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LEADERS IN SOCIAL MOVEMENTS: EVIDENCE FROM UNIONS IN MYANMAR

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ABSTRACT

Social movements are catalysts for crucial institutional changes. To succeed, they must coordinate members' views (consensus building) and actions (mobilization). We study union leaders within Myanmar's burgeoning labor movement. Union leaders are positively selected on both personality traits that enable them to influence others and ability but earn lower wages. In group discussions about workers' views on an upcoming national minimum wage negotiation, randomly embedded leaders build consensus around the union's preferred policy. In an experiment that mimics individual decision-making in a collective action set-up, leaders increase mobilization through coordination. Leaders empower social movements by building consensus that encourages mobilization.

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1 Introduction

Social movements have been catalysts for many institutional changes: 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 coordinate their members' views and collective actions. Coordinating views requires building *consensus* around common objectives and tactics among diverse members. Once a consensus is built, coordinating actions requires *mobilizing* members to participate in activities that have high private costs and uncertain public benefits (Ganz, 2010). But unlike in more commonly studied organizations, such as firms and bureaucracies, monetary incentives, contracts, and hierarchies are often unavailable to align views and to motivate members in social movements.

In the absence of these organizational tools, *leaders* may play critical roles. We think of leadership as "...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" (Hermalin, 2012). Economic theory suggests that leaders may act as coordinators in both consensus building and mobilization. For example, leaders may build consensus among a group by providing information about the state of the world or payoffs that coordinate views (Hermalin, 1998; Caillaud and Tirole, 2007; Dewan and Myatt, 2008). They may mobilize group members by communicating that a high-cooperation equilibrium is to be played (Loeper et al., 2014). To date, however, empirical evidence on leaders' roles in consensus building and mobilization outside the lab remains scarce due to measurement and identification challenges. On the measurement side, it is difficult to observe many leaders performing the same task. On the identification side, it is difficult to distinguish if a given individual influences others (i.e., is, in fact, a leader) or if their behavior reflects underlying group dynamics – a version of the well-known "reflection problem" (Manski, 1993).

This paper presents experimental evidence that union leaders in the bur-

geoning labor movement in Myanmar act as coordinators in both members' views (consensus building) and actions (mobilization). To the best of our knowledge, this provides the first experimental evidence of the role of leaders in social movements.

Section 2 provides background information on our setting: the labor movement in Myanmar. The movement is broadly representative of the struggles in organizing labor in newly industrializing countries (see, e.g., Visser 2019). We collaborate with the Confederation of Trade Unions in Myanmar (CTUM), the largest confederation of labor unions at the national level, during the months preceding the revision of the national minimum wage. The CTUM represented workers' interests in the national minimum wage setting process. In the run-up to the planned May 2020 negotiations, it organized weekend sessions with workers employed in 17 garment factories with CTUM-affiliated unions to discuss the minimum wage and to gather systematic information on workers' skills and living costs. We helped the CTUM to organize the discussions and to conduct the surveys. This allowed us to embed multiple experiments to examine (1) whether and how union leaders build consensus around the minimum wage level and (2) whether and how they mobilize workers to participate in privately costly activities for the common good.

Section 3 describes our research design. 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 line leaders (LLs) interact with, mobilize, and gather and channel the concerns of the workers. LLs have many traits in common with, and many eventually become, (formal) leaders of the movement. The survey sessions organized in partnership with CTUM provided a unique opportunity to characterize the types of individuals who emerge as leaders in labor movements, adding to our scant understanding of selection into leadership roles in social movements. The greater number of LLs also allowed us to conduct two field experiments to investigate how leaders influence workers' views and behavior in the context of a high-stakes, real-world collective action effort with uncertain payoffs – the CTUM's negotiation on

the national minimum-wage level – while avoiding many of the risks associated with mobilization around, for example, factory strikes or street protests.

We present three sets of empirical results. Section 4 shows that union leaders are distinct from workers – both union members and non-members – along key traits that psychologists and organizational sociologists associate with the ability to influence others (Judge et al., 2002). Union leaders also stand out on other traits identified as relevant for political selection (Caselli and Morelli, 2004; Dal Bó et al., 2017). Union leaders are more extroverted, less neurotic, and more conscientious compared to workers. They have greater grit and locus of control and are more altruistic. Union leaders have more work experience but earn substantially less, however, compared to workers, both unconditionally and even more so after controlling for demographics, ability, skills, and personality traits. In the Myanmar context, leadership roles in the union movement appear to come at significant private costs – a view echoed in workers' and leaders' surveys.[1]

We then present results from two field experiments to explore leaders' roles as coordinators. Section 5 discusses the design and results of the consensus-building experiment (experiment (1)). We randomly embedded LLs in group discussions about workers' preferred and expected minimum wage levels. To mimic naturally occurring behavior, leaders were not announced nor given specific instructions. In groups with LLs, we randomized whether the leader was from the workers' own or a different factory. This allows us to examine the importance of leaders' *social connections* (Bandiera et al., 2009) or their *formal role* (Aghion and Tirole, 1997) in the union in determining their effects. Motivated by the political science literature, we test whether leaders aggregate workers' views and build consensus around the median worker's view (Black, 1958) or whether they align workers' views and build consensus around their unions' views (Lenz, 2012). We find evidence of the latter: leaders increase consensus around their unions' preferred minimum wage levels by 22%. We

[1]Budde et al. (2024) examines the selection of German work councils' representatives. They find that these representatives are also positively selected in terms of wages but, crucially, not in terms of prosociality. Furthermore, in Germany, becoming a worker representative improves job security.

cannot reject that the effects are the same for own versus external leaders, indicating that leaders' social ties or formal role alone cannot explain the results. Additionally, examining heterogeneity by leaders' traits shows that leaders' charisma is important for their ability to achieve consensus, further highlighting that social ties and formal authority are not the primary drivers. We also use textual data from discussion transcripts to understand how leaders increase convergence in views among workers and how they impact group dynamics. The transcripts show that leaders rarely invoke their formal role in the discussions. Moreover, we find that leaders introduce information to the discussions that align workers' views with the union's position. In doing so, they partially crowd out workers' speech. However, we also find that groups with leaders are rated as more active by the field team, and, following the discussions, workers self-reported higher engagement and perception that the group achieved consensus.

Section 6 turns to experiment (2), on mobilization.[2] We invited workers to participate in an unannounced survey on living costs. Participation was privately costly because it required workers to sacrifice the remainder of their one and only weekend day. It conveyed a public benefit since the CTUM planned to use the data to campaign for its preferred minimum wage level. We promised a substantial additional donation to the CTUM skills training center for each discussion group for which all workers attended the survey. This introduced a strategic complementarity intended to mimic the incentives faced by workers when deciding whether to participate in collective actions such as street demonstrations. To test for potential mechanisms, we randomly varied whether workers: (i) were invited to the survey by a LL; (ii) were informed about how many discussion group members were invited by a LL; (iii) were

[2]Designing a field experiment on mobilization is inherently complex. First, the design must test whether leaders influence workers to take a privately costly action with uncertain public payoff while, at the same time, avoiding exposing participants to risk. Second, the (formal) theoretical literature highlights several channels through which leaders might coordinate members' actions, calling for a complex, multi-arm, design. The experiments were in the field at the onset of the pandemic. The unexpected reduction in sample size implies that we are sometimes underpowered to tease out differences across treatment arms in this experiment; its results should be interpreted as suggestive.

told that a LL would observe their decision to participate.

Again, we find that leaders play a coordinating role: Moving from being informed that a leader would invite one group member to being informed that they would invite all but one group member increases attendance by 36%. This indicates that leaders can be key in selecting and communicating the equilibrium to be played, which involves, in this case, all workers participating in the survey. In contrast, being invited by a leader alone does not increase attendance. Observation of the workers' choice by a leader also increases attendance, possibly due to a signaling channel rather than a sanctioning one. Finally, bringing together the two experiments, we provide a preliminary exploration of the link between coordinating views and coordinating collective actions. Among groups with leaders in experiment (1), attendance at the cost-of-living survey in experiment (2) is increasing in convergence to the union's wage preference, while no such correlation exists for groups without leaders. This suggests that achieving consensus by aligning followers' preferences with those of the movement is instrumental for mobilization. Exploring the connection between clarifying what the movement is fighting for and its ability to mobilize members remains a priority area for future research.

This research contributes to three strands of literature. First, it contributes 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; underscoring the importance of coordination (Enikolopov et al., 2020; Manacorda and Tesei, 2020; González, 2020). In a field setting, however, Cantoni et al. (2019) find evidence of strategic substitutability in protest turnout in the context of Hong Kong's democracy movement. Even if leaders do not serve a coordinating role, they may still foster mobilization through other channels (e.g., motivation and social pressure). A second stream focuses on how leaders affect individuals' decisions to participate. Dippel and Heblich (2021) and Cagé et al. (2022) provide evidence from different historical social movements that exposure to leaders increases participation. We complement this literature by conducting field experiments on leaders' role in

enhancing coordination in social movements, both in terms of members' views and actions; our ability to study beliefs, which are central to coordination, and to identify causal effects to understand mechanisms align with Callen et al. (2023)'s argument that these approaches are crucial for understanding drivers of institutional change.

Second, it contributes to the literature on leaders' roles in group decision-making and in overcoming collective action problems. A sizable theoretical literature focuses on forms of information provision by leaders that serve to coordinate beliefs and actions (Hermalin, 1998; Caillaud and Tirole, 2007; Dewan and Myatt, 2008; Bolton et al., 2013; Loeper et al., 2014; Akerlof and Holden, 2016). Empirically, the literature is primarily composed of lab experiments (Potters et al., 2007; Komai et al., 2010; Sahin et al., 2015). More recently, a limited number of field experiments have studied leadership in real-world settings, including local elected leaders and contributions to public goods (Jack and Recalde, 2015); encouragement of endogenous leadership and team performance in an escape room challenge (Englmaier et al., 2022); and exposure to charismatic speeches and worker effort (Antonakis et al., 2022).[3] We contribute by providing evidence on leaders' personal traits and roles in group decision-making and in overcoming collective action problems from experiments with many different real-world leaders. Our experimental designs and data enable us to provide novel micro-evidence on the mechanisms through which leaders influence outcomes in the context of a burgeoning labor movement's effort to influence a high-stakes policy-setting process.

Third, this paper contributes to a growing literature on industrial relations and labor unions in developing countries (Freeman, 2010; Tanaka, 2020; Boudreau, 2021; Macchiavello et al., 2020; Breza et al., 2022; Akerlof et al., 2020; Corradini et al., 2023). Workplace discrimination against union leaders appears to be widespread in developing countries. For example, International Labor Organization (2024) and Human Rights Watch (2015b,a) report cases

[3]Grossman and Baldassarri (2012) and Deserranno et al. (2019) use field experiments to examine how the selection procedure for leaders – formal elections versus less democratic processes – affects the type of leader selected (in the latter) and the effects on groups' performance.

in Peru, Mexico, Philippines, Algeria, Bangladesh, Cambodia, and Pakistan. Our evidence that union leaders are positively selected both on skills and prosociality is consistent with involvement in the movement entailing substantial private costs – perhaps because of workplace discrimination in Myanmar. Lin et al. (2019) find that factories with work committees led by elected worker representatives have a lower incidence of industrial disputes. We contribute experimental evidence that union leaders play important roles in shaping unions' effectiveness in achieving their objectives.

2 Context

2.1 Unions in Myanmar

Unions have been legally allowed in Myanmar since 2011 when the country embarked upon a process of policy reforms (The Labor Organization Law, 2011). Between 2011 and 2020, the number of unions grew rapidly. According to the Ministry of Labour, Immigration and Population, as of mid-2020, there were 2,861 registered trade unions.[4] We study unions in Myanmar's export-oriented garment sector, which is the largest exporting industrial sector in Myanmar with approximately 600 factories employing nearly 500,000 workers (Myanmar Garment Manufacturers Association, 2020).

According to The Myanmar Labor Organization Law (2011), any group of 30 or more workers can form a factory-level union. Unions are thus organized at the factory level. The CTUM is the largest confederation of trade unions in Myanmar. In 2015, the CTUM was officially recognized as the only national-level trade union confederation in Myanmar, marking a significant phase in Myanmar's labor movement. As of late 2019, there were 47 garment factories in 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.

[4]These consist of 2,683 basic organizations, 147 township organizations, 22 state/regional organizations, 8 federations, and 1 confederation.

To form a union, members must elect a union's Executive Team (ET). The president leads the union's ET, which also includes an Executive Committee comprising one secretary, one treasurer, and four other elected members. The ET members' duties differ depending on their position, but a key task is to regularly attend meetings with the factory management. To become a member of the ET, a worker must have worked at the factory for at least six months, be at least 21 years old, and have a valid national identification number. The Law prescribes that elections are held every two years (unless the president resigns, in which case an emergency election is held). There is no term limit.

Below the ET, line/team leaders (LLs) play a critical role in facilitating communication with workers. LLs are not elected but are instead recommended by union members (66%), selected by the ET (24%), or self-nominated (10%). Appendix Figure A.1 illustrates the critical role LLs play in the organization. Relative to presidents, LLs spend significantly less of their time communicating with management and meeting with other presidents and significantly more of their time coordinating members, motivating members, and recruiting new members to the union. Appendix Figure A.2 shows that workers seek out LLs for advice and for social activities more than they seek out presidents. For these reasons – and since there are many more LLs than presidents (170 compared to 18 in our sample) – the two experiments described in this paper focus on LLs' roles in coordinating workers' views and actions.

Being a union leader is costly. Union leaders work in the factories and are not paid for the additional time and effort requested by their role. In our survey, 70% of presidents and 40% of LLs reported having experienced disadvantages at their factories due to their union activity. Moreover, union leaders earn less than workers (see Table 1). In line with this, while the CTUM aims to have 1 LL for every 10 workers in unionized factories, in practice the ratio is smaller (1 LL for every 33 workers in our sample).

Union leaders, though, matter. Garment factories with democratically-(s)elected worker representatives are less likely to experience industrial disputes (Lin et al., 2019). This suggests that elected worker leaders may contribute to healthier industrial relations. More generally, union leaders negoti-

ate with management about several issues. Approximately 70% of the respondents reported that the union at their factory had negotiated with management about pay, with working conditions, leave, and working hours also being important issues.

2.2 The minimum wage in Myanmar

The Minimum Wage Law (2013) requires Myanmar's statutory minimum wage to be reconsidered every two years. A tripartite National Minimum Wage Committee (NMWC) consisting of representatives from employers, workers' organizations, and the government was responsible for revising the minimum wage. The CTUM represents workers in the NMWC. In the 2018 negotiations, for example, the CTUM advocated for a 6600 Myanmar Kyat (MMK) (USD 4.87) minimum wage for an eight-hour workday and mobilized workers to demonstrate in favor of its position. The minimum wage was ultimately increased from MMK 3600 (USD 2.65) to MMK 4800 (USD 3.54).

The minimum wage is highly relevant for garment workers. 59% of workers in our sample reported the legal minimum wage as their daily base wage (Appendix Figure A.3).[5] Nearly all other workers reported a daily base wage just above this amount (only 4% reported a base wage below it). Turning to daily take-home pay for an 8-hour workday (including base pay, skill premiums, and bonuses), there is a dramatic jump up at the legal minimum, with 20% of our sample reporting earning between 100-110% of it. In sum, the minimum wage binds for 20% of our sample, and given its importance in determining base pay, it plausibly affects workers' earnings above it (e.g., Autor et al., 2016; Derenoncourt et al., 2021).

A higher minimum wage, however, plausibly entails trade-offs for garment workers. Administrative data on industrial dispute cases negotiated at the Township Conciliation Body in the Yangon region reveal that, out of 407 disputes in the garment sector, termination is the leading cause (nearly 60% of disputes), followed by wages (nearly 20%). Employers can, and do, terminate

[5]The daily base wage is the base level of wage for 8 standard hours without reflecting skill premiums, bonuses, and overtime earnings.

workers. An increase in the minimum wage could, in principle, put workers in our sample at risk of job loss.

The next revision of the minimum wage was scheduled for May 2020. CTUM aimed to enter the negotiations equipped with evidence of workers' skills, living costs, and views on the national minimum wage. In 2019, it sought collaboration with our research team to collect such evidence. Based on surveys and discussion groups with garment workers, we produced a joint report to inform CTUM's position. As part of the collaboration, we agreed to embed field experiments to study union leaders.[6]

3 Research design

3.1 Sampling

We implemented the field activities with workers employed at garment factories in the Yangon and Bago regions that had a factory-level basic union affiliated with the CTUM from December 2019 to March 2020. These regions are home to the majority of garment factories in Myanmar. At the time, 41 garment factories had a union affiliated with the CTUM. We planned to include all factories sufficiently close to the survey location and with an operating union (some factories were still in the process of finalizing the establishment of the union). Our final list included 28 unions. Unfortunately, due to COVID-19, we had to stop our fieldwork early; 17 (19) unions fully (partially) completed the data collection activities. The average factory in our sample employs 1187 workers, has a 40% union membership rate, and has had a union for 29 months, with the union president's tenure of 16 months (see Appendix Table A.1).

Within each factory, we used a sampling protocol designed to obtain a sample that was representative of the populations of interest: union leaders (presidents and LLs) and sewing section workers (union members and non-members). In garment production, the majority of workers are employed in the

[6]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.

sewing section – about 68% of workers in our sample of factories. We sampled skilled and unskilled workers, although we excluded the limited number of workers in supervisory positions (line supervisors and above) out of a concern that they may perceive the sessions to be adversarial toward management and uncooperative. The CTUM also aimed to collect data on workers' skills, which we supported by developing a skill assessment module for machine operators based on a global industrial engineering database of garment complexity. The database only exists for the sewing portion of the garment production process.

We conducted a stratified random selection of around 90 workers per factory; within factory, we stratified by line, union membership, and skill level. As we discuss below, for each factory, we started the data collection with union leaders and then continued to the workers. In total, we invited 18 presidents and 1 secretary (19 factories),[7] all of whom participated. We invited 190 LLs (or ET members) from 19 factories, and 170 participated.[8] For workers, due to COVID-19, we covered 17 factories. We invited 1511 workers and 916 (61%) participated. Among them, we invited 936 union members, and 594 (63%) participated, and we invited 575 non-union members and 322 (56%) participated.[9]

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

[8] When there were not enough LLs to invite to the factory union, ET members were invited to take the place of LLs.

[9] See Boudreau et al. (2024) for the Supplementary Materials, which include a detailed description of our random sampling procedure. Throughout the empirical analysis, we weight observations so that each factory equally counts by using probability weights calculated as the total number of workers across factories divided by the number of workers in the specific factory. Our rationale is that while we invited similar numbers of workers per factory, the turn-out was in part determined by the union leaders, which raises the concern that factories with more (less) capable union leaders may have larger (smaller) sample sizes and thus receive more (less) weight in our analysis. These weights do not adjust for differences in the *types of workers* who opt in or out; our sampling protocol oversampled union members, so our main estimates are not representative at the factory level. Nearly all main results are very similar, however, when estimated using population- or invitee-representative weights or not weighting. The population weight is the most relative alternative to our current weights but cannot be calculated for two factories, and so further curtails our smaller than planned sample size. We describe sample selection and report results estimated using alternative weighting approaches in the Supplementary Materials.

3.2 Field activities

We embedded a series of experiments in the survey and discussion process. We preregistered the experiments on the AEA's RCT registry. 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 only weekday when most workers do not work. We compensated participants for their time at the average daily wage rate (6000 kyats) and for transportation costs (5000 kyats), if needed. Workers work very long hours and only have one weekend day – participation in the session is thus costly. We aimed to limit any actual or perceived influence of the CTUM on participants' behavior by only allowing the research staff and the participants to be onsite during the sessions.

This paper focuses on the second session, in which LLs and workers participated.[10] In the morning, we implemented a survey, a skill assessment, the consensus-building experiment, and a public good experiment. The consensus-building experiment was designed to test how leaders' participation in group discussions influenced the group's consensus around the minimum wage. The public good experiment was designed to test the "leading by example" mechanism in the provision of a public good (sewing machines donated to the CTUM Skills Training Centre).[11]

After lunch, we conducted the mobilization experiment, in which we invited workers to remain for an additional, unanticipated, living cost survey for the afternoon. This design aims to mirror the incentives faced by workers when deciding whether to participate in collective actions, such as street demonstrations in support of the CTUM's proposed minimum wage level while avoiding experimentally mobilizing them to engage in potentially risky actions.

[10]Boudreau et al. (2024) describe field activities in detail, including the first session, in which only presidents and LLs participated. In this session, we implemented an experiment in which presidents motivated LLs to recruit workers for session 2 and encouraged LLs to produce posters for CTUM's annual International Women's Day activities. This experiment is underpowered due to the limited number of presidents and the smaller sample size due to the COVID-19 outbreak. Results are reported in Boudreau et al. (2024).

[11]We do not discuss the public good experiment due to limited variation in the main outcome: only 7% of leaders and 18% of workers donated less than the full endowment amount. See the results in Boudreau et al. (2024).

Throughout the day, we collected audio and video recordings and field-team observation forms of the main activities. When available, we use the data from these sources in our analyses.

4 Who are the union leaders?

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 (Hermalin, 2012). This suggests that leaders may exhibit particular characteristics that enable them to influence followers. We explore how union leaders' traits compare to those of non-leaders. To our knowledge, we provide the first systematic evidence comparing the characteristics of labor leaders and workers who are not leaders drawn from the same population, in a developing country context.

Economic theories are largely silent on the question of who becomes a leader (Hermalin, 2012). We thus focus on traits that psychologists and organizational sociologists associate with individuals' ability to influence others. A meta-analysis of psychology research on the Big Five Inventory (BFI) personality traits identifies extroversion as the personality trait most highly correlated with leadership, followed by neuroticism (negative correlation), conscientiousness, and openness. Only agreeableness was not found to be correlated (Judge et al., 2002). We measure the BFI personality traits following Rammstedt and John (2007). The literature also identifies locus of control (Howell and Avolio, 1993) and grit (Schimschal and Lomas, 2018; Caza and Posner, 2019) as important. We measure locus of control using a 5-point Likert scale question from the World Values Survey and grit using several questions developed by Duckworth and Quinn (2009).[12] Finally, we consider traits identified as relevant for political selection: ability and honesty or prosociality. We measure ability using Raven scores (Bilker et al., 2012) and educational attainment.

[12]Individual charisma – defined as the ability to transmit information in a symbolic, value-based, and emotional manner – is also important for leadership (Antonakis et al., 2016, 2022). Hermalin (2023) formalizes charisma in an economic model. Charisma, however, is conceptualized as a set of behaviors (House, 1977; House and Howell, 1992) rather than a trait – the focus of this section.

We measure prosociality using altruism elicited in an incentivized question.[13]

We compare the characteristics of leaders and non-leaders using the following regression specification:

$$Y_{if} = \alpha_0 + \alpha_1 LineLeader_i + \alpha_2 President_i + \gamma_f + \epsilon_{if} \quad (1)$$

where Y_{if} is a characteristic of worker i in factory f. $LineLeader_i$ is an indicator of being a line leader, and $President_i$ is an indicator of being a president. γ_f is a factory fixed effect, and ϵ_{if} is the residual. Due to the limited number of clusters (17 factories), we report p-values calculated using the wild cluster bootstrap-t procedure (Cameron et al., 2008).

Table 1 presents the results.[14] Each row reports the result from estimating Equation (1) for the characteristic in the row. Relative to non-leaders, union leaders are older and more likely to be male (Panel A). Union leaders have longer tenure at their factories and substantially more experience in the garment sector. Despite this, presidents and LLs appear to earn less compared to workers, although the differences are not statistically significant (Panel B). Wage differences become more negative for leaders but remain statistically insignificant when additional controls are added (see Boudreau et al. (2024) for the Supplementary Materials). This underscores that not only being a union leader is not a paid job (they earn their wages by working in the factories as do workers), but also that they may face discrimination by their employers.

Turning to personality traits, we find a pattern of differences that is highly consistent with the psychology literature: leaders are significantly more extroverted, less neurotic, and more conscientious, but – if anything – less open compared to non-leaders. LLs, whose responsibilities entail communication with workers and recruitment of new union members, are more agreeable than non-leaders. Reverse-coding neuroticism and taking the average across index components, leaders score significantly higher than workers. We also find that leaders have higher grit and, in the case of presidents, locus of control.

[13] How much to keep or to donate to a local orphanage out of a 1500 kyat endowment.

[14] Results are generally robust to controls (see Boudreau et al. (2024)).

Table 1: Differences between Leaders and Workers

	Observations	Worker Mean	Coeff. on Line Leader	Coeff. on President	p-value of diff, cols (3)-(4)
	(1)	(2)	(3)	(4)	(5)
Panel A: Demographics & Ability					
Female	1104	0.967	-0.116	-0.518	0.007
			[0.025]	[0.001]	
Age	1104	25.005	1.859	4.918	0.064
			[0.003]	[0.002]	
Migrant	1104	0.520	-0.046	-0.085	0.739
			[0.295]	[0.414]	
Education (Yrs)	1104	7.754	-0.176	0.799	0.261
			[0.491]	[0.343]	
Raven Score	1104	4.524	-0.085	1.749	0.010
			[0.776]	[0.008]	
Panel B: Employment & Minimum Wage Views					
Months in Factory	1104	29.888	13.010	18.573	0.133
			[0.000]	[0.001]	
Months in Sector	1104	50.621	24.796	28.216	0.771
			[0.000]	[0.014]	
Income (Last Month)	777	245382.8	-3329.160	-23619.74	0.132
			[0.438]	[0.060]	
Sewing Efficiency	777	0.018	-0.114	0.072	0.249
			[0.061]	[0.648]	
Preferred Min Wage	1104	7504.258	28.294	171.402	0.553
			[0.861]	[0.477]	
Expected Min Wage	1104	6545.961	-140.598	-91.844	0.806
			[0.252]	[0.690]	
Panel C: Personality traits					
Altruism	1104	1268.777	142.460	147.861	0.953
			[0.000]	[0.134]	
Extraversion	1104	3.392	0.244	0.488	0.124
			[0.014]	[0.017]	
Agreeableness	1104	3.862	0.214	0.113	0.699
			[0.005]	[0.623]	
Conscientiousness	1104	3.979	0.225	0.507	0.055
			[0.001]	[0.001]	
Neuroticism	1104	2.665	-0.290	-0.670	0.145
			[0.001]	[0.018]	
Openness	1104	3.001	-0.065	-0.473	0.037
			[0.298]	[0.009]	
BFI Index	1104	2.314	0.182	0.261	0.428
			[0.000]	[0.024]	
Grit	1104	2.571	0.854	1.202	0.021
			[0.000]	[0.000]	
Locus of Control	1104	4.008	0.192	0.349	0.373
			[0.221]	[0.085]	

Notes. Unit of observation is worker. Probability weights are used. Controlling for Factory fixed effects. p-values calculated using the wild cluster bootstrap-t method are reported in square brackets. For the Income variable, only those workers whose positions were eligible for the skill assessment, who have non-missing values for sewing efficiency, are considered.

Turning to leaders' ability and prosociality, presidents – but not LLs – have higher Raven Scores and more schooling. This suggests positive selection for presidents (who are elected), consistently with evidence on politicians (Dal Bó et al., 2017) and in contrast to the hypothesis that individuals with the highest opportunity cost do not enter into union leadership positions (Caselli and Morelli, 2004). Turning to prosociality, leaders are significantly more altruistic. This is inconsistent with individuals pursuing union leadership positions to extract rents through dishonest means and is, instead, consistent with the private costs borne by union leaders in our context.

Union leaders thus have distinctive traits: they possess a psychological ability to influence followers and are positively selected on altruism and ability. This is in line with leadership as a phenomenon that exists independent of office or title and that entails the ability to induce others to voluntarily follow. Relative to presidents, LLs are more numerous but less selected. While a non-trivial fraction of them will go on to take up formal leadership roles,[15] they do not exhibit all of the presidents' distinctive traits, thus making it harder to detect leaders' influence on outcomes in the two experiments. As the rest of the empirical analysis focuses on LLs, we denote them as *leaders* in the remainder of the paper.

5 Consensus-building experiment

We begin by examining leaders' role in coordinating views. It was important for the CTUM to achieve a certain consensus among workers on the minimum wage to determine a credible position and mobilize workers to support it. This motivated us to conduct an experiment in which we randomized the presence of a union leader in a workers' group discussion about the minimum wage.

[15] In our data, 21.4% (13%) of LLs (workers) aspire to become elected union leaders in the future (p of diff. < 0.05).

5.1 Experimental design

The experiment was implemented 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. 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, motivated by the possibility that leaders primarily influence workers through their social ties or formal authority – rather than because of their traits – we randomly assigned a leader from a different factory whom workers are unlikely to have social ties with or to recognize as a union leader. No leader was assigned to control groups. Workers and leaders arrived in the group discussion room concurrently. Leaders were not announced, identified, nor given specific instructions. We randomized discussion groups to have 5 or 6 members (including the leaders in the count). This allows us to hold group size constant across treatment arms.

Appendix Table A.2 reports balance tests across the three experimental arms. While the treatment and control arms are balanced across nearly all tests, there are a few statistical imbalances. We present results controlling for covariates selected using the post double selection (PDS) lasso (Belloni et al., 2014), which ensures our results' robustness to the possibility that chance imbalances between the treatment and control groups influence our estimates.

The field team explained to discussion groups that they would discuss the minimum wage. It provided a brief background of the minimum wage-setting process and its history in Myanmar. The team then explained that the CTUM would prepare a proposal for the government on the minimum wage increase and that the CTUM wanted to gather workers' expectations and opinions to help determine its proposal. The field team did not explicitly request groups to reach a consensus. Finally, it told groups that they would have 30 minutes to discuss and requested participants to turn off their cell phones. See Appendix B.1 for the prompt's text.

Discussion groups were provided with reporting templates and scrap paper to summarize their groups' opinions. At the end of the 30 minutes, groups

had 5 minutes to summarize their discussion using the templates. The field team informed groups that the discussion summaries would be shared with the CTUM to help it prepare its minimum wage proposal. At the end of the group discussion session, workers and leaders participated in a follow-up survey. We recorded and transcribed the audio from the discussions.[16]

5.2 Results

5.2.1 Do Leaders Build Consensus?

We estimate the effects of leaders' participation on convergence to (1) the *preferred* minimum wage level and (2) the *expected* minimum wage level of the median worker in the group as well as of the union. In principle, the group discussion can alter workers' preferences for the minimum wage, as well as their perceptions of the negotiation process. We thus elicit workers' preferred minimum wage and what they expect to be the final outcome of the negotiation. Furthermore, since LLs act as liaisons between elected union leaders and workers, they transmit information both up and down the organization. Building on political theories of democracy, we distinguish two cases. In the first, the unions aim to reflect the will of workers in the minimum wage negotiations, and LLs will try to build consensus around the median worker's view (*aggregating views*, as in Black (1958)). In the second, the unions aim to align workers' views with what they perceive to be the right outcome, in which case LLs will try to build consensus around the unions' views (*aligning views*, as in Lenz (2012)). The unions' views may diverge from workers' for many reasons; for example, they have better information about the economic trade-offs that higher minimum wages may entail, they place more weight on the concerns of non-union members because they aim to grow their membership, or they take negotiation strategy into account. We do not take a stand on why workers' and the unions' views on the minimum wage may diverge. To distinguish between the two cases, we test for convergence in workers' preferences and expectations

[16]Due to an implementation error in the field, discussions for 35 groups were not recorded; consequently, we have transcripts for 167 out of 202 groups.

for the minimum wage to those of the median worker and to those of the union.

To measure the union's preferred (expected) level, we take the median of the preferred (expected) minimum wage among all union leaders within the factory, that is the president, EC, and LLs, measured during the baseline leader survey. In both cases, we measure the absolute deviation in each worker's view from the baseline median worker's (union leader's) before and after the group discussion. For the external leader arm, we use the median of the external factory's union leaders. We estimate:

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

$$Y_i = \alpha_0 + \alpha_1 OwnLeader_i + \alpha_2 ExternalLeader_i + \mathbf{X}_i'\beta + \epsilon_i \tag{3}$$

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, group size fixed effects, and controls selected by the PDS lasso; ϵ_i is the residual. Depending on the outcome variable, the analysis is done either at the worker level or at the discussion group level. For individual-level regressions, we report standard errors clustered by group. For group-level regressions, we report robust standard errors. We also present RI p-values and we report the maximum of the two in the text. In equation 3, $OwnLeader_i$ 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.[17]

Table 2 presents the results. Panel A presents the effect of having a leader participate, while Panel B presents the effects separately for internal and external leaders. Columns (1)-(2) report results for convergence to the median worker's views, and (3)-(4) for convergence to the union leaders' views. Beginning with the former, we are unable to reject the null of no convergence to the median worker's preferred and expected minimum wage levels in either panel. In contrast, leaders' participation leads workers' preferences for the minimum wage to converge to the union's preferred level (column (3)). There is a 22% decrease in the average absolute deviation from the union's preferred view ($p=$

[17]Results are similar with and without PDS lasso selected controls (see Appendix Table A.3). Boudreau et al. (2024) provide details on the set of potential controls.

0.023). Panel B shows that leaders from external factories induce convergence to their own union's preferred minimum wage (p= 0.139). This supports the hypothesis that, while social ties and/or formal authority may matter, they are not the only channels through which leaders influence followers.

Turning to column (4), there is no convergence in workers' beliefs to the union's expected level; the point estimate on *Leader* is negative, but it is small and not statistically significant. There are also no effects when splitting by own versus external leader. In both panels, we reject that the effect on convergence in views in column (3) is equal to that on convergence in beliefs in column (4) (p= 0.06). Appendix Table A.4 shows that there is a 26% reduction in the dispersion of workers' preferred minimum wage levels measured using the within-group standard deviation. There is no evidence of reduced dispersion in expected minimum wage levels using this measure. Finally, the bottom panel of Appendix Figure A.4 visualizes the convergence in workers' preferences to those of the union. It shows a compression of treatment workers' views toward those of the union, in particular for preferences.

The results are consistent with leaders primarily *aligning* workers' views with those of the union by building consensus around the union's preferred minimum wage level. They are not consistent with leaders primarily building consensus by *aggregating* workers' views around the median worker's position.

Why do leaders induce convergence in preferences but not beliefs? Beliefs were more aligned to start with, and there was less change in views. In particular, the coefficient of variation within each factory in baseline preferences and beliefs shows that workers, compared to leaders, exhibit a significantly larger variation in preferences but not in beliefs (Appendix Figure A.5). Further, comparing time use between presidents and LLs, LLs spend much less time on 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 (Appendix Figure A.1). Consequently, the null result on convergence to the union's expected level can also be explained by their more specialized leadership role, which does not lead them to acquire information about the likely outcome of this process.

Table 2: Group Discussions: consensus-building

	Primary outcomes				**Consensus-building and engagement outcomes**			
	Deviation from median worker in discussion group		Deviation from median union leader					
	(1) Preference	(2) Belief	(3) Preference	(4) Belief	(5) Log(Total Word Count)	(6) Log(Likely Worker Word Count)	(7) Observed Group Activity	(8) Self-Reported Engagement
Panel A: Leader								
Leader	-83.85	142.5	-266.4**	-11.77	-0.141	-0.401***	0.264***	0.114***
	(116.4)	(93.6)	(103.2)	(74.0)	(0.095)	(0.12)	(0.079)	(0.042)
	[0.472]	[0.129]	[0.011]	[0.874]	[0.139]	[0.002]	[0.001]	[0.007]
	{0.514}	{0.155}	{0.023}	{0.878}	{0.143}	{0.003}	{0.002}	{0.012}
R-squared	0.211	0.251	0.330	0.342	0.235	0.373	0.347	0.146
p-value for testing Preference = Belief		0.077		0.018				
Panel B: Own versus External LL								
External Leader	3.099	179.0	-210.8	49.56	0.0322	-0.173	0.186*	0.100*
	(157.4)	(128.5)	(127.8)	(108.5)	(0.11)	(0.14)	(0.11)	(0.057)
	[0.984]	[0.165]	[0.101]	[0.648]	[0.773]	[0.219]	[0.095]	[0.080]
	{0.988}	{0.181}	{0.139}	{0.658}	{0.780}	{0.236}	{0.116}	{0.111}
Own Leader	-140.1	119.0	-302.3**	-50.92	-0.266**	-0.531***	0.265***	0.123***
	(136.3)	(107.4)	(120.9)	(80.7)	(0.11)	(0.14)	(0.088)	(0.045)
	[0.305]	[0.269]	[0.013]	[0.529]	[0.019]	[0.000]	[0.003]	[0.007]
	{0.324}	{0.318}	{0.020}	{0.561}	{0.021}	{0.002}	{0.005}	{0.007}
R-squared	0.213	0.252	0.331	0.344	0.271	0.407	0.355	0.147
Control Mean	991.637	404.697	1194.103	654.399	1002.175	872.674	-0.090	-0.089
Number of Observations	914	914	914	914	167	166	202	914
External=Own								
p-values	0.422	0.671	0.513	0.379	0.015	0.010	0.483	0.682
RI p-values	0.480	0.719	0.538	0.407	0.016	0.015	0.535	0.683
p-value for testing Preference = Belief								
External LL		0.304		0.060				
Own LL		0.063		0.050				
PDS Lasso Selected Controls	Y	Y	Y	Y	Y	Y	Y	Y
Unit of Observation	Worker	Worker	Worker	Worker	Group	Group	Group	Worker

Notes. In all regressions, probability weights are used. Where the unit of observation is worker, standard errors are clustered at the group level. Standard errors are in parentheses. The p-values calculated using this standard error are in square brackets. The randomization inference (RI) p-values are in curly brackets based on 1000 randomization draws (Young, 2019). The last row in each panel reports the p-values for (inter-model) testing the equivalence of coefficients between Column 1 and 2, and testing the equivalence of coefficients between Column 3 and 4. In Columns 1-2, the dependent variables are the absolute value of the endline minimum wage preference/belief minus the workers' median wage preference/belief at the discussion group level at baseline. In Columns 3-4, the dependent variables are the absolute value of the endline minimum wage preference/belief minus the median of leaders' preferences and beliefs at baseline at the factory level. In column 5, the dependent variable is the logarithm of the total number of words spoken by the group members. In column 6, the dependent variable is the the logarithm of the total number of words spoken by possible workers (group members who are not identified as a confirmed/possible leader). In columns 7-8, the dependent variables (Self-reported Engagement and Observed Group Activity) are index variables constructed following the methodology from Anderson (2008). Stratification fixed effects are Factory FEs × Union FEs (columns 1-4, 8) and Factory FEs (columns 5-7). Group size fixed effects are controlled in columns 1-5 and 7-8. For column 6, we note that the number of possible workers is systematically lower in Leader groups because leaders are more likely to be identified in these groups. This mechanically reduces the number of words by possible workers in control groups. Therefore, in columns 6, we control for the fixed effects of the number of possible workers. Control variables are selected by applying the post-double lasso control selection procedure.

When interpreting the results for internal and external leaders, recall that we did not announce or identify leaders in the experiment. Despite this, workers in both internal and external leader groups are substantially more likely to perceive the presence of a leader compared to the control group ($p< 0.01$, Appendix Table A.5). Consistent with workers being more likely to have ties with internal leaders, though, workers are almost twice as likely to perceive the presence of a leader from their own factory compared to an external factory (p=0.000). Conditional on that, 50% (19%) report having met the leader before in internal (external) groups. This raises the question of how internal and external leaders influence workers' preferences, which we now turn to.

5.2.2 The Mechanics of Consensus Building

Information. As leaders align views, do they provide information that coordinates workers' views, as in Hermalin (1998); Caillaud and Tirole (2007); Dewan and Myatt (2008)? We combine data from the group discussion transcripts with information on the group's first preferred (expected) minimum wage level entered in the group discussion reporting form. Recall that – to ensure naturally occurring behavior – we did not identify LLs in the groups and, therefore, the transcripts do not include speakers' identities. We asked the transcription company to identify whether there was (1) a confirmed leader, which is a group member who self-identified as a union leader; (2) a possible leader, which is a group member who was not a confirmed leader but who led the discussion and/or explained the questions and answers. Out of 47 (58) internal (external) leader groups, only 4 (1) had confirmed leaders. At the same time, 41 (56) internal (external) leader groups out of the remaining 43 (57) had a possible leader identified. That is, leaders do not introduce their formal role in the union to yield influence and steer the discussion, but (likely) do take on the role of leading the discussion.[18]

Among leader groups, we examine whether the speaker who first mentions

[18] 24 of 62 control groups had a possible leader. Since we cannot rule out that the transcribers were influenced by the knowledge of groups' treatment status, we do not analyze this variable as an outcome.

the first preferred (expected) minimum wage level entered in the group discussion reporting form is coded as a possible or a confirmed leader or as a worker.[19] Although LLs only account for 19.4% of group discussion members, leaders mention the preferred minimum wage first in 39.2% of groups and the expected minimum wage first in 38.4%. In both cases, we reject that possible leaders and workers are equally likely to mention the minimum wage levels first ($p<0.000$). The evidence is consistent with leaders introducing influential or preferred values of the minimum wage, in line with the results in Table 2 on leaders' aligning views.

We also explore how leader groups' responses to the question prompts on the possible benefits, harms, and heterogeneous effects associated with increasing the minimum wage compare to those of non-leader groups. Leader groups submit 23.5% longer responses ($p<0.05$, Appendix Table A.6, column (1)). Although we cannot show that the more substantive responses are due to information introduced by the leader, this is consistent with our other evidence.[20]

Discussion group activity. The presence of a leader also affects the level of activity in the group discussion and workers' actual and perceived engagement. We measure engagement in the discussion in three ways: the total amount of speech and the amount of speech by workers in the discussion transcripts, a group-level summary index based on the field team's assessment, a worker-level summary index based on several questions about workers' enjoyment of, and engagement in, the group discussion. We construct indexes following Anderson (2008) (see Boudreau et al. (2024) for details).

Column (5), Table 2, shows that groups with leaders discuss a bit less than control groups. Although not statistically significant, their discussions are

[19]We focus on treatment groups that 1) reported a preferred (expected) minimum wage in the group discussion form, 2) had at least one person mentioning a preferred (expected) minimum wage level in the transcript, and 3) had a possible or a confirmed leader in the transcript. 74 (86) groups meet these criteria for preferred (expected) minimum wages.

[20]On average, control groups input between 12-14 words per prompt. We do not detect differences in the textual content of groups' responses across treatment arms, possibly due to the prompt being quite specific. The most frequent bi- and tri-gram word combinations in the responses are displayed in Boudreau et al. (2024).

about 15% shorter; the decline is driven by leaders from workers' own factory (Panel B). Column (6) shows that workers speak less when a leader is present (p=0.003).[21] The decrease in average worker speech is relatively larger than the decrease in total speech, suggesting that leaders speak more than workers. The fact that the leader's speech crowds out, as opposed to crowds in, worker speech is also consistent with leaders aligning instead of aggregating views.

Column (7) shows that the field team rates groups with leaders 26% of a standard deviation (sd) higher in terms of having an active discussion (p<0.01). The estimated effects for leaders from workers' own factory and from an external factory are similar. This effect is driven by groups with leaders having a 6.8 pp lower share of members distracted (p<0.05, control mean is 20.3%) and being 17.3 and 18.4 pp more likely to have a member summarizing opinions and taking notes, respectively, relative to control means of 26.4% (p<0.01) and 65.4% (p<0.01). There is no difference in whether a member is actively facilitating the discussion or asking workers' opinions (Appendix Table A.7).

Finally, column (8) shows that leaders' participation increases workers' self-reported engagement by about 0.11 of a sd (p=0.012). Own factory leaders and external factory leaders have similar effects. Leaders increase workers' enjoyment (p=0.067) and self-reported participation in the discussion (p=0.203). The largest effect, by far, is on workers' perception that the group achieved consensus: leaders' participation increases self-reported consensus by 0.3 sd ($p \approx$0.000) (see Appendix Table A.8).

5.2.3 Leaders' Charisma and Consensus Building

Section 4 showed that union leaders are systematically different from workers in terms of their traits, which may affect their communication skills and charisma. By revealed preference, presidents have traits that union members identify as important for their ability to lead. This observation motivates us to consider LLs' resemblance to presidents and whether this resemblance matters

[21] To prevent a mechanical negative relationship between leaders' presence and workers' speech, we control for the fixed effects of the number of workers, subtracting 1 from the total group size for treatment groups with confirmed/possible leaders.

for leaders' efficacy in the group discussion.[22]

Appendix Figure A.6 shows the cumulative distributions of the predicted probabilities of LLs and workers being similar to presidents using a probit model with demographic variables, personality metrics, and psychological metrics. The horizontal line at 0.5 indicates that LLs in the bottom half of the similarity distribution are indistinguishable from workers. LLs in the top half, however, are distinct and closely resemble presidents. We thus construct a binary indicator for whether a LL is above the median in their predicted similarity to the president and use it as a summary measure of LLs' quality. Reassuringly, this measure is positively correlated with an index that measures LLs' effort for the union's activities (coeff. $= 0.312$; $p < 0.001$) and with LLs' aspirations to become an elected union leader (coeff. $= 0.172$; $p < 0.05$). Other than this, high- and low-similarity leaders are similar: they have the same information about the union's views on the minimum wage, similar social ties with workers and rates of engagement with the union, and, by construction, the same formal role. The similarity index thus is likely to mainly capture differences across LLs in traits associated with leadership.

High-similarity leaders are rated significantly higher in leadership behaviors ($p<0.1$, Appendix Table A.9). Results are generally robust with (Panel B) and without (Panel C) controlling for factory fixed effects. High-similarity leaders take a more active role in the discussion, being more likely to be the first speaker to introduce the preferred minimum wage level that appears in the group discussion form (44% compared to 33%), although not for the expected level (40% compared to 37%). Hence, our similarity index based on individuals' traits correlates with leaders' behavior in the group discussion.

High-similarity leaders also increase consensus. They decrease the deviation from the union's preferred minimum wage level by about 26% compared to about 14% for low-similarity leaders (p of diff=0.287, Appendix Table A.10). Interestingly, both types of leaders increase workers' self-reported perception of consensus, but only high-similarity leaders increase self-reported participation

[22]This heterogeneity analysis was not pre-specified and should be interpreted as exploratory.

(p=0.092 from column (9) in Appendix Table A.8). The transcripts also reveal that high-similarity leaders crowd out workers' speech significantly less than low-similarity leaders (p=0.011, column (11)). High-similarity leaders achieve the same, or greater, alignment with the union's views without trading off workers' participation to the extent that low-similarity leaders do.

Leaders' formal authority is unlikely to have played a significant role in the group discussion. LLs have no formal authority in the context of the experiment. While their affiliation with the union may endow them with authority in the workers' eyes, this is unlikely to be important. Besides the evidence comparing high- and low-similarity leaders, we also find no evidence that union leaders are more influential on members of their organization.[23] Finally, leaders themselves rarely invoke their formal authority in the discussions.

Summary: In sum, the evidence from the transcripts, the field teams' observations, and workers' self-reports show that leaders achieve alignment in workers' preferences with those of the union by actively introducing information, engaging in the discussion, and behaving in ways that build consensus. Leaders' traits – rather than social ties with workers or formal roles – matter most for their ability to achieve consensus. Not only do LLs who more closely resemble union presidents achieve the same, or greater, alignment with the union's views without trading off workers' participation, but further heterogeneity analysis suggests that social ties and formal authority are unlikely to be key channels of leaders' influence on group discussions.

5.2.4 Robustness & placebo tests

We conducted several robustness and placebo tests for the results. These tests support our interpretation of the evidence presented above, so we present and discuss them in the paper's Supplementary Materials, reported in Boudreau et al. (2024).

[23] We were interested in the possibility that a leader's influence may be limited to members of their organization and planned to test for HTEs by union affiliation in this and the mobilization experiment, although we did not explicitly pre-specify these tests. We do not find strong evidence of heterogeneity by union affiliation in either experiment (see Boudreau et al. (2024)).

6 Mobilization experiment

Having established that leaders achieve consensus, we now turn to their role in mobilizing workers. Designing a field experiment on mobilization is inherently complex. On the one hand, we want to test whether leaders influence workers to take a privately costly action with an uncertain, public payoff while, at the same time, avoiding exposing participants to risk. On the other hand, the (formal) theoretical literature highlights several channels through which leaders might coordinate members' actions, calling for a complex, multi-arm, design. The experiments were in the field at the onset of the pandemic. Due to the smaller planned sample sizes for each treatment arm, compared to the consensus-building experiment, our inability to complete data collection significantly reduced our statistical power to detect effects. We succinctly describe the experiment and interpret its main results as suggestive.

6.1 Experimental design

We aimed to design the experiment to test the channels through which leaders may influence workers' willingness to participate in a high-stakes, real-world collective action. We faced the challenge, though, that experimentally mobilizing workers to participate in street demonstrations around the minimum wage would subject workers to undue risk. Consequently, we aimed to mirror the incentives that workers face when deciding whether to participate in these types of collective actions while avoiding many of the associated risks.

The experiment entailed three main ingredients. First, a costly action: at the end of session 2, we invited workers to participate in an *unannounced* cost of living survey that required them to stay for the rest of the afternoon. This is costly because garment workers have a 6-day workweek, often work overtime on the seventh day, and had only agreed to a half-day session on their one weekend day. Second, a common cause: answering the cost of living survey would inform the CTUM's negotiating position. Third, we aimed to generate a need for coordination by announcing that, for each discussion group where *all* members attend the survey, we would donate 8000 kyats (about $5.60) to

the CTUM Skills Training Centre. Like the minimum wage, the CTUM Skills Training Centre serves all garment workers, not only union members.[24]

The experiment tests leaders' role in mobilizing workers to participate in the survey. The theoretical literature suggests three main channels through which leaders might increase mobilization. First, leaders may *motivate* workers to participate. Leaders may emotionally appeal to workers to exert effort to help CTUM (Ganz, 2010; Hermalin, 2023). Second, leaders may *coordinate* workers, selecting and communicating the equilibrium to be played and reducing strategic uncertainty (Dewan and Myatt, 2008; Akerlof and Holden, 2016). Finally, leaders may *observe* workers' effort and enforce sanctions on free-riders (sanctioning channel, Hermalin 2012) or reward effort, e.g., if workers care about how leaders view them (Ganz, 2010).

The experiment entailed a two-level randomization. First, we stratified discussion groups by factory and consensus-building treatment arm and then randomized them to high or low mobilization by the leader. In the high (low) condition, all but one (only one) member were (was) invited by a leader. We then experimentally varied exposure to three channels (Appendix Figure A.7 illustrates the experiment's treatment arms).

1. **Motivation:** Worker is invited by a leader instead of by research staff. Leaders and research staff use the same invitation script.

2. **Coordination:** Worker is informed about how many group members are invited by the leader. In *High coordination*, a worker is informed that the leader will invite all but one member; in *Low coordination*, a worker is informed that the leader will invite only one member.

3. **Leader Observation:** Worker is informed that a leader will observe their participation decision.

The scripts for each treatment arm are in Appendix Section B.2. Boudreau et al. (2024) describes the experiment's implementation in detail. Appendix

[24]There may also be naturally-occurring sources of complementarity in group-level turnout, such as social norms and peer effects, that generate a need for coordination.

Table A.2 reports balance checks across the experimental arms.[25] Our implementation did not involve deception, which resulted in the coordination arms, in which workers were informed about how many workers in their discussion group were being invited by the leader, having smaller sample sizes.

6.2 Results

We first estimate:

$$Y_i = \alpha_0 + \alpha_1 Leader_i + \alpha_2 HighCoord_i + \alpha_3 LowCoord_i + \alpha_4 Observation_i + \mathbf{X}_i'\beta + \epsilon_i \quad (4)$$

where Y_i is attendance at the afternoon session for worker i. $Leader_i$ is an indicator for being motivated by the leader, $HighCoord_i$ ($LowCoord_i$) is an indicator for when the worker is being informed that she is in a high (low) coordination group, and $Observation_i$ is an indicator for being in the leader observation arm. X_i is a vector of strata fixed effects (factory x discussion group). ϵ_i is the residual. We report 95% confidence intervals calculated using robust and clustered (at the discussion group level) standard errors. We also present RI p-values. In the text, when both RI and conventional p-values are calculated, we report the maximum of the two. Control variables are selected by PDS lasso.

If a key role for leaders in our setting is to motivate their followers, then workers invited to participate by the leader will be more likely to attend the session ($\alpha_1 > 0$). If a key role for leaders is to coordinate their followers, then workers informed that they are in a high coordination group will be more likely to attend compared to those who are informed that they are in a low coordination group ($\alpha_2 > \alpha_3$). Finally, if a key role for leaders is to sanction bad behavior or to reward good behavior, workers who learn that a leader will observe their decision will be more likely to attend ($\alpha_4 > 0$).

We also estimate:

[25] For the first survey session, the field team ran out of time to complete this experiment. For this reason, two factories drop, reducing the number of observations to 790.

$$Y_i = \alpha_0 + \alpha_1 Leader_i + \alpha_2 Leader_i * HighCoord_i + \alpha_3 NoLeader_i * HighCoord_i + \alpha_4 Leader * LowCoord_i + \alpha_5 NoLeader_i * LowCoord_i + \alpha_6 Leader_i * Observation_i + \alpha_7 NoLeader_i * Observation_i + \mathbf{X}_i'\beta + \epsilon_i \quad (5)$$

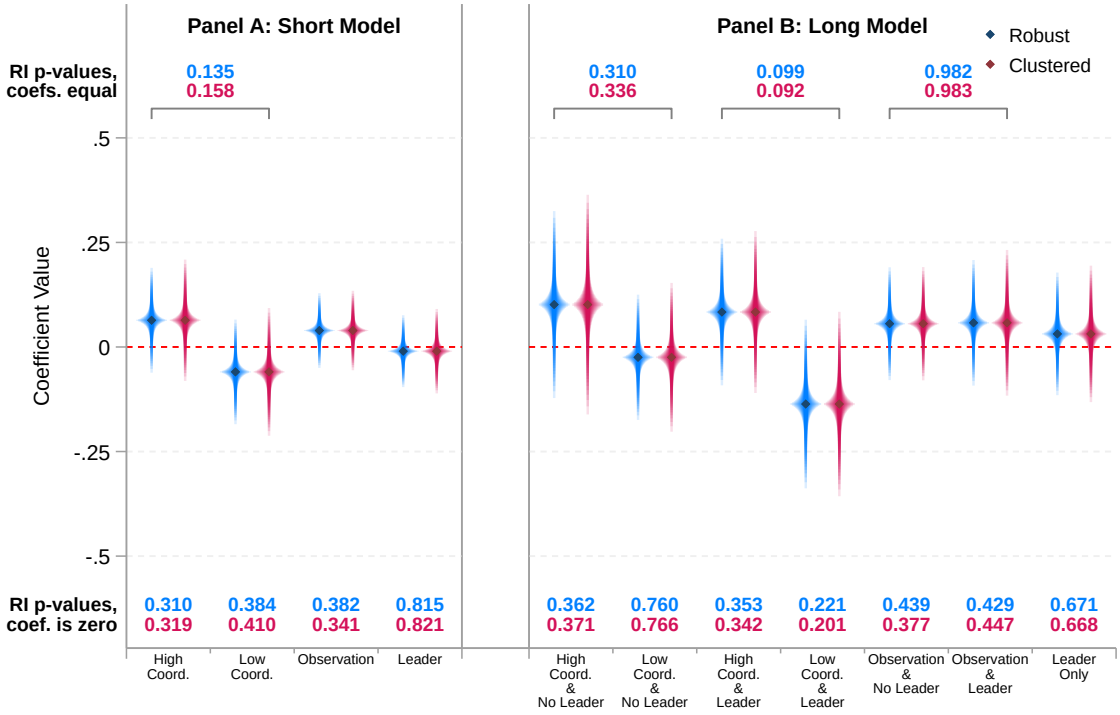
where $NoLeader_i$ is an indicator for being invited by the research team (no leader motivation). All other variables are defined as above.

Figure 1 (and Appendix Table A.11) presents the results. The reference group is workers who are invited by the research staff and are not provided with coordination or observation information. Panel A presents the results of estimating eqn. 4 and Panel B of estimating eqn. 5. The figure shows 95% confidence intervals calculated using robust (blue, left) and clustered at the discussion group level (red, right) standard errors. The estimated coefficient for the Leader arm, α_1, shows that motivation by the leader does not affect attendance at the afternoon session; in this setting, we do not find evidence of motivation through charismatic leadership. That said, we are pooling all leaders, and our main effects may mask heterogeneity by leader type. Unfortunately, we cannot explore this possibility, as we do not observe which leader is responsible for inviting a given worker. In any case, the scope for heterogeneity analysis would be limited, as there were only two leaders per factory inviting workers. Alternatively, it may be that providing leaders with a set script to invite workers narrowed the scope of charismatic leadership.

Turning to coordination, the Figure shows that high coordination by the leader substantially increases attendance 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 member increases attendance by 12 pp or 36% compared to the control group mean (p=0.146 with robust standard errors, from Appendix Table A.11). Panel B tests for complementarity or substitutability between coordination and motivation. It shows that the effects of moving from low to high coordination by the leader are qualitatively larger for those who are also motivated by the leader: there is a 22 pp or 65% increase in attendance (p=0.099) compared to an increase of 13 pp or 37% (p=0.310) when not motivated. While motivation by the leader alone may not

influence attendance, it does work as a complement to coordination.

Figure 1: Mobilization Experiment (with PDS Controls)



Notes. This plot shows the impact of different treatment arms on whether a worker attends the minimum wage survey. 95% confidence intervals calculated by using robust and clustered (at the discussion group level) standard errors are reported. RI p-values based on 1000 randomization draws (Young, 2019) are also reported on the top. Factory FEs $\times$ Discussion Group FEs are controlled. Control variables are selected by post-double lasso selection procedure.

Finally, Panel A shows that informing workers that the leader will observe their decision increases attendance by 4 pp or about 12% (not statistically significant). Panel B shows that the effect is similar when a worker is invited by the research staff or by a leader. Observation of the workers' decision by the leader may influence attendance through two potential mechanisms: leaders acting as judges, sanctioning workers who do not attend, or workers perceiving that attending sends a positive signal about their type. Depending on workers' priors about attendance, these mechanisms generate different effects. Under sanctioning, workers with higher priors about their group members' likelihood of attending the session should be more likely to attend when their decision

is observed by the leader. We explore these mechanisms in Appendix C and find evidence more consistent with a signaling mechanism rather than the sanctioning one.[26]

6.3 Consensus-building & Mobilization

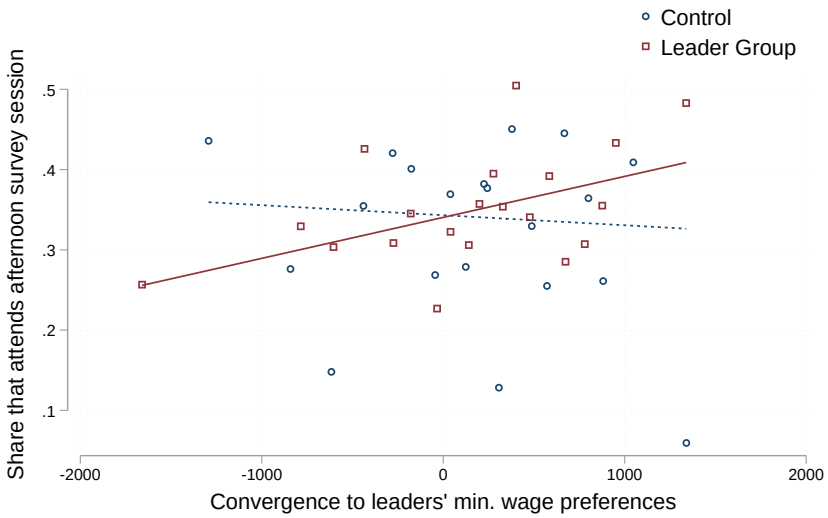
Leaders coordinate workers' views around the unions' preferred minimum wage level – they build consensus around "the world as it should be" (Ganz, 2010) – and coordinate workers towards higher participation – they mobilize workers. In this subsection, we explore the potentially important link between coordinating views and coordinating collective actions in the context of social movements. May conveying the unions' preferences – making clear what the unions are fighting for – and building consensus around these preferences matter for leaders' ability to mobilize workers?

Figure 2 explores the correlation between consensus building and mobilization across our two experimental designs. The figure reports a binned scatterplot of the correlation between the average group-level change in the deviation between workers' view and the union's view (baseline minus endline) and the share of the group that attends the announced afternoon session for the CTUM's cost of living survey. Among groups that were assigned a leader, there is a positive correlation between consensus building achieved in the group discussion in the first experiment and workers' mobilization in the second experiment (p=0.077). No such correlation is observed for groups without leaders (p=0.737) or between convergence in beliefs and attendance, consistent with the experimental results. Albeit suggestive, this distinctive pattern suggests that consensus-building may play an important role in mobilizing individuals within social movements. It also resonates with Bidwell et al. (2020)'s finding that exposure to political communication changes people's voting behavior.[27]

[26]This analysis was not pre-specified and should be interpreted as exploratory.

[27]The left (right) panel in Appendix Figure A.8 plots the cumulative distribution of the number (share) of workers who attend the survey by treatment status in the consensus-building experiment. Exposure to a leader in the group discussion causes a rightward shift in the attendance CDFs, particularly among groups with lower levels of turnout.

Figure 2: Average convergence to union minimum wage preference & share mobilized



Notes. The figure is a binned scatterplot with group weights applied. The variable on the x-axis measures the level of preference convergence, defined as the baseline workers' preference deviation from the median union leader subtracted by the endline preference deviation from the median union leader. Both variables are residualized by factory and group size fixed effects, and the mean of each variable has been added back before plotting.

While these are exploratory exercises, the evidence supports the interpretation that achieving consensus by aligning followers' preferences with those of the movement is instrumental for mobilization. We think that further examining the potential for a *causal* interpretation of the link between alignment of views and mobilization in the context of social movements would be an especially valuable direction for future research. Our evidence indicates that exposure to leaders has an important causal impact in both of these steps.

7 Conclusion

In this paper, we present novel evidence on union leaders in Myanmar's labor movement in the garment sector and how leaders influence workers' views and collective actions in the run-up to a national minimum wage negotiation. It is

generally challenging to pinpoint the specific influences of leaders within organizations or movements because their actions are often difficult to observe in sufficient detail and also because it is hard to untangle if influential individuals shape others or just reflect underlying group dynamics. We conducted two field experiments and gathered detailed information on the traits of workers and union leaders at every level of the union hierarchy to examine whether and how union leaders affect the inner workings of labor movements.

We find that union leaders are *positively selected* compared to rank-and-file workers in terms of their personality traits, grit, and locus of control, which psychologists and organizational sociologists link with the ability to influence collective outcomes. They are also positively selected on the two traits that the literature on political selection identifies as key: prosociality, and for the union presidents who are the most selected leaders in our sample, ability. This evidence adds to our scant understanding of the types of individuals who emerge as leaders in social movements. It suggests that one mechanism through which leaders influence followers is their distinct set of personal characteristics. An interesting avenue for future research is to assess the extent to which this positive selection generalizes to other contexts. It is sometimes argued that union leaders might be negatively selected in terms of ability as lower-ability workers stand to gain more from collective representation.

We provide the first experimental evidence that union leaders play a key role in building consensus among workers around their unions' objectives; they *coordinate views*. We find that leaders build consensus around their unions' preferred minimum wage, as opposed to aggregating workers' preferences. Leaders' personal traits matter in supporting the achievement of alignment, and leaders who more closely resemble the president achieve the same or greater consensus with significantly less crowding out of workers' participation in the discussions. An interesting question for future research is the extent to which our finding of alignment in consensus building generalizes to leaders selected through elections; in principle, elected leaders may face stronger incentives to aggregate views, although political scientists have also argued that voters may adopt politicians' views (Lenz, 2012).

We also present new insights into the channels through which leaders mobilize workers to take privately costly actions for their common good, finding evidence in favor of leaders coordinating workers' equilibrium selection. Hence, in addition to coordinating views, they also *coordinate actions*. Bringing together our findings on coordinating views and collective actions, we document a positive correlation between consensus building and mobilization in a social movement. This suggests that achieving consensus may be an important first step needed to mobilize individuals. To our knowledge, this is the first time that this potentially important link has been proposed, and we believe that probing the causal relationship between consensus building and mobilization is an interesting direction for future research.

Overall, this paper highlights the importance of grassroots leadership in the cultivation of collective action in labor movements, as it plays a coordinating role among members. In previous work, we document that garment factories with worker representatives are less likely to experience industrial disputes (Lin et al., 2019), suggesting that they may contribute to healthier industrial relations. Combined with the results from this paper, we think that understanding the role of union leaders in industrial relations more broadly, in terms of management-worker relations, wage inequality, and firms' productivity growth are promising directions for further research.

References

Aghion, Philippe and Jean Tirole, "Formal and Real Authority in Organizations," *Journal of Political Economy*, 1997, *105* (1), 1–29.

Akerlof, Robert and Richard Holden, "Movers and shakers," *The Quarterly Journal of Economics*, 2016, *131* (4), 1849–1874.

_ **, Anik Ashraf, Rocco Macchiavello, and Atonu Rabbani**, "Layoffs and productivity at a Bangladeshi sweater factory," 2020.

Anderson, Michael L, "Multiple Inference and Gender Differences in the Effects of Early Intervention: A Reevaluation of the Abecedarian, Perry Preschool, and Early Training Projects," *Journal of the American Statistical Association*, 2008, *103* (484), 1481 –1495.

Antonakis, John, Giovanna d'Adda, Roberto Weber, and Christian Zehnder, ""Just words? Just speeches?" On the economic value of charismatic leadership," *Management Science*, 2022, *68*, 6355–7064.

_ **, Nicolas Bastardoz, Philippe Jacquart, and Boas Shamir**, "Leadership by example in the weak-link game," *Annual Review of Organizational Psychology and Organizational Behavior*, 2016, *3*, 293–319.

Autor, David H., Alan Manning, and Christopher L. Smith, "The Contribution of the Minimum Wage to US Wage Inequality over Three Decades: A Reassessment," *American Economic Journal: Applied Economics*, 2016, *8* (1), 58–99.

Bandiera, Oriana, Iwan Barankay, and Imran Rasul, "Social connections and incentives in the workplace: Evidence from personnel records," *Econometrica*, 2009, *77*, 1047–1094.

Belloni, Alexandre, Victor Chernozhukov, and Christian Hansen, "Inference on Treatment Effects after Selection among High-Dimensional Contr," *Review of Economic Studies*, 2014, *81* (2), 608–650.

Bidwell, Kelly, Katherine Casey, and Rachel Glennerster, "Debates: Voting and expenditure responses to political communication," *Journal of Political Economy*, 2020, *128* (8), 2880–2924.

Bilker, Warren B, John A Hansen, Colleen M Brensinger, Jan Richard, Raquel E Gur, and Ruben C Gur, "Development of abbreviated nine-item forms of the Raven's standard progressive matrices test," *Assessment*, 2012, *19* (3), 354–369.

Black, Duncan, *The theory of committees and elections*, Cambridge University Press, 1958.

Bolton, Patrick, Markus K Brunnermeier, and Laura Veldkamp, "Leadership, coordination, and corporate culture," *Review of Economic Studies*, 2013, *80* (2), 512–537.

Boudreau, Laura, "Multinational enforcement of labor law: Experimental evidence from Bangladesh's apparel sector," *Working Paper*, 2021.

_ , Rocco Macchiavello, Virginia Minni, and Mari Tanaka, "Supplementary Materials: Leaders in Social Movements: Evidence From Unions in Myanmar," Technical Report, SSRN Research Paper Series No. 4864165 2024. `https://ssrn.com/abstract=4864165`.

Breza, Emily, Supreet Kaur, and Nandita Krishnaswamy, "Coordination without Organization: Collective Labor Supply in Decentralized Spot Markets," Technical Report 2022.

Budde, Julian, Thomas Dohmen, Simon Jäger, and Simon Trenkle, "Worker Representatives," *mimeo*, 2024.

Cagé, Julia, Anna Dagorret, Pauline Grosjean, and Saumitra Jha, "Heroes and Villains: The Effects of Heroism on Autocratic Values and Nazi Collaboration in France," *American Economic Review*, 2022.

Caillaud, Bernard and Jean Tirole, "Consensus building: How to persuade a group," *American Economic Review*, 2007, *97* (5), 1877–1900.

Callen, Michael, Jonathan L Weigel, and Noam Yuchtman, "Experiments about institutions," *Annual Review of Economics*, 2023, *16.*

Cameron, A Colin, Jonah B Gelbach, and Douglas L Miller, "Bootstrap-based improvements for inference with clustered errors," *The Review of Economics and Statistics*, 2008, *90* (3), 414–427.

Cantoni, Davide, David Y Yang, Noam Yuchtman, and Y Jane Zhang, "Protests as strategic games: Experimental evidence from Hong

Kong's antiauthoritarian movement," *Quarterly Journal of Economics*, 2019, *134*, 1–57.

Caselli, Francesco and Massimo Morelli, "Bad politicians," *Journal of Public Economics*, 2004, *88*.

Caza, Arran and Barry Z. Posner, "How and when does grit influence leaders' behavior?," *Leadership and Organization Development Journal*, 2019, *40* (1).

Corradini, Viola, Lorenzo Lagos, and Garima Sharma, "Collective Bargaining for Women: How Unions Can Create Female-Friendly Jobs," Technical Report 2023.

Dal Bó, Ernesto, Frederico Finan, Olle Folke, Torsten Persson, and Johanna Rickne, "Who becomes a Politician?," *Quarterly Journal of Economics*, 2017, *132* (4).

Della Porta, Donatella and Mario Diani, *Social movements: An introduction (3rd ed.)*, Oxford: Blackwell, 2020.

Derenoncourt, Ellora, Francois Gérard, Lorenzo Lagos, and Claire Montialoux, "Racial Inequality, Minimum Wage Spillovers, and the Informal Sector," 2021.

Deserranno, Erika, Miri Stryjan, and Munshi Sulaiman, "Leader Selection and Service Delivery in Community Groups: Experimental Evidence from Uganda," *American Economic Journal: Applied Economics*, 2019, *11*, 240–267.

Dewan, Torun and David P Myatt, "The qualities of leadership: Direction, communication, and obfuscation," *The American Political Science Review*, 2008, *102*, 351–368.

Dippel, Christian and Stephan Heblich, "Leadership and Social Movements: The Forty-Eighters in the Civil War," *American Economic Review*, 2021, *111*, 1–35.

Duckworth, Angela Lee and Patrick D Quinn, "Development and validation of the Short Grit Scale (GRIT–S)," *Journal of personality assessment*, 2009, *91* (2), 166–174.

Englmaier, Florian, Stefan Grimm, Dominik Grothe, David Schindler, and Simeon Schudy, "The value of leadership: Evidence from a large-scale field experiment," Technical Report 2022.

Enikolopov, Ruben, Alexey Makarin, and Maria Petrova, "Social media and protest participation: Evidence from Russia," *Econometrica*, 2020, *88* (4), 1479–1514.

Freeman, Richard B, "Labor regulations, unions, and social protection in developing countries: Market distortions or efficient institutions?," *Handbook of development economics*, 2010, *5*, 4657–4702.

Ganz, Marshall, "Leading Change: Leadership, Organization, and Social Movements," in Nitin Nohria and Rakesh Khurana, eds., *Handbook of Leadership Theory and Practice: A Harvard Business School Centennial Colloquium*, Harvard Business School Publishing Corporation, 2010, chapter 19.

González, Felipe, "Collective action in networks: Evidence from the Chilean student movement," *Journal of Public Economics*, 2020, *188*, 1–13.

Green, Edward J. and Robert H. Porter, "Noncooperative Collusion under Imperfect Price Information," *Econometrica*, 1984, *52* (1), 87–100.

Grossman, Guy and Delia Baldassarri, "The impact of elections on cooperation: Evidence from a lab-in-the-field experiment in Uganda," *American journal of political science*, 2012, *56* (4), 964–985.

Hermalin, Benjamin E., "Toward an Economic Theory of Leadership: Leading by Example," *The American Economic Review*, 1998, *88* (5), 1188–1206.

_ , "Leadership and corporate culture," *Handbook of organizational economics*, 2012, pp. 432–78.

Hermalin, Benjamin E, "At the helm, Kirk or Spock? The pros and cons of charismatic leadership," *American Economic Journal: Microeconomics*, 2023, *15* (2), 465–492.

House, Robert J, *A 1976 theory of charismatic leadership.* 1977.

_ **and Jane M. Howell**, "Personality and Charismatic Leadership," *Leadership Quarterly*, 1992, *3* (2).

Howell, Jane M. and Bruce J. Avolio, "Transformational Leadership, Transactional Leadership, Locus of Control, and Support for Innovation: Key Predictors of Consolidated-Business-Unit Performance," *Journal of Applied Psychology*, 1993, *78* (6).

Human Rights Watch, ""No Room to Bargain"' Unfair and Abusive Labor Practices in Pakistan," https://www.hrw.org/report/2019/01/23/no-room-bargain/unfair-and-abusive-labor-practices-pakistan 2015.

_ , ""Work Faster or Get Out": Labor Rights Abuses in Cambodia's Garment Industry," https://www.hrw.org/report/2015/03/12/work-faster-or-get-out/labor-rights-abuses-cambodias-garment-industry 2015.

International Labor Organization, "Reports of the Committee on Freedom of Association: 405th Report of the Committee on Freedom of Association," https://webapps.ilo.org/wcmsp5/groups/public/---ed_norm/---relconf/documents/meetingdocument/wcms_916541.pdf 2024.

Jack, B Kelsey and María P Recalde, "Leadership and the voluntary provision of public goods: Field evidence from Bolivia," *Journal of Public Economics*, 2015, *122*, 80–93.

Judge, Timothy A., Joyce E. Bono, Remus Ilies, and Megan W. Gerhardt, "Personality and Leadership: A Qualitative and Quantitative Review," *Journal of Applied Psychology*, 2002, *87* (4).

Komai, Mana, Philip J. Grossman, and Trevis Deters, "Leadership and Information in a Single Shot Collective Action Game: An Experimental Study," *Managerial and Decision Economics*, 2010, *32* (2), 119–134.

Lenz, Gabriel, *Follow the Leader?: How Voters Respond to Politicians' Policies and Performance*, University of Chicago Press, 2012.

Lin, Min Zarni, Mari Tanaka, Virginia Minni, Hanh Nguyen, Khin Suu Thet, and Rocco Macchiavello, "Industrial relations and workplace communication in Myanmar garment sector," 2019.

Loeper, Antoine, Jakub Steiner, and Colin Stewart, "Influential opinion leaders," *The Economic Journal*, 2014, *124* (581), 1147–1167.

Macchiavello, Rocco, Andreas Menzel, Atonu Rabbani, and Christopher Woodruff, "Challenges of Change: An Experiment Training Women to Manage in the Bangladeshi Garment Sector," *Working Paper*, 2020.

Manacorda, Marco and Andrea Tesei, "Liberation technology: Mobile phones and political mobilization in Africa," *Econometrica*, 2020, *88* (2), 533–567.

Manski, Charles F, "Identification of endogenous social effects: The reflection problem," *The review of economic studies*, 1993, *60* (3), 531–542.

Potters, Jan, Martin Sefton, and Lise Vesterlund, "Leading-by-example and Signaling in Voluntary Contribution Games: An Experimental Study," *Economic Theory*, 2007, *33* (1), 169–182.

Rammstedt, Beatrice and Oliver P John, "Measuring personality in one minute or less: A 10-item short version of the Big Five Inventory in English and German," *Journal of research in Personality*, 2007, *41* (1), 203–212.

Sahin, Selhan Garip, Catherine Eckel, and Mana Komai, "An Experimental Study of Leadership Institutions in Collective Action Games," *Journal of the Economic Science Association*, 2015, *1* (1), 100–113.

Schimschal, Sarah E. and Tim Lomas, "Gritty Leaders: The Impact of Grit on Positive Leadership Capacity," *Psychological Reports*, 2018, *122* (4).

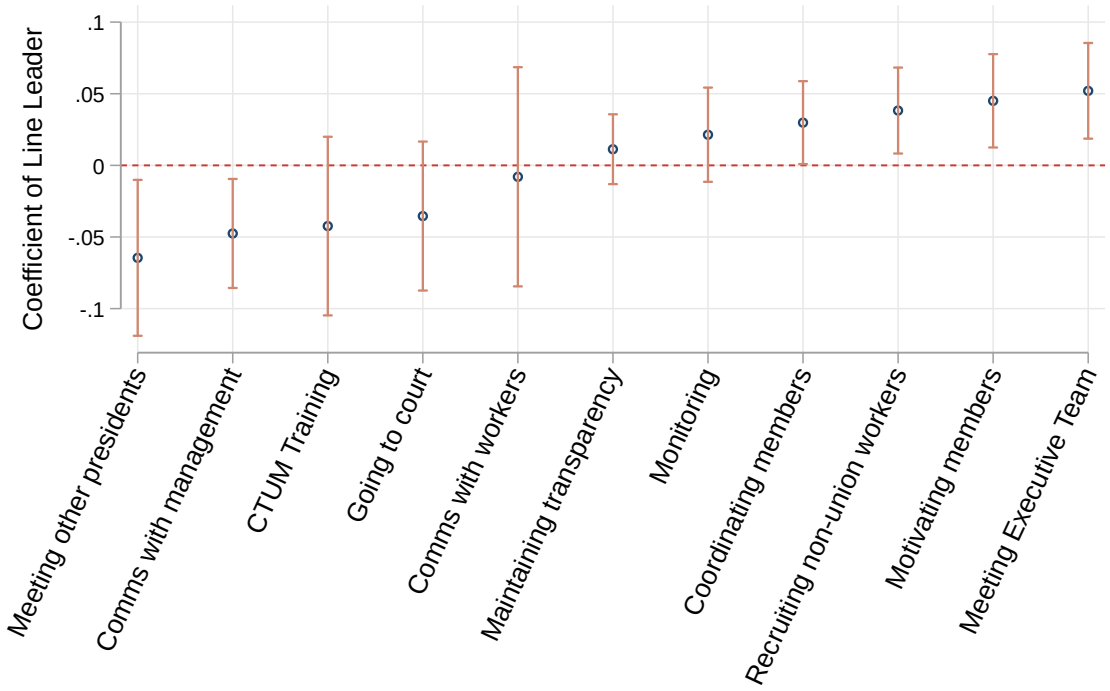
Tanaka, Mari, "Exporting Sweatshops? Evidence from Myanmar," *Review of Economics and Statistics*, 2020, *102*, 442–456.

Visser, Jelle, "Trade unions in the balance," *ILO ACTRAV Working Paper*, 2019.

Young, Alwyn, "Channeling Fisher: Randomization Tests and the Statistical Insignificance of Seemingly Significant Experimental Results," *The Quarterly Journal of Economics*, 2019, *134* (2), 557–598.

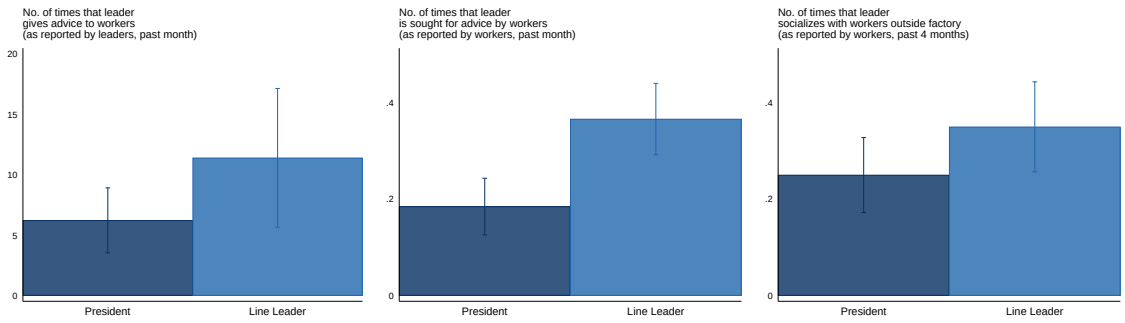
A Appendix A: additional figures and tables

Figure A.1: Time spent on union-related activities



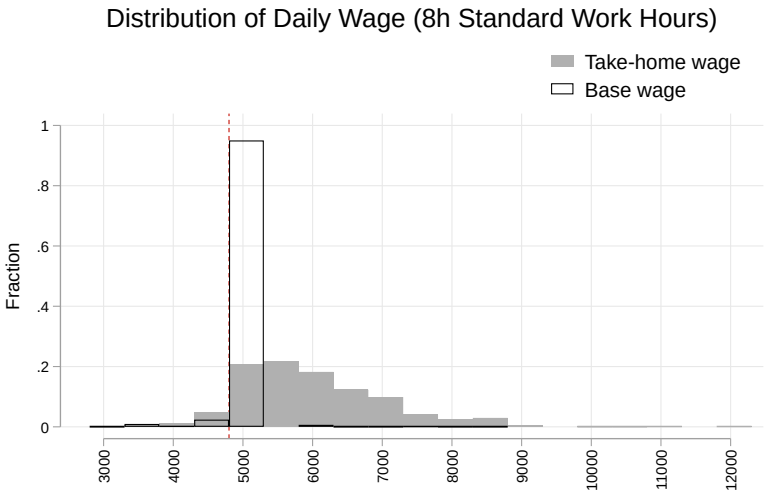
Notes. This figure shows the self-reported time use across different union-related activities for presidents and line leaders. Each measure is divided by the total time dedicated to union activities by each person and the plot shows how line leaders differentially spend their time compared to presidents.

Figure A.2: Presidents and line leaders' contact with workers



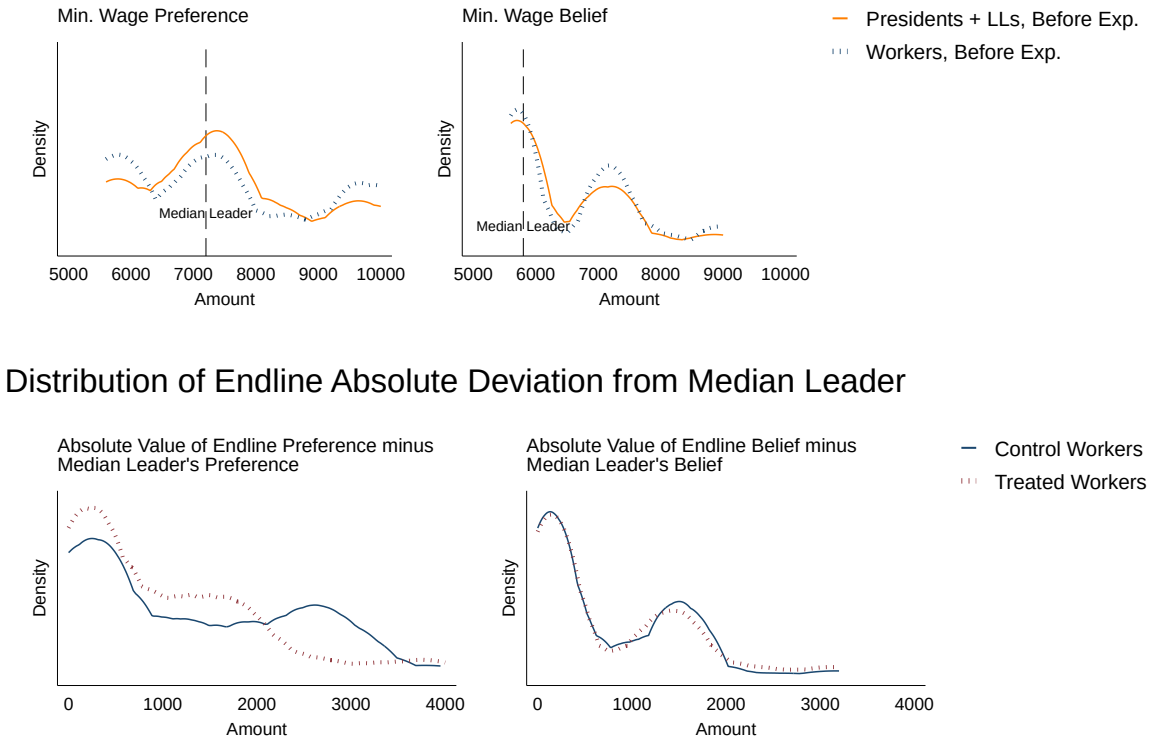
Notes. This figure plots the mean of different self-reported measures of direct contact with workers separately for presidents and line leaders. Whiskers show the 95 percent confidence interval.

Figure A.3



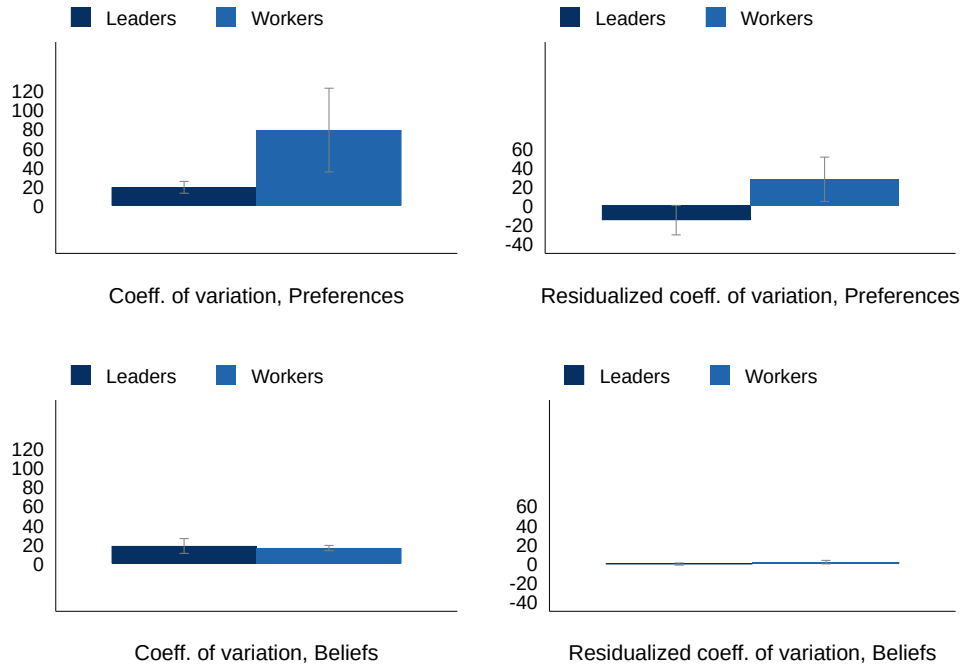
Notes. This figure shows the distributions of daily base wages and daily take-home wages for 8 standard hours for workers in our sample. The transparent bars are the histogram for daily base wage, while the gray bars are the one for daily take-home wage. The vertical line indicates 4800 kyat, the current minimum wage since 2018. The daily base wage is the base level of wage for 8 standard hours without reflecting skill premiums, bonuses, and overtime earnings. We calculate the daily take-home wage, which is defined as the daily wage rate for 8 standard hours including the base wage, skill premiums, and bonuses. It does not include overtime work earnings.

Figure A.4: Min. Wage Preference and Belief: Workers against Union Leaders



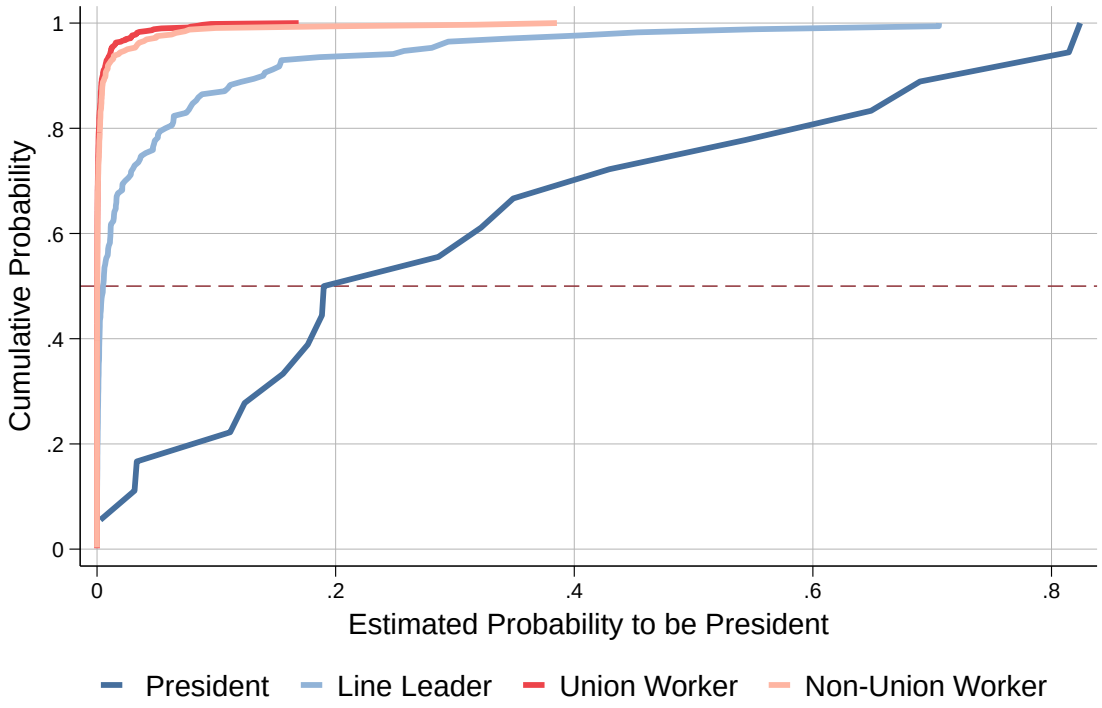
Notes. The top two sub-figures plot the distributions of leaders' baseline minimum wage preferences and beliefs against workers' baseline and baseline minimum wage preferences and beliefs. The bottom two sub-figures plot the distributions of the absolute value of endline treated workers' preferences/beliefs minus baseline median leader's preferences/beliefs against control workers' endline absolute deviation from baseline median leader. The coefficient of variation (CV) of leaders' preference is 15.20, CV for baseline workers' preference is 18.95, and CV for endline workers' preference is 16.58. The coefficient of variation (CV) of leaders' beliefs is 11.42, the CV for baseline workers' beliefs is 13.62, and the CV for endline workers' beliefs is 10.99. p-value for the Kolmogorov-Smirnov equality-of-distributions test of the two distributions in the left-top (right-top, left-bottom, and right-bottom, respectively) sub-figure is 0.172 (0.139, 0.000, and 0.349, respectively).

Figure A.5: Coefficient of variation, preferences and beliefs at baseline



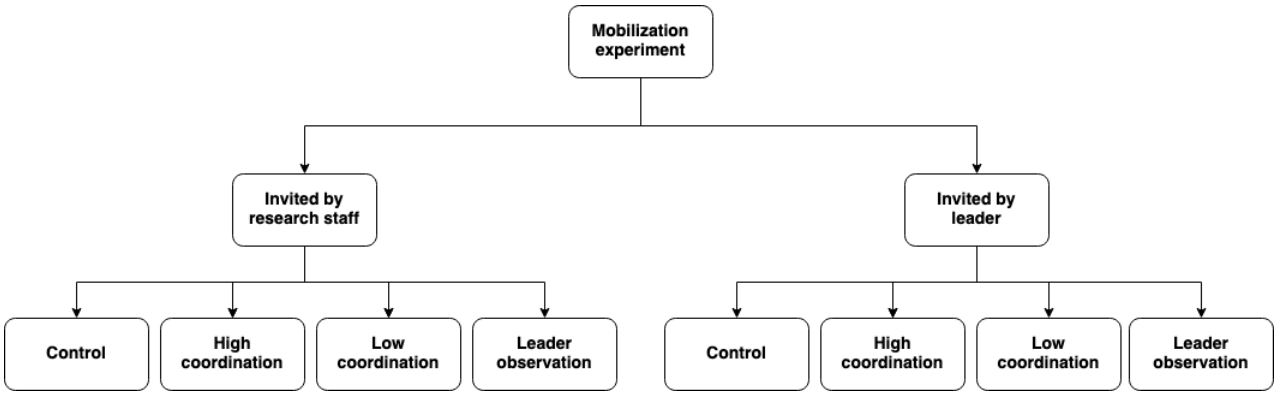
Notes. This figure plots the coefficient of variation in baseline views within factory separately for workers and leaders. Whiskers show the 95 percent confidence intervals, using the variation across factories.

Figure A.6: Workers' and line leaders' similarity to presidents



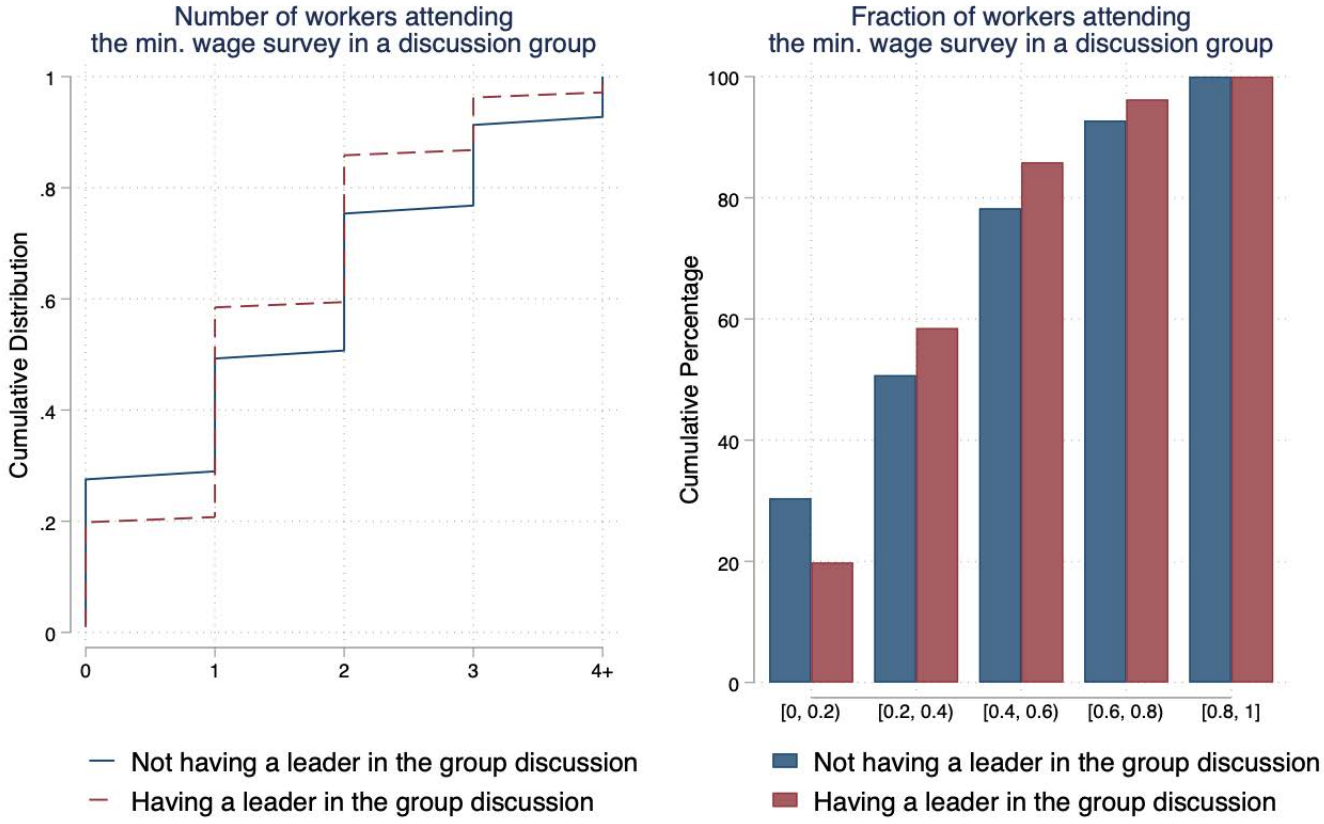
Notes. This figure shows the cumulative distribution of the probability of a worker being a president estimated by a probit model with demographic controls (gender, age, education, migrant (0/1), months in factory/sector), personality metrics (extraversion, agreeableness, conscientionsness, neuroticism, openness) and psychological metrics (raven score, grit, altruism, locus of control).

Figure A.7: Mobilization Experiment



Notes. This figure presents the design of the mobilization experiment.

Figure A.8: Distribution of Survey Attendance by Treatment Status in the Consensus-Building Experiment



Notes. The left sub-figure plots the cumulative distribution of the number of workers in a discussion group who attend the minimum wage survey, separately by treatment status. The right sub-figure plots the cumulative distribution of the fraction of workers in a discussion group who attend the minimum wage survey, separately by treatment status.

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	16.2	16.0	3.0	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 provided the requested information. *Union set goals* is an indicator for whether the union has a stated goal. *Union Tenure* is the 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: Experiment balance tables

	Panel A: Consensus-building experiment						
	Mean (SE)			Difference in means (p-value)			
	(1)	(2)	(3)		(4)	(5)	
Variable	Control	Own LL	External LL		Own LL	External LL	
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 Belief	6559.07	6379.55	6419.87		-114.29	-29.48	
	(994.64)	(1049.95)	(1009.60)		(0.122)	(0.677)	
Min. Wage Preference	7523.60	7249.00	7295.48		-187.48	-116.89	
	(1557.76)	(1514.25)	(1540.26)		(0.108)	(0.350)	
Absolute diff., worker and median leader min. wage preference	1250.88	1202.64	1148.04		-71.46	-91.64	
	(1175.24)	(1019.36)	(1058.05)		(0.445)	(0.294)	
Absolute diff., worker and median leader min. wage belief	741.400	719.938	900.127		-43.216	194.681**	
	(800.409)	(803.475)	(910.828)		(0.532)	(0.019)	
Grade	2.477	2.733	2.662		0.042	-0.110	
	(1.403)	(1.416)	(1.479)		(0.563)	(0.235)	
Last Month Income	242720.2	234366.1	234317.5		-3114.1	-1774.8	
	(39172.1)	(38648.5)	(37231.3)		(0.153)	(0.448)	
Observations	425	284	206		709	631	

	Panel B: Mobilization, Coordination, and Leader Observation experiment						
	Difference in means (p-value)						
	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Variable	LL	LL & Low Coord.	LL & High Coord.	LL & Social Pressure	Social Pressure	Low Coord.	High Coord.
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 Belief	-326.64	-184.36	-178.74	-18.58	-105.97	106.89	-100.00
	(0.170)	(0.558)	(0.701)	(0.938)	(0.613)	(0.664)	(0.331)
Min. Wage Preference	138.25	-3.01	999.97	231.91	238.45	256.88	600.00
	(0.643)	(0.995)	(0.155)	(0.467)	(0.484)	(0.437)	(0.331)
Absolute diff., worker and median leader min. wage preference	-22.02	70.98	151.18	-338.63	230.18	147.03	-600.00
	(0.935)	(0.746)	(0.833)	(0.165)	(0.330)	(0.419)	(0.331)
Absolute diff., worker and median leader min. wage belief	-277.539	-140.638	-386.913	-155.202	10.771	10.885	-100.000
	(0.161)	(0.458)	(0.290)	(0.416)	(0.954)	(0.938)	(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	-12242.9	6238.1	-1156.0	-12952.3*	-6105.5	-5150.0	-9000.0
	(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 are used. Robust standard errors are reported in parentheses. Observations are at the worker level. Columns 4-5 control for factory FE x union status. Columns 6-12 control for factory FE x discussion group FE. Columns 1-3 report the mean with standard errors in parentheses. Columns 4-12 report the difference in means between the stated treatment group and the control group for the given experiment, with p-values in parentheses.

Table A.3: Group Discussions: consensus-building results without PDS lasso-selected controls

	Primary outcomes				**Consensus-building and engagement outcomes**			
	Deviation from median worker in discussion group		Deviation from median union leader					
	(1) Preference	(2) Belief	(3) Preference	(4) Belief	(5) Log(Total Word Count)	(6) Log(Likely Worker Word Count)	(7) Observed Group Activity	(8) Self-Reported Engagement
Panel A: Leader								
Leader	-83.85	142.5	-266.4**	-11.77	-0.141	-0.401***	0.264***	0.125***
	(116.4)	(93.6)	(103.2)	(74.0)	(0.095)	(0.12)	(0.079)	(0.044)
	[0.472]	[0.129]	[0.011]	[0.874]	[0.139]	[0.002]	[0.001]	[0.005]
	{0.514}	{0.155}	{0.023}	{0.878}	{0.143}	{0.003}	{0.002}	{0.004}
R-squared	0.211	0.251	0.330	0.342	0.235	0.373	0.347	0.076
p-value for testing Preference = Belief	0.077		0.018					
Panel B: Own versus External LL								
External Leader	3.099	179.0	-210.8	49.56	0.0322	-0.173	0.186*	0.106*
	(157.4)	(128.5)	(127.8)	(108.5)	(0.11)	(0.14)	(0.11)	(0.061)
	[0.984]	[0.165]	[0.101]	[0.648]	[0.773]	[0.219]	[0.095]	[0.086]
	{0.988}	{0.181}	{0.139}	{0.658}	{0.780}	{0.236}	{0.116}	{0.122}
Own Leader	-140.1	119.0	-302.3**	-50.92	-0.266**	-0.531***	0.265***	0.138***
	(136.3)	(107.4)	(120.9)	(80.7)	(0.11)	(0.14)	(0.088)	(0.047)
	[0.305]	[0.269]	[0.013]	[0.529]	[0.019]	[0.000]	[0.003]	[0.004]
	{0.324}	{0.318}	{0.020}	{0.561}	{0.021}	{0.002}	{0.005}	{0.007}
R-squared	0.213	0.252	0.331	0.344	0.271	0.407	0.355	0.077
Control Mean	991.637	404.697	1194.103	654.399	1002.175	872.674	-0.090	-0.089
Number of Observations	914	914	914	914	167	166	202	914
External=Own								
p-values	0.422	0.671	0.513	0.379	0.015	0.010	0.483	0.605
RI p-values	0.480	0.719	0.538	0.407	0.016	0.015	0.535	0.598
p-value for testing Preference = Belief								
External LL	0.304		0.060					
Own LL	0.063		0.050					
Unit of Observation	Worker	Worker	Worker	Worker	Group	Group	Group	Worker

Notes. In all regressions, probability weights are used. Where the unit of observation is worker, standard errors are clustered at the group level. Standard errors are in parentheses. The p-values calculated using this standard error are in square brackets. The randomization inference (RI) p-values are in curly brackets based on 1000 randomization draws (Young, 2019). The last row in each panel reports the p-values for (inter-model) testing the equivalence of coefficients between Column 1 and 2, and testing the equivalence of coefficients between Column 3 and 4. In Columns 1-2, the dependent variables are the absolute value of the endline minimum wage preference/belief minus the workers' median wage preference/belief at the discussion group level at baseline. In Columns 3-4, the dependent variables are the absolute value of the endline minimum wage preference/belief minus the median of leaders' preferences and beliefs at baseline at the factory level. In column 5, the dependent variable is the logarithm of the total number of words spoken by the group members. In column 6, the dependent variable is the the logarithm of the total number of words spoken by possible workers (group members who are not identified as a confirmed/possible leader). In columns 7-8, the dependent variables (Self-reported Engagement and Observed Group Activity) are index variables constructed following the methodology from Anderson (2008). Stratification fixed effects are Factory FEs × Union FEs (columns 1-4, 8) and Factory FEs (columns 5-7). Group size fixed effects are controlled in columns 1-5 and 7-8. For column 6, the number of possible workers is systematically lower in Leader groups because leaders are more likely to be identified in these groups. This mechanically reduces the number of words by possible workers in control groups. Therefore, in columns 6, we control for the fixed effects of the number of possible workers. In columns 1-4, we control for the baseline value of the dependent variable.

Table A.4: Group Discussions: standard deviation in views, group level

	SD (Min. Wage Preferences)			SD (Min. Wage Beliefs)		
	(1)	(2)	(3)	(4)	(5)	(6)
Leader	-186.1*			48.19		
	(110.3)			(63.04)		
External Leader		-214.8			71.88	
		(137.1)			(78.66)	
Own Leader		-167.7			32.92	
		(122.3)			(69.93)	
Leader, High Similarity			-250.3**			40.24
			(120.9)			(72.14)
Leader, Low Similarity			-119.2			55.96
			(137.2)			(73.40)
R-squared	0.171	0.172	0.177	0.227	0.228	0.227
Control Mean	724.933	724.933	724.933	265.858	265.858	265.858
Number of obs.	202	202	202	202	202	202
p-values						
External = Own:		0.726			0.615	
High Similarity = Low Similarity:			0.325			0.828

Notes. Regression at the group level. Probability weights are used. Robust standard errors are reported in parentheses. Controlling for factory and group size FE. The dependent variable is the standard deviation in workers' minimum wage preferences (beliefs) at the group level in follow up. Preferences and beliefs are winsorized at 5 and 95 percent. The variable *Leader, High Similarity* is a binary variable equal to 1 if the estimated probability of a line leader having similar attributes to the president is above the median in the treatment group.

Table A.5: Workers' awareness of a leader's participation in the group discussion

	Was there a LL in your discussion group?		
	(1)	(2)	(3)
Leader	0.409***		
	(0.0523)		
External Leader		0.222***	
		(0.0642)	
Own Leader		0.523***	
		(0.0574)	
Leader, High Similarity			0.323***
			(0.0626)
Leader, Low Similarity			0.487***
			(0.0616)
R-squared	0.283	0.329	0.297
Control Mean	0.215	0.215	0.215
Number of obs.	746	746	746
p-values			
External = Own:		0.000	
High Similarity = Low Similarity:			0.013

Notes. Unit of observation is worker. Probability weights are used. Standard errors clustered at the group level are reported in parentheses. Dependent variable is the worker's belief about the presence of a union line leader or an EC member in their group. The variable *Leader, High Similarity* is a binary variable equal to 1 if the estimated probability of a line leader having similar attributes to the president is above the median in the treatment group. Stratification FEs are included: Factory FEs x Union FEs. Controlling for group size FEs. The sample size in this regression is smaller than the full worker sample (n=914) because 18% of workers incorrectly reported that they were line leaders in the follow-up survey and were not asked this question. In the Supplementary Materials, we report balance tests for the subset of workers with non-missing data for this question.

Table A.6: Word counts of responses to question prompts in group discussion experiment

	Log(Total Words)			Log(Topic 1: Benefit)			Log(Topic 2: Harm)			Log(Topic 3: Heterogeneity)		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Leader Group	0.211**			0.203			0.183			0.231		
	(0.106)			(0.128)			(0.139)			(0.161)		
Own Leader Group		0.272**			0.241*			0.180			0.489***	
		(0.110)			(0.133)			(0.145)			(0.167)	
External Leader Group		0.116			0.144			0.188			-0.170	
		(0.124)			(0.154)			(0.168)			(0.216)	
Leader Group, High Similarity			0.236**			0.212			0.228			0.224
			(0.117)			(0.143)			(0.152)			(0.185)
Leader Group, Low Similarity			0.187			0.193			0.139			0.238
			(0.115)			(0.140)			(0.153)			(0.191)
R-squared	0.178	0.191	0.179	0.092	0.095	0.092	0.127	0.127	0.129	0.187	0.244	0.187
Control Mean	36.949	36.949	36.949	11.951	11.951	11.951	13.580	13.580	13.580	11.419	11.419	11.419
Number of obs.	202	202	202	202	202	202	202	202	202	202	202	202
p-values												
P-val: Own LL= External LL		0.110			0.433			0.958			0.002	
P-val: High Quality=Low Quality			0.601			0.876			0.478			0.941

Notes. Unit of observation is discussion group. Probability weights are used. Robust standard errors are reported in parentheses. Dependent variables are the number of words written in group discussion form as the group's answers to each of the following questions: (1) How do you think that a minimum wage increase may benefit workers? (*Topic 1: Benefit*); (2) How do you think that a minimum wage increase may harm workers? (*Topic 2: Harm*); (3) Do you think it will affect different groups of workers, for example, skilled versus unskilled, union members versus non-members, differently? (*Topic 3: Heterogeneity*). In Columns 1-3, we consider the total number of words combining the three questions. The variable *Leader, High Similarity* is a binary variable equal to 1 if the estimated probability of a line leader having similar attributes to the president is above the median in the treatment group. Stratification FEs are Factory FEs. Fixed effect of the number of group members is also controlled. Control mean shows the average number of words in control group before taking a logarithm.

Table A.7: Group behavior, as assessed by research staff

	Observed Group Activity (1)	Share engaged (2)	Share distracted (3)	Active facilitation (4)	Asking opinions (5)	Summarizing opinions (6)	Taking notes (7)
Panel A: Leader							
Leader	0.234***	0.0262	-0.0681**	-0.00180	-0.0135	0.173***	0.184***
	(0.0809)	(0.0268)	(0.0277)	(0.0615)	(0.0618)	(0.0562)	(0.0551)
R-squared	0.352	0.177	0.202	0.220	0.309	0.337	0.300
Panel B: Own vs. External Leader							
Own Leader	0.265***	0.0424	-0.110***	-0.0164	0.0327	0.186***	0.141**
	(0.0882)	(0.0291)	(0.0282)	(0.0689)	(0.0682)	(0.0671)	(0.0596)
External Leader	0.186*	0.00102	-0.00365	0.0210	-0.0852	0.153**	0.249***
	(0.111)	(0.0352)	(0.0362)	(0.0821)	(0.0816)	(0.0704)	(0.0788)
R-squared	0.355	0.184	0.248	0.221	0.318	0.338	0.310
p-values							
Own Leader = External Leader	0.483	0.234	0.001	0.661	0.151	0.683	0.182
Panel C: High vs. Low Similarity Leader							
Leader Group, High Similarity (50th)	0.285***	-0.00196	-0.0572*	0.0313	0.0752	0.186***	0.245***
	(0.0869)	(0.0315)	(0.0313)	(0.0694)	(0.0725)	(0.0649)	(0.0636)
Leader Group, Low Similarity	0.184*	0.0537*	-0.0787**	-0.0341	-0.100	0.161**	0.124*
	(0.105)	(0.0304)	(0.0325)	(0.0791)	(0.0724)	(0.0704)	(0.0686)
R-squared	0.356	0.190	0.204	0.224	0.330	0.337	0.312
Control Group Mean	-0.090	0.819	0.203	0.721	0.464	0.264	0.654
Number of obs.	202	202	202	202	202	202	202
p-values							
High Similarity = Low Similarity	0.334	0.085	0.501	0.431	0.025	0.744	0.113

Notes. Unit of observation is discussion group. Probability weights are used. Robust standard errors are reported in parentheses. Dependent variables are: *Observed Group Activity*, the index variable constructed following the methodology from Anderson (2008) using the variables in cols. 2-7; *ShareEngaged*, the share of workers within a group that are engaged in the discussion; *ShareDistracted*, the share of workers within a group that are distracted during the discussion; *ActiveFacilitation*, an indicator for whether someone is actively facilitating the group; *AskingOpinions*, an indicator for whether someone is active others' opinions; *SummarizingOpinions*, an indicator for whether someone is summarizing opinions in the group; *TakingNotes*, an indicator for whether someone is taking notes in the group. Two members of the field team rated each group, and we average their observations in the analysis. The variable *Leader, High Similarity* is a binary variable equal to 1 if the estimated probability of a line leader having similar attributes to the president is above the median in the treatment group. Stratification FEs are Factory FEs. Controlling for group size FEs.

Table A.8: Engagement in Group Discussions

	Enjoyment			Achievement of Consensus			Participation			Log(Total Word Count)	Log(Likely Worker Word Count)	Observed Group Activity
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Leader	0.0901*			0.308***			0.0892					
	(0.0512)			(0.0821)			(0.0698)					
Own Leader		0.114**			0.348***			0.0531				
		(0.0562)			(0.0879)			(0.0729)				
External Leader		0.0530			0.245**			0.145				
		(0.0659)			(0.119)			(0.103)				
Leader, High Similarity			0.0934			0.301***			0.172**	0.0101	-0.220*	0.285***
			(0.0610)			(0.0967)			(0.0869)	(0.103)	(0.124)	(0.0869)
Leader, Low Similarity			0.0868			0.314***			0.00796	-0.282**	-0.565***	0.184*
			(0.0608)			(0.100)			(0.0820)	(0.117)	(0.153)	(0.105)
R-squared	0.062	0.064	0.063	0.099	0.100	0.099	0.069	0.071	0.075	0.268	0.409	0.356
Control Mean	-0.039	-0.039	-0.039	-0.126	-0.126	-0.126	-0.019	-0.019	-0.019	1002.175	872.674	-0.090
Number of obs.	914	914	914	914	914	914	914	914	914	167	167	202
p-values												
External = Own:		0.349			0.400			0.374				
High Similarity= Low Similarity:			0.921			0.903			0.092	0.019	0.011	0.334

Notes. Unit of observation is worker in all columns. The first 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 score]), and *Group Waste* [reverse score]. *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*). The index variables are constructed following the methodology from Anderson (2008). The variable *Leader, High Similarity* is a binary variable equal to 1 if the estimated probability of a line leader having similar attributes to the president is above the median in the treatment group. Probability weights are used. Standard errors clustered at the group level are in parentheses. Controlling for group size FE and stratification FEs (Factory FEs x Union FEs).

Table A.9: Leader Behavior without control group, as assessed by research staff

	Speaking	Listening	Consensus building	Conflict resolution	Leadership
	(1)	(2)	(3)	(4)	(5)
Panel A: Own vs. External Leader					
Own Leader	0.116	-0.625**	-0.376	-0.526	0.101
	(0.368)	(0.313)	(0.349)	(0.386)	(0.396)
R-squared	0.188	0.235	0.343	0.301	0.178
External Leader Group Mean	4.517	4.969	4.119	3.313	4.419
Panel B: High vs. Low Similarity Leader, with factory (stratification) FE					
High Similarity Leader	0.728**	0.439	0.594*	0.351	0.547
	(0.333)	(0.296)	(0.299)	(0.373)	(0.351)
R-squared	0.228	0.216	0.359	0.293	0.201
Low Similarity Leader Group Mean	4.241	4.517	3.777	3.135	4.336
Panel C: High vs. Low Similarity Leader, without factory (stratification) FE					
High Similarity Leader	0.859***	0.536**	0.700**	0.336	0.584*
	(0.306)	(0.269)	(0.325)	(0.393)	(0.322)
R-squared	0.071	0.058	0.044	0.028	0.045
Low Similarity Leader Group Mean	4.241	4.517	3.777	3.135	4.336
Number of obs.	119	119	119	117	118

Notes. Unit of observation is discussion group. Probability weights are used. Robust standard errors are reported in parentheses. The dependent variables are: *Speaking*, assessing the extent of LL speaking; *Listening*, assessing the extent of LL listening; *ConsensusBuilding*, assessing the extent of LL engaged in consesus building; *ConflictResolution*, assessing the extent of LL engaged in conflict resolution; and *Leadership*, assessing the extent of LL showing leadership. All dependent variables are measured on a Likert scale 1-7 separately by two members of the research staff and the average is taken. The variable *Leader, High Similarity* is a binary variable equal to 1 if the estimated probability of a line leader having similar attributes to the president is above the median in the treatment group. Missing observations in Cols. 4 and 5 are due to data entry errors. In Panels A and B, Stratification FEs are Factory FEs. Controlling for group size FEs.

Table A.10: Group discussion: heterogeneity by leader similarity

	Deviation from median worker in discussion group		Deviation from median union leader	
	(1) Preference	(2) Belief	(3) Preference	(4) Belief
	(1)	(2)	(3)	(4)
Leader, High Similarity	-110.3	119.4	-312.3***	-26.82
	(129.6)	(124.3)	(116.0)	(89.37)
Leader, Low Similarity	-83.47	135.1	-171.9	-3.302
	(143.8)	(96.99)	(124.6)	(92.60)
R-squared	0.208	0.249	0.317	0.337
Number of obs.	914	914	914	914
Control Mean	991.637	404.697	1194.103	654.399
p-values				
High Similarity= Low Similarity:	0.874	0.906	0.287	0.830

Notes. Unit of observation is worker in all columns. Probability weights are used. Standard errors clustered at the group level are reported in parentheses. The dependent variables represent the deviation from the factory median of baseline leaders' views and preferences respectively. The variable *Leader, High Similarity* is a binary variable equal to 1 if the estimated probability of a line leader having similar attributes to the president is above the median. The probabilities are estimated for each worker based on a probit model, which includes 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, locus of control). Controlling for group size FE and stratification FEs (Factory FEs x Union FEs).

Table A.11: Mobilization Experiment Results

	Attendance at afternoon survey session			
	(1)	(2)	(3)	(4)
High Coord.	0.0639	0.0790		
	(0.064)	(0.066)		
	<0.065>	<0.066>		
	{0.310}	{0.216}		
Low Coord.	-0.0596	-0.0514		
	(0.064)	(0.064)		
	<0.068>	<0.068>		
	{0.384}	{0.439}		
Observation	0.0393	0.0467		
	(0.045)	(0.046)		
	<0.042>	<0.043>		
	{0.382}	{0.308}		
Leader	-0.0100	-0.0135		
	(0.044)	(0.044)		
	<0.045>	<0.045>		
	{0.815}	{0.751}		
High Coord. & No Leader			0.101	0.101
			(0.11)	(0.11)
			<0.12>	<0.12>
			{0.362}	{0.370}
Low Coord. & No Leader			-0.0246	-0.0170
			(0.076)	(0.078)
			<0.079>	<0.081>
			{0.760}	{0.828}
High Coord. & Leader			0.0836	0.0904
			(0.089)	(0.090)
			<0.086>	<0.085>
			{0.353}	{0.312}
Low Coord. & Leader			-0.136	-0.161
			(0.10)	(0.099)
			<0.098>	<0.094>
			{0.221}	{0.120}
Observation & No Leader			0.0557	0.0492
			(0.069)	(0.069)
			<0.060>	<0.059>
			{0.439}	{0.497}
Observation & Leader			0.0578	0.0631
			(0.076)	(0.077)
			<0.078>	<0.077>
			{0.429}	{0.407}
Leader Only			0.0313	0.0169
			(0.075)	(0.075)
			<0.073>	<0.073>
			{0.671}	{0.811}
R-squared	0.347	0.332	0.348	0.334
Control Mean	0.341	0.341	0.341	0.341
Observations	790	790	790	790
p-values				
High Coord. = Low Coord.	0.146	0.130		
No Leader: High Coord. = Low Coord.			0.298	0.332
Leader: High Coord. = Low Coord.			0.082	0.043
Observation: Leader = No Leader			0.978	0.853
RI *p-values*				
High Coord. = Low Coord.	0.135	0.125		
No Leader: High Coord. = Low Coord.			0.310	0.338
Leader: High Coord. = Low Coord.			0.099	0.045
Observation: Leader = No Leader			0.982	0.865
PDS Lasso Selected Controls	Y	N	Y	N

Notes. Unit of observation is worker. Probability weights used. Robust standard errors are shown in parentheses, standard errors clustered at the group level are shown in angular brackets. The randomization inference (RI) p-values from a regression using robust standard errors are in curly brackets based on 1000 randomization draws (Young, 2019). The dependent variable is an indicator for whether the worker attends the minimum wage survey. Stratification fixed effects are Factory FEs × Discussion Group FEs. Control variables in Columns (1) and (3) are selected by applying the post-double lasso control selection procedure.

B Appendix B: field implementation

B.1 Consensus-building experiment: Discussion prompt provided to groups

At the beginning of the consensus-building experiment, after discussion groups were seated together, the field team explained the prompt below, which they also provided to discussion groups in writing.

> *We are now starting discussion about minimum wage. Please turn off your phones. The last time the government set the minimum wage was in March 2018. At that time, the government set it at K4800 for an eight-hour workday. The government will announce a new minimum wage in 2020. 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:*
> *(i) 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?*
> *(ii) In 2020, at what level do you think the government will set the new minimum wage for an eight-hour workday?*
> *(iii) In your opinion, what would be the ideal minimum wage level for an eight-hour workday?*
> *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.*

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 a final survey that is about living standards and working conditions and tells the worker that participation in 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 kyats 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 you to the room, and some LLs will welcome you and register you."

C Appendix C: signaling versus sanction in mobilization experiment leader observation arm

In the mobilization experiment, we identify two potential mechanisms through which observation of the worker's decision by the leader may influence attendance: Leaders acting as judges, sanctioning workers who do not attend, or workers perceiving that attending sends a positive signal about their type. Depending on workers' priors, in certain environments, these mechanisms generate different effects. When expected participation of other workers in the group is high, "not showing up" implies deviating from the everyone-attending equilibrium for a private, one-shot gain (similar to the sanctioning model in Green and Porter (1984) where any firm that deviates from collusion is punished later). If leaders function as judges to enforce participation (Hermalin, 2012), workers may anticipate potential sanctions from the leader later on. In contrast, when expected participation of others is low, showing up distinguishes oneself from those who choose not to attend. The incentive for workers to attend in this setting is better explained by a signaling model, where "good-type" workers have a lower cost of effort to attend compared to "bad-type" workers. In a separating equilibrium, only "good-type" workers attend.

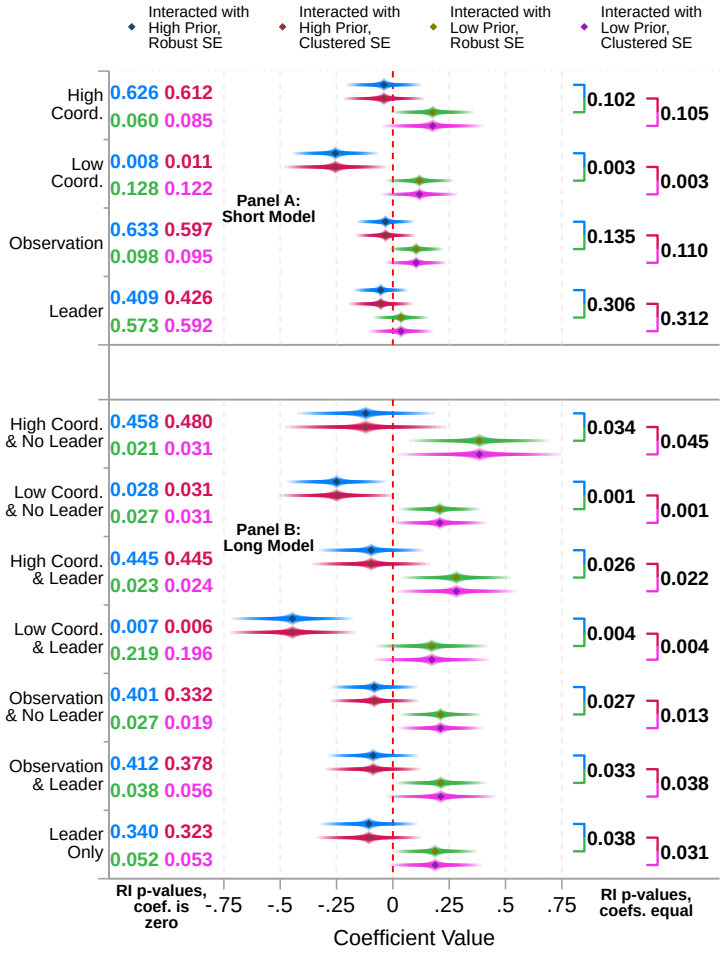
The aforementioned models may not reflect our environment; e.g., *if* leaders punish anyone who did not attend the session regardless of how many members show up, the effect of having one's decision observed by the leader need not depend on one's prior. In this case, we will not find evidence of heterogeneity by workers' expectations of their group members' participation.

We did not directly measure workers' priors, so we use a random forest algorithm to predict them using the control group's characteristics and attendance; for details, see the notes for Appendix Figure C.1. We partition the sample at the median into high- and low-predicted priors. We interact indicators for high- or low-predicted priors with indicators for each treatment condition, controlling for the main effect of workers' predicted priors. We caution that we may not be measuring workers' priors correctly, and the predicted prior variable may capture other types of worker heterogeneity. For these rea-

sons, and because this analysis was not pre-specified, the results should be interpreted as exploratory.

Figure C.1 presents the results. As the results are similar when interacting predicted priors with the treatment indicators in the more parsimonious and the fully interacted specifications (eqns. 4 and 5, respectively), we focus on the former. Panel A shows that there is no effect of being told that a leader will observe their decision among workers with high predicted priors, while for workers with low predicted priors, being told that a leader will observe their decision increases attendance by 11 pp or 32% (RI $p = 0.098$ with robust standard errors). We interpret this as suggestive evidence of a signaling mechanism in which workers aim to signal their type to the leader in order to increase their status.

Figure C.1: Mobilization Experiment: Heterogeneity by Workers' Estimated Prior (with PDS Controls)



Notes. This plot shows the heterogeneous impact of different treatment arms on whether worker attends the minimum wage survey. 95% confidence intervals calculated by using bootstrap standard errors are reported. RI p-values based on 1000 randomization draws (Young, 2019) are also reported on the top. Factory FEs $\times$ Discussion Group FEs are controlled. Control variables are selected by post-double lasso selection procedure. As we did not directly measure workers' priors, we use a random forest algorithm to predict them using the control group's characteristics and attendance. We implement the random forest algorithm using the randomForest package in R, which is widely used and implements a standard algorithm. The list of variables includes demographics, personality, employment characteristics, union participation and views, baseline minimum wage views, group discussion mean self-reported engagement (leaving out worker's report) and worker's self-reported engagement, and other group-discussion-related variables. The complete list is in Boudreau et al. (2024). We use the control group as the training set. Once we have created the random forest model using the control group, we apply it to the rest of the sample in order to generate each worker's predicted likelihood of attendance. We 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. We use these predicted likelihoods to construct, for each worker, the expected probability that all other workers in their group will attend the session. We then partition the sample at the median into high- and low-predicted priors.