Score	(2) Grit	(3) Altruism	(4) Degree of Choice
President	-0.205	1.209***	409.1***	0.327
	(0.934)	(0.162)	(123.5)	(0.315)
Line Leader	-0.387	0.884***	190.1***	0.171
	(0.326)	(0.0639)	(46.16)	(0.172)
Union Worker	-0.384*	0.0137	-0.775	-0.00741
	(0.200)	(0.0397)	(32.69)	(0.101)
Controls	Yes	Yes	Yes	Yes
Factory FE	Yes	Yes	Yes	Yes
R-squared	0.192	0.370	0.167	0.072
Non-Union Worker Mean	4.864	2.558	1234.454	4.008
Number of obs.	1103	1103	1103	1103

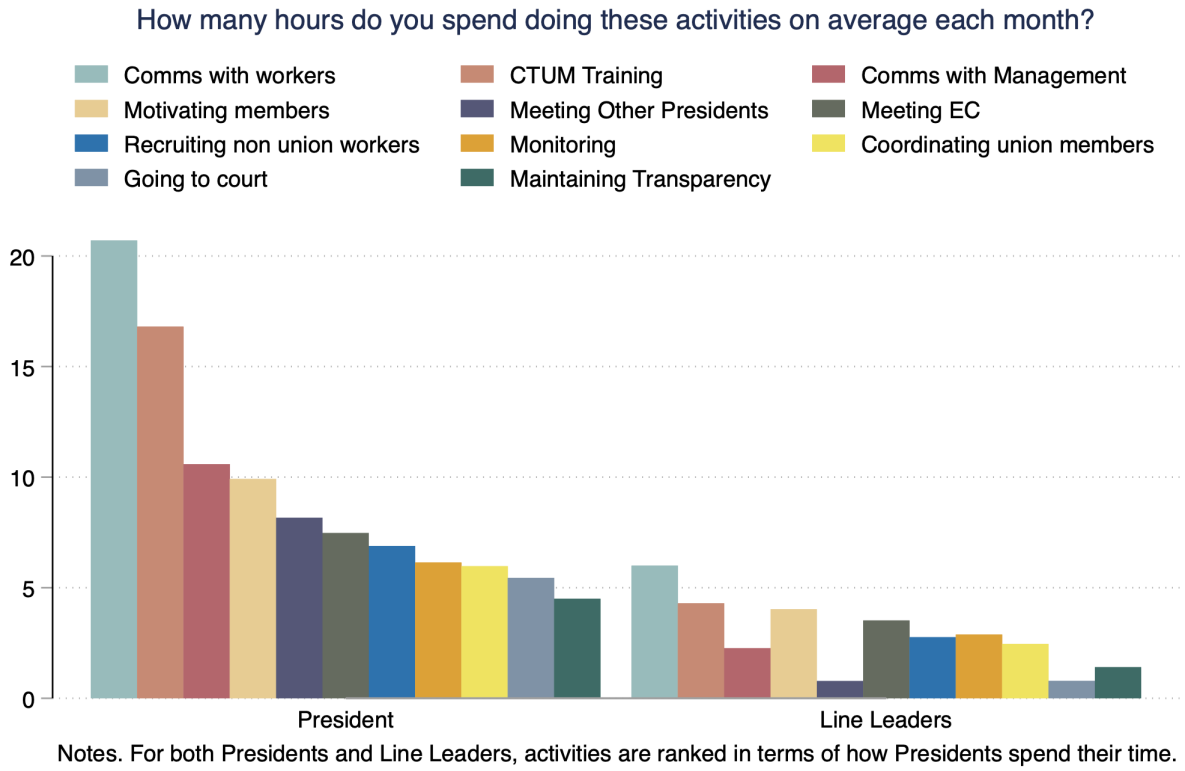
Notes. Unit of observation is worker. Probability weights and robust standard errors used. Controlling for Factory FE. Each column also controls for the following worker characteristics except for the dependent variable: female (0/1), education level, last month's income, grade FE at the factory, migrant (0/1), months in factory/sector, raven score, grit, likelihood to donate, degree of choice in life, extraversion, agreeableness, conscientiousness, neuroticism, and openness.

Table A.4: Personality traits - Big Five Inventory, with demographic controls

	(1) Extraversion	(2) Agreeableness	(3) Conscientiousness	(4) Neuroticism	(5) Openness
President	0.101	-0.823	0.541**	-1.029***	-0.570***
	(0.207)	(0.530)	(0.271)	(0.282)	(0.193)
Line Leader	0.0936	0.170	0.0489	-0.262**	-0.0797
	(0.100)	(0.107)	(0.115)	(0.107)	(0.110)
Union Worker	-0.0454	-0.00476	-0.133**	-0.103*	-0.0229
	(0.0594)	(0.0571)	(0.0549)	(0.0624)	(0.0589)
Controls	Yes	Yes	Yes	Yes	Yes
Factory FE	Yes	Yes	Yes	Yes	Yes
R-squared	0.098	0.222	0.212	0.173	0.085
Non-Union Worker Mean	3.415	3.898	4.063	2.674	3.016
Number of obs.	1103	1103	1103	1103	1103

Notes. Unit of observation is worker. Probability weights and robust standard errors used. Controlling for Factory FE. Each column also controls for the following worker characteristics except for the dependent variable: female (0/1), education level, last month's income, grade FE at the factory, migrant (0/1), months in factory/sector, raven score, grit, likelihood to donate, degree of choice in life, extraversion, agreeableness, conscientiousness, neuroticism, and openness.

Figure A.2: Time spent on union-related activities



Notes. For both Presidents and Line Leaders, activities are ranked in terms of how Presidents spend their time.

A.3 Consensus-building experiment

Table A.5: Balance table: Consensus-building experiment

	(1)	(2)	(3)	(4)	(5)
		Mean / (SE)		**Difference in means / (p-value)**	
Variable	Control	Own LL	External LL	Diff Own-Control	Diff External-Control
Gender	1.022	1.033	1.061	0.005	0.025
	(0.148)	(0.178)	(0.239)	(0.659)	(0.160)
Age	25.737	23.929	24.552	-1.494***	-1.129**
	(6.440)	(5.556)	(5.792)	(0.000)	(0.037)
Education (Yrs)	7.627	7.969	7.675	0.327	-0.031
	(2.660)	(2.855)	(2.740)	(0.140)	(0.895)
Literacy	2.071	2.083	2.113	0.012	0.039
	(0.330)	(0.349)	(0.411)	(0.629)	(0.199)
Raven Score	4.376	4.895	4.654	0.457**	0.318
	(2.763)	(2.806)	(2.746)	(0.033)	(0.234)
Months in Factory	29.840	27.547	29.747	-0.521	0.150
	(33.458)	(30.497)	(36.326)	(0.801)	(0.943)
Months in Sector	52.257	42.634	50.913	-6.076**	2.010
	(50.759)	(43.124)	(53.266)	(0.038)	(0.626)
Min Wage Guess	6,559.065	6,379.549	6,419.871	-114.294	-29.482
	(994.636)	(1,049.948)	(1,009.601)	(0.122)	(0.677)
Min Wage Ideal	7,523.598	7,248.997	7,295.476	-187.479	-116.892
	(1,557.759)	(1,514.251)	(1,540.256)	(0.108)	(0.350)
Absolute diff, Worker and leader MW Ideal	1,270.471	1,239.167	1,226.344	-66.739	-53.826
	(924.990)	(855.178)	(871.732)	(0.355)	(0.466)
Absolute diff, Worker and leader MW Guess	776.069	799.399	924.622	-30.439	137.891**
	(639.849)	(634.670)	(707.401)	(0.577)	(0.038)
Grade	2.477	2.733	2.662	0.042	-0.110
	(1.403)	(1.416)	(1.479)	(0.563)	(0.235)
Last Month Income	242720.156	234366.094	234317.453	-3,114.145	-1,774.809
	(39,172.082)	(38,648.496)	(37,231.320)	(0.153)	(0.448)
Observations	425	284	206	709	631

Notes. Probability weights and standard errors clustered at the group level used. Controlling for factory FE x union status.

Table A.6: Workers' awareness of a leader's participation in the group discussion

	Was there a LL in your discussion group?				
	(1)	(2)	(3)	(4)	(5)
Leader	0.409***				
	(0.0523)				
External Leader		0.222***			
		(0.0642)			
Own Leader		0.523***			
		(0.0574)			
External Leader, Union			0.188**		
			(0.0768)		
Own Leader, Union			0.549***		
			(0.0672)		
External Leader, Non-Union			0.280***		
			(0.0831)		
Own Leader, Non-Union			0.473***		
			(0.0721)		
Leader Group, High Quality				0.359***	
				(0.0659)	
Leader Group, Low Quality				0.464***	
				(0.0653)	
Own Leader, High Quality					0.496***
					(0.0751)
External Leader, High Quality					0.149**
					(0.0709)
Own Leader, Low Quality					0.555***
					(0.0666)
External Leader, Low Quality					0.308***
					(0.0901)
R-squared	0.2828	0.3288	0.3323	0.2887	0.3354
Control Mean	0.215	0.215	0.215	0.215	0.215
Number of obs.	746	746	746	746	746
p-values					
External = Own:		0.000			
External, Union = Own, Union:			0.000		
External, Non-Union = Own, Non-Union:			0.047		
External, Union =External, Non-Union:			0.344		
Own, Union = Own, Non-Union:			0.337		
High Quality = Low Quality:				0.188	
Own High Quality = Ext High Quality:					0.000
Own High Quality = Own Low Quality:					0.480
Ext High Quality = Ext Low Quality:					0.109
Own Low Quality = Ext Low Quality:					0.010

Notes. Unit of observation is worker. Probability weights used and standard errors clustered at the group level. Dependent variable is *LLInGroup*, the workers' belief about the presence of a union line leader or an EC member in their group. Stratification FEs are included: Factory FEs x Union FEs. Controlling for group size FEs.

Table A.7: Engagement in Group Discussions

	(1) Enjoyment	(2) Agreement	(3) Participation
Panel A: Leader			
Leader	0.0942*	0.293***	0.0857
	(0.0511)	(0.0782)	(0.0671)
R-squared	0.062	0.099	0.070
Panel B: Own versus External LL			
External Leader	0.0527	0.234**	0.140
	(0.0657)	(0.114)	(0.0992)
Own Leader	0.121**	0.331***	0.0503
	(0.0558)	(0.0837)	(0.0701)
R-squared	0.064	0.100	0.072
p-values			
External = Own:	0.290	0.403	0.365
Panel C: High versus Low Quality Leaders			
Leader Group, High Quality (50th)	0.109*	0.345***	0.162**
	(0.0571)	(0.0966)	(0.0782)
Leader Group, Low Quality	0.0766	0.233**	-0.00215
	(0.0633)	(0.0947)	(0.0812)
R-squared	0.063	0.101	0.076
Control Mean	0.007	0.000	-0.000
Number of obs.	914	914	914
p-values			
High Quality = Low Quality:	0.602	0.310	0.063

Notes. Unit of observation is worker in all columns. All three outcome variables are indexes of the following self-reported survey measures of participants' engagement. *Enjoyment* includes interest and enjoyment of the discussion as well whether the respondent perceived it to be worthwhile (*Group Interested*, *Group Enjoy*, *Group Unease*[reverse]), and *Group Waste*[reverse]. *Agreement* includes group consensus on minimum wage preferences and prediction (*Group Agree Ideal* and *Group Agree Prediction*). *Participation* includes freedom to express views(*Group Express Ideas*), and active participation by all members (*Group All Participate*). Probability weights and standard errors clustered at the group level. Controlling for group size FE and stratification FEs(Factory FEs x UnionFEs).

Table A.8: Unannounced survey attendance results

	Attendance Survey					
	(1)	(2)	(3)	(4)	(5)	(6)
Leader	0.114		0.114			
	(0.0981)		(0.0868)			
Own Leader		0.114		0.114		
		(0.109)		(0.0954)		
External Leader		0.113		0.113		
		(0.112)		(0.0979)		
Leader Group, High Quality (50th)					0.210*	
					(0.116)	
Leader Group, Low Quality					-0.00111	
					(0.131)	
Leader, Union						0.00904
						(0.130)
Leader, Non-Union						0.319**
						(0.129)
R-squared	0.415	0.415	0.391	0.391	0.430	0.431
Control Mean	0.341	0.341	0.341	0.341	0.348	
Control Mean Union						0.320
Control Mean Non-Union						0.385
Number of obs.	117	117	117	117	117	117
p-values						
Own Leader = External Leader		0.995		0.994		
High Quality = Low Quality					0.098	
Leader Union = Leader Non-Union						0.089
PDS lasso selected controls	N	N	Y	Y	N	N

Notes. Unit of observation is worker in all columns. We only keep the workers that are in the control group in the mobilization experiment. No controls are selected for Col.3 and Col.4. R-squared for columns that applied PDS lasso selected controls are estimated by the correlation between the observed outcome and the predicted outcome. Probability weights and standard errors clustered at the group level. Controlling for group size FE and stratification FEs (Factory FEs x Union FEs).

Table A.9: Leader quality and group discussion results

	Deviation from Leaders' Preference	Deviation from Leaders' Belief	Engagement	Active Group
	(1)	(2)	(3)	(4)
Panel A: High vs. Low Quality Leaders				
Leader Group, High Quality (50th)	-234.9***	-33.31	0.187***	0.235***
	(65.58)	(37.50)	(0.0436)	(0.0595)
Leader Group, Low Quality	-170.5**	-11.96	0.0817*	-0.00391
	(70.26)	(42.88)	(0.0465)	(0.0655)
R-squared	0.230	0.336	0.089	0.428
Control Mean	1130.078	712.308	-0.039	0.127
Number of obs.	914	914	914	202
p-values				
High Quality= Low Quality:	0.393	0.673	0.025	0.001
Panel B: High vs. Low Quality Leaders, Own vs. External				
Own Leader, High Quality (50th)	-199.1**	-28.17	0.193***	0.213***
	(77.88)	(43.39)	(0.0523)	(0.0694)
Own Leader, Low Quality	-308.9***	-36.90	0.0924*	0.0149
	(88.84)	(54.78)	(0.0506)	(0.0834)
External Leader, High Quality (50th)	-269.0***	-37.55	0.178***	0.262***
	(83.31)	(50.73)	(0.0580)	(0.0875)
External Leader, Low Quality	17.96	22.23	0.0673	-0.0294
	(87.53)	(59.54)	(0.0700)	(0.0962)
R-squared	0.2394	0.3362	0.0889	0.4294
Control Mean	1130.078	712.308	-0.039	0.127
Number of obs.	914	914	914	202
p-values				
Own High Quality = Ext High Quality:	0.450	0.866	0.815	0.620
Own High Quality = Own Low Quality:	0.284	0.896	0.088	0.039
Ext High Quality = Ext Low Quality:	0.005	0.421	0.183	0.012
Own Low Quality = Ext Low Quality:	0.003	0.433	0.738	0.708

Notes. Unit of observation is worker in all columns but in Col. 4, where it is discussion group. The variable *Leader Group, High Quality* is a binary variable equal to 1 if the estimated probability of a line leader having similar attributes to president is above the median. The probabilities are estimated for each worker based on a probit model, which includes factory fixed effects, demographics (gender, age, education, migrant(0/1), months in factory/sector), personality metrics (extraversion, agreeableness, conscientionsness, neuroticism, openness) and psychological metrics (raven, score, grit, altruism, choice in life).*Engagement* is an index of the following self-reported survey measures of participants' engagement: group consencus on minimum wage prediction/preferences (*GroupAgreePrediction*, *GroupAgreeIdeal*), freedom to express views (*GroupExpressIdeas*, *GroupUnease*[reverse]), interest and enjoyment of the discussion (*GroupInterested*, *GroupEnjoy*, *GroupWaste*[reverse]) and active participation by all members (*GroupAllParticipate*). *Active Group* is an index created from research staff observations which assess group behavior (*ShareEngaged, ShareDistracted, ActiveFacilitation AskingOpinions SummerizingOpinions TakingNotes*). The dependent variables in col. 1 and 2 represent the deviation from the factory average of baseline leaders' preferences and views respectively. Probability weights and bootstrap standard errors clustered at the group level. Controlling for group size FE and stratification FEs (Factory FEs x Union FEs).

Table A.10: Union affiliation and group discussion results

	Deviation from Leaders' Preference	Deviation from Leaders' Belief	Engagement
	(1)	(2)	(3)
Leader, Union	-277.5**	-9.027	0.110**
	(112.3)	(61.88)	(0.0540)
Leader, Non-Union	-109.7	-42.05	0.226***
	(120.2)	(68.66)	(0.0739)
R-squared	0.248	0.340	0.092
Control Mean Union	1205.288	712.767	-0.004
Control Mean Non-Union	995.156	711.485	-0.102
Number of obs.	914	914	914
p-values			
Leader Union = Leader Non-Union	0.238	0.638	0.174

Notes. Unit of observation is worker in all columns. *Engagement* is an index of the following self-reported survey measures of participants' engagement: group consencus on minimum wage prediction/preferences (*GroupAgreePrediction*, *GroupAgreeIdeal*), freedom to express views (*GroupExpressIdeas*, *GroupUnease*[reverse]), interest and enjoyment of the discussion (*GroupInterested*, *GroupEnjoy*, *GroupWaste*[reverse]) and active participation by all members (*GroupAllParticipate*). The dependent variables in col. 1 and 2 represent the deviation from the factory average of baseline leaders' views and preferences respectively. Probability weights and standard errors clustered at the group level. Controlling for group size FE and stratification FEs (Factory FEs x Union FEs).

Table A.11: Placebo control group leaders, control group leader is member with highest quality, and replacing deviation from external leaders with deviation from own leaders' view

	Ideal: Predicted Leader Control		Ideal: Own views for External	Guess: Predicted Leader Control		Guess: Own views for External
	(1)	(2)	(3)	(4)	(5)	(6)
Leader	-270.9**			125.3		
	(127.3)			(84.82)		
Own Leader		-306.9**	-267.4**		114.9	-19.02
		(147.3)	(104.4)		(97.02)	(64.96)
External Leader		-213.9	-76.65		142.0	23.57
		(159.2)	(109.9)		(110.2)	(78.07)
R-squared	0.275	0.276	0.220	0.480	0.480	0.304
Control Mean	1391.201	1391.201	1130.078	681.351	681.351	712.308
Number of obs.	832	832	914	832	832	914
p-values						
External=Own:		0.583	0.065		0.817	0.612

Notes. Unit of observation is worker. Probability weights and standard errors clustered at the group level. Columns 1,2,4,5: For groups with leaders, the dependent variable is the absolute value of the endline minimum wage guess/ideal minus the leader baseline view; for control groups, the dependent variable is the absolute value of the endline minimum wage guess/ideal minus the worker of highest quality baseline view. Columns 3 and 6: using main specification as in Table 3 but, for external LL groups, replacing the deviation from the external leaders view with deviation from own factory leaders view. The p-values when testing col. 3 coefficients with those in Table 3 col. 1 are: 0.32 for *Own Leader* and 0.05 for *External Leader*. The p-values when testing col. 6 coefficients with those in Table 3 col. 3 are: 0.79 for *Own Leader* and 0.67 for *External Leader*. Stratification FEs are included: Factory FEs x Union FEs. Controlling for group size FE.

Table A.12: Placebo control group leaders, leader quality, and main results, control group leader is member with highest quality

	Deviation from Leaders' Preference		Deviation from Union or Placebo leader's preference	Deviation from Leaders' Belief		Deviation from Union or Placebo leader's belief	Engagement	Active Group
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Leader Group, High Quality (50th)	-237.6***	-237.4**	-342.3***	-72.09	-73.32	86.71	0.211***	0.253***
	(92.20)	(92.60)	(127.6)	(60.79)	(61.53)	(80.35)	(0.0521)	(0.0742)
Leader Group, Low Quality	-169.4*	-169.4*	-55.40	-47.11	-47.78	160.3**	0.113**	0.0190
	(90.80)	(90.93)	(130.5)	(60.07)	(60.55)	(78.07)	(0.0535)	(0.0794)
Control Group, High Quality (50th)	42.38	42.48	102.6	-56.06	-55.94	-7.668	0.0731	0.0209
	(103.4)	(103.7)	(140.4)	(62.21)	(62.35)	(89.60)	(0.0666)	(0.0753)
Diff in preferences, exc individual leader's view		0.00101						
		(0.0185)						
Diff in beliefs, exc individual leader's view					-0.00987			
					(0.0194)			
R-squared	0.252	0.252	0.283	0.335	0.335	0.481	0.090	0.432
Control Mean	1132.817	1132.817	1391.201	713.733	713.733	681.351	-0.025	0.127
Number of obs.	832	832	832	832	832	832	832	201
p-values								
High Quality= Low Quality:	0.387	0.387	0.003	0.601	0.594	0.294	0.024	0.003
High Quality= Control High:	0.001	0.001	0.000	0.706	0.683	0.223	0.017	0.001
Low Quality= Control High:	0.031	0.032	0.200	0.857	0.870	0.048	0.532	0.982

Notes. Unit of observation is worker in all columns but in Col. 8, where it is discussion group. The variable *Leader Group, High Quality* is a binary variable equal to 1 if the estimated probability of a line leader having similar attributes to president is above the median. In the control group, the worker with the highest probit scores is considered as the leader. The probabilities are estimated for each worker based on a probit model, which includes factory fixed effects, demographics (gender, age, education, migrant(0/1), months in factory/sector), personality metrics (extraversion, agreeableness, conscientionsness, neuroticism, openness) and psychological metrics (raven, score, grit, altruism, choice in life).*Engagement* is an index of the following self-reported survey measures of participants' engagement: group consencus on minimum wage prediction/preferences (*GroupAgreePrediction*, *GroupAgreeIdeal*), freedom to express views (*GroupExpressIdeas*, *GroupUnease*[reverse]), interest and enjoyment of the discussion (*GroupInterested, GroupEnjoy, GroupWaste*[reverse]) and active participation by all members (*GroupAllParticipate*). *Active Group* is an index created from research staff observations which assess group behavior (*ShareEngaged, ShareDistracted, ActiveFacilitation AskingOpinions SummerizingOpinions TakingNotes*).The dependent variables in col. 1 to 6 represent the deviation from the factory average of baseline leaders' preferences and views respectively. Probability weights and bootstrap standard errors clustered at the group level. Controlling for group size FE and stratification FEs (Factory FEs x Union FEs).

Table A.13: Average discussion group leader quality and union leader

	Deviation from Leaders' Preference	Deviation from Leaders' Belief	Engagement	Active Group
	(1)	(2)	(3)	(4)
Leader	-192.7***	-25.85	0.138***	0.130**
	(60.73)	(33.66)	(0.0411)	(0.0597)
Average Group Quality	-3496.1**	702.4	1.192	0.0376
	(1433.9)	(1043.9)	(0.948)	(1.918)
R-squared	0.250	0.340	0.091	0.392
Control Mean	1130.078	712.308	-0.039	0.127
Number of obs.	914	914	914	201

Notes. Unit of observation is worker in all columns but in Col. 4, where it is discussion group. *Engagement* is an index of the following self-reported survey measures of participants' engagement: group consencus on minimum wage prediction/preferences (*GroupAgreePrediction*, *GroupAgreeIdeal*), freedom to express views (*GroupExpressIdeas*, *GroupUnease*[reverse]), interest and enjoyment of the discussion (*GroupInterested*, *GroupEnjoy*, *GroupWaste*[reverse]) and active participation by all members (*GroupAllParticipate*). *Active Group* is an index created from research staff observations which assess group behavior (*ShareEngaged, ShareDistracted, ActiveFacilitation AskingOpinions SummerizingOpinions TakingNotes*). The dependent variables in col. 1 and 2 represent the deviation from the factory average of baseline leaders' preferences and views respectively. Probability weights and bootstrap standard errors clustered at the group level. Controlling for group size FE and stratification FEs (Factory FEs x Union FEs).

Table A.14: Maximum discussion group leader quality and union leader

	Deviation from Leaders' Preference	Deviation from Leaders' Belief	Engagement	Active Group
	(1)	(2)	(3)	(4)
Leader	-196.4***	-26.09	0.137***	0.130**
	(60.58)	(33.54)	(0.0411)	(0.0598)
Max Quality in Group	-638.6**	152.6	0.260	0.0115
	(286.2)	(216.9)	(0.189)	(0.397)
R-squared	0.249	0.340	0.091	0.392
Control Mean	1130.078	712.308	-0.039	0.127
Number of obs.	914	914	914	201

Notes. Unit of observation is worker in all columns but in Col. 4, where it is discussion group. *Engagement* is an index of the following self-reported survey measures of participants' engagement: group consencus on minimum wage prediction/preferences (*GroupAgreePrediction*, *GroupAgreeIdeal*), freedom to express views (*GroupExpressIdeas*, *GroupUnease*[reverse]), interest and enjoyment of the discussion (*GroupInterested*, *GroupEnjoy*, *GroupWaste*[reverse]) and active participation by all members (*GroupAllParticipate*). *Active Group* is an index created from research staff observations which assess group behavior (*ShareEngaged, ShareDistracted, ActiveFacilitation AskingOpinions SummerizingOpinions TakingNotes*). The dependent variables in col. 1 and 2 represent the deviation from the factory average of baseline leaders' preferences and views respectively. Probability weights and bootstrap standard errors clustered at the group level. Controlling for group size FE and stratification FEs (Factory FEs x Union FEs).

A.4 Mobilization experiment

Table A.15: Balance table: Mobilization, Coordination, and Social Pressure

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
				Difference in means / (p-value)			
Variable	LL	LL & Info Least	LL & Info Most	LL & Sanctioning	Sanctioning	Info Least	Info Most
Gender	-0.047	0.136	-0.138	-0.033	-0.012	-0.010	-0.000
	(0.567)	(0.273)	(0.242)	(0.697)	(0.756)	(0.759)	()
Age	-2.938**	3.277*	-0.001	-1.206	-0.050	0.488	10.000
	(0.039)	(0.085)	(1.000)	(0.329)	(0.967)	(0.696)	(0.226)
Education (Yrs)	-0.333	-0.143	0.398	-0.140	-0.065	-0.566	-2.000*
	(0.636)	(0.888)	(0.783)	(0.851)	(0.917)	(0.430)	(0.056)
Literacy	-0.005	0.211	-0.073	-0.043	-0.103	-0.075	-0.000
	(0.945)	(0.197)	(0.640)	(0.478)	(0.219)	(0.351)	()
Raven Score	-0.472	-0.798	0.331	0.690	-0.590	0.005	-3.000***
	(0.555)	(0.413)	(0.767)	(0.365)	(0.334)	(0.995)	(0.005)
Months in Factory	-5.990	8.601	16.928	2.884	-7.121	-4.760	1.500
	(0.292)	(0.528)	(0.170)	(0.492)	(0.111)	(0.400)	(0.889)
Months in Sector	-13.323	19.169	8.184	1.083	4.158	-1.715	13.500
	(0.160)	(0.221)	(0.654)	(0.888)	(0.595)	(0.860)	(0.558)
Min Wage Guess	-326.645	-184.356	-178.740	-18.578	-105.972	106.890	-100.000
	(0.170)	(0.558)	(0.701)	(0.938)	(0.613)	(0.664)	(0.331)
Min Wage Ideal	138.246	-3.007	999.967	231.909	238.446	256.884	600.000
	(0.643)	(0.995)	(0.155)	(0.467)	(0.484)	(0.437)	(0.331)
Grade	0.129	-0.472	-0.151	0.115	-0.175	0.014	0.000
	(0.645)	(0.295)	(0.779)	(0.627)	(0.441)	(0.950)	()
Last Month Income	-12242.940	6,238.098	-1,156.007	-12952.256*	-6,105.475	-5,149.977	-9,000.000
	(0.222)	(0.518)	(0.914)	(0.082)	(0.423)	(0.215)	(0.381)
Observations	257	145	214	251	254	228	161

Notes. Probability weights and robust standard errors used. Controlling for factory FE x discussion group FE. Showing the difference in means and p-values in parenthesis.

B Field Implementation Appendix

B.1 Variable lists

B.1.1 Consensus-building: Engagement Index

- At the end of the discussion, to what extent did your group agree on the prediction of the level of the minimum wage that the government will set?;
- At the end of the discussion, to what extent did your group agree on the ideal level of the minimum wage that the government should set?;
- During the group discussion, I felt confident to express my views and opinions;
- The group discussion was interesting, engaging and informative;
- There were some moments during the discussion when I felt unease and I did not know what to say or do (reversed score);
- All members of my group actively participated in the discussion;
- The group discussion was a waste of my time (reversed score);
- Overall, I enjoyed being part of this group discussion.

B.1.2 Consensus-building: Active Group Index

- Share of workers seem to be engaged in the group discussion (e.g. telling opinions, listening to other people's opinions, writing down notes);
- Share of workers seem to be distracted or not paying attention to the group discussion (e.g. looking down, chatting about irrelevant topics);
- Indicator for one or more persons who are actively facilitating discussion
- Indicator for one or more persons who are asking other workers' opinions
- Indicator for one or more persons who are summarizing group's opinions
- Indicator for one or more persons who are writing down notes

B.2 Mobilization Session 3: information provided to workers in each treatment arm

Prior to the surprise invitation, the field team handed the worker their payment in an envelope. After handing them their payment, they read the following scripts:

1. *Leader or staff invitation, no information arm:* Invites worker to do final survey that is about living standard and working conditions and tells worker that participation to the survey is entirely voluntary and that it was already very good that they came to the session and did the surveys in the morning. Given that the final survey is a surprise, the research team is going to donate 8000 kyat to buy sewing machines and training fabric for CTUM Training Centre per each discussion group where every member of the group participates in the Minimum Wage Survey.

2. *High coordination information (leader and staff invitation):* Same as (1), plus staff tells worker: "Everyone will be told about the final survey, but LLs might not have time to speak with every worker. They will be able to speak with only X worker in your group," where **X**=group size – 1.

3. *Low coordination information, staff invitation:* Same as (1), plus staff tells worker: "Everyone will be told about the final survey, but LLs might not have time to speak with every worker. They will be able to speak with only **one worker** in your group."

4. *Low coordination information, leader invitation:* Same as (1), plus staff tells worker: "Everyone will be told about the final survey, but LLs might not have time to speak with every worker. They will be able to speak with only **you** in your group."

5. *Social pressure information:* Same as (1), plus staff tells worker: "If you are staying for the survey, I will accompany to the room, and some LLs will welcome you and register you."

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