

Participatory practices at work change attitudes and behavior  
toward societal authority and justice

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## Abstract

Generalized attitudes toward authority and justice have been conceptualized as individual differences that are resistant to change. However, across two field experiments with Chinese factory workers and American university staff, small adjustments to people's experience of participation in the workplace shifted these attitudes. Both experiments randomly assigned work groups to a 20-minute participatory meeting once per week for six weeks, in which the supervisor stepped aside and workers discussed problems, ideas, and goals regarding their work (vs. a status quo meeting). Across 97 work groups and 1,924 workers, participatory meetings led workers to be less authoritarian and more critical about societal authority and justice, and to be more willing to participate in political, social, and familial decision-making. These findings provide rare experimental evidence of the theoretical predictions regarding participatory democracy: that local participatory experiences can influence broader democratic attitudes and empowerment.

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1           In an attempt to understand the psychologies of fascist regime followers and of racism in  
2 the United States, psychologists following World War II started a distinguished line of work on  
3 attitudes toward authority and justice (Adorno, Brunswik, Levinson, & Sanford, 1950).  
4 Authoritarianism, a tendency to be deferent to authority and to be intolerant of deviance from  
5 existing social hierarchies (Adorno et al., 1950; Altemeyer, 1981; Pettigrew, 2016), was  
6 conceptualized as a durable personality trait and as a syndrome that unifies interrelated attitudes  
7 toward authority, justice, and hierarchical relations (Adorno et al., 1950; see Eagly & Chaiken,  
8 1993). Authoritarianism is believed to be in part heritable from parents, but also shaped by  
9 accumulated social experience and political context over time (Ludeke & Krueger, 2013;  
10 Pettigrew, 2016).

11           The present paper investigates, by contrast, whether authoritarianism, or generalized  
12 attitudes toward authority and justice, can change over the short term. To test this, we modified  
13 the dynamics of weekly staff meetings at two very different workplaces, transforming the  
14 meetings into participatory events where staff are encouraged to talk and supervisors mandated  
15 to listen. These participatory meetings took place once per week for 20 minutes at a time, over  
16 the course of six weeks. We randomly assigned this participatory meeting schedule to some work  
17 groups and not others, and compared workers' attitudes toward generalized authority and justice  
18 two to four weeks after the intervention ended. Unlike previous research, this approach allows us  
19 to determine whether conditions relevant to authority and hierarchy within a local group could  
20 causally influence attitudes toward a much broader societal context.

21           Our research question is motivated by perspectives on the development of generalized  
22 attitudes toward authority and justice that have received less attention in psychology. First, the  
23 research is motivated by Pateman's (1970) theory of participatory democracy, which posits that

1 workplaces inviting more worker participation can empower workers—decreasing workers’  
2 blind trust in authority and justice and motivating civic and political participation. Second, the  
3 research is motivated by Lewin’s (1947) idea that meaningful social groups can serve as  
4 “cultural islands,” where attitudes can develop from immersive group experiences, even when  
5 these experiences stand in contradiction to the group’s broader societal context (Lewin, 1947,  
6 p.37).

7         Below, we briefly review classic theories about the development and stability of  
8 authoritarian attitudes, including trust in authority and belief in justice. We then develop our  
9 hypothesis that short-term and immersive experiences, particularly within small groups, can  
10 influence generalized attitudes toward authority and justice in the larger society. Throughout, we  
11 treat attitudes toward authority and toward justice as separate but related attitudes (Kinder &  
12 Sears, 1985; McGuire, 1985).

13         *Authoritarianism: A stable trait, shaped by long-term experience.* Rooted in  
14 psychoanalytic theories, research on authoritarianism as a personality disposition (Adorno, et al.,  
15 1950; Altemeyer, 2006) claims that authoritarianism emerges early in life and is linked to an  
16 avoidant attachment style (Hopf, 1992). This research suggests that it is a durable trait, and  
17 inheritable across generations (Ludeke & Krueger, 2013), citing strong correlations between  
18 authoritarianism levels of young adults and their parents (Altemeyer, 1996).

19         Subsequent research also suggested structural correlates to authoritarian attitudes  
20 (Pettigrew, 1999; Duckitt, 1989). For example, increased perception of societal-level threats,  
21 such as an economic downturn and elevated fear of crime, is positively associated with  
22 authoritarian attitudes (Sales, 1972; Pettigrew, 1999; Pettigrew, 2016). Stable authoritarianism is  
23 distinct from attitudes toward a concrete authority figure or institution. There is ample evidence

1 showing that attitudes toward an authority in an interaction can be shifted with situational  
2 interventions (Tyler & Lind, 1992; Tyler & Weber, 1982), whereas research shows the stability  
3 of generalized authoritarian attitudes over the lifespan. In this way, theories from psychology  
4 concur with theories from political science (Dahl, 1956; Alford, Funk, Hibbing, 2005), that  
5 generalized attitudes toward authority and justice are shaped by a prolonged experience of  
6 learning and socialization. As part of a generalized ideology or “syndrome,” these attitudes  
7 develop from the breadth of a person’s experience (Kelman & Barclay, 1963; Stone, Lederer, &  
8 Christie, 1993; Pettigrew, 1999), including age, education, and social class.

9 Ideas about the roots of an individual’s authoritarianism can be traced back further to the  
10 work of Adam Smith and Karl Marx. Both scholars accentuated the role of long-term social  
11 experience, in particular the organization of daily work, which gradually shapes attitudes toward  
12 generalized authority and justice (Marx, 1867, p. 529; Smith, 1827, p.327). Using their work,  
13 later theorists argued that the lower socio-economic groups like factory workers were “trained to  
14 subservience” during the course of their lifetime occupation, since it is among this group that  
15 authoritarian personalities are most frequently found (Dahl, 1956).

16 None of these theories suggest that generalized attitudes toward authority and justice can  
17 be changed over the short-term. Rather, this body of work predicts that generalized authority and  
18 justice attitudes change in light of perceptions of a large societal threat, or from long-term  
19 experience with one’s family, social and economic status, and occupation. However, a separate  
20 area of theoretical work, also focused on the role of experience, suggests that generalized  
21 authority and justice attitudes can be shaped by the structure of specific social contexts (i.e. the  
22 workplace) over a relatively shorter term.

1           *Local work groups: A training ground for social attitudes.* Influenced by Rousseau  
2 (1762/1968) and writings within political philosophy, the political scientist Carole Pateman  
3 (1970) theorized that participatory experience within one’s daily occupation educates and  
4 socializes individuals to have more “political efficacy,” which in part translates to less deferent  
5 attitudes toward authority and toward existing systems of justice. Like the economic and political  
6 theories reviewed above, Pateman acknowledges that workplaces are important training ground  
7 for the development of these generalized attitudes, since they force individuals to spend most of  
8 their time in relationships of superiority and subordination. Based on her theory that local social  
9 structure has significant impact on individual “psychological qualities” (Pateman, 1970, p.22),  
10 she predicts that workplaces that invite workers to participate in decision-making and  
11 management processes can affect workers’ longstanding attitudes and even personality traits.

12           In psychology, classic theorizing by Kurt Lewin suggested that groups could create  
13 “cultural islands” by creating their own reality from their members’ shared strong immersive  
14 experience within the group (Lewin, 1947; Lewin, Lippitt, & White, 1939). He explored this  
15 theory by studying a group of factory workers who were engaged over a number of weeks in  
16 more “democratic” working procedures—participatory and bottom-up, as opposed to autocratic  
17 and top-down. Lewin and colleagues (Lewin, 1947) tracked workers’ positive behavioral  
18 response to this intervention, but never theorized whether individuals could leave these cultural  
19 islands and retain their shifted attitudes outside of the local workplace.

20           Theoretical predictions about the attitudinal and behavioral influence of a participatory  
21 workplace have been empirically explored by some political scientists and economists, using  
22 observational methods. Specifically, by surveying workers in companies that use more  
23 participatory workplace practices, those studies provided some support for the hypothesis that

1 participation at work is correlated with more “democratic” workers who do not automatically  
2 defer to authority and current hierarchical arrangements (Elden, 1981; Budd, Lamare, &  
3 Timming, 2017). Studies of the hypothesis of participatory democracy are also focused on  
4 workplaces in the United States and Europe. Little research has been conducted in non-Western  
5 societies, especially those that are subject to non-democratic governments. To our knowledge,  
6 the central question of whether local participatory practices can cause changes in attitudes  
7 toward societal authority and justice has not been tested with experimental methods, or in a  
8 broad range of settings.

9         In the current study, we conducted field experiments to test whether work groups’  
10 increased participation can shift generalized attitudes toward authority and justice. Using a  
11 classic paradigm of participatory group meetings in social psychology (Lewin, 1947), we  
12 hypothesized that individuals would become less deferent to authority and less likely to believe  
13 in a just world following an immersive group experience in which individuals are encouraged to  
14 speak up about and assume more authority over their work life. With two separate field  
15 experiments, we experimentally manipulated 20 minutes of work groups’ regular meeting time,  
16 once per week for six weeks. Weeks after the meetings ended, we measured workers’  
17 generalized attitudes toward authority and justice, and a cluster of related attitudes such as  
18 perceptions of hierarchy and of relationships between lower and higher status groups as well as  
19 self-reported participation behavior in politics.

20         Our first experiment was set in China, which is a particularly interesting site for testing  
21 the hypothesis that groups can become “cultural islands” when the broader environment does not  
22 support the group practices (Lewin, 1947). In China and in the factory where we worked,  
23 authorities are less likely to endorse democratic and decentralized practices (Truex, 2017; Chang,

1 2008). Moreover, the participants in that experiment—young and less-educated female factory  
2 workers—are also on average less empowered to exercise or critique authority in their social and  
3 political contexts. Thus, Study 1 serves as a strong test of our hypotheses that participatory work  
4 contexts can change attitudes toward societal authority and justice, and that these shifts in  
5 attitudes can endure beyond the immediate group context. We conducted the second experiment  
6 in the United States with educated university administrative staff, in order to replicate and to test  
7 the generality of Study 1’s conclusions.

8 Below, we report how we determined our sample size, all data exclusions (if any), all  
9 manipulations, and all measures in the study. We pre-registered all survey items, item groupings,  
10 and analyses at the Open Science Framework (<https://osf.io/d9fnh/>).

11

## 12 **Study 1**

13

### 14 **Method**

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#### 16 **Group Randomization**

17 We conducted Study 1 at a multinational textile factory in China. We sampled all work  
18 groups ( $N = 65$ ) from the factory’s sewing departments where workers are organized in groups.  
19 Employees in the sewing work groups work on their own tasks, which are related to their  
20 coworkers’ tasks. For example, one worker may be in charge of sewing the sleeves of a  
21 hoodie while another is in charge of sewing the hood pieces. Each work group has its own  
22 supervisor who oversees group members’ work. The factory requires all work groups to have a  
23 20-minute morning meeting before the start of each workday, in which the supervisor  
24 summarizes the previous day’s work performance, recommends individual and group work  
25 strategies, and announces goals for individual workers. Workers rarely transfer to a different



1 group after they are hired. Individuals in all groups provided informed consent during a  
2 recruitment phase one month before the experiment's commencement.<sup>1</sup>

3 We randomly assigned the 65 work groups ( $N_{workers} = 1,752$ ; 93.6% female; mean age =  
4 32.5 years, ranging from 18 to 53) to participate in a weekly morning participatory meeting  
5 (referred to as *participatory meetings condition* or *treatment condition*), or to have an observer  
6 attend the usual morning meeting (referred to as *observer condition* or *control condition*) once  
7 per week for six weeks.<sup>2</sup> To randomize, we used a non-bipartite matching scheme (Beck, Lu, &  
8 Greevy, 2015) (see Supplemental Information for matching procedure and code).

### 9 **Experimental Procedure**

10 Experimental manipulations were implemented once per week for six weeks in the 20-  
11 minute status quo morning meeting slot. Eleven research assistants (RAs), all female graduate  
12 students from a local university, were trained by the first author to either facilitate the weekly  
13 participatory meeting or observe status quo meetings led by supervisors, following a detailed  
14 experimental protocol (see SI). RAs were unaware of research hypotheses. During the 6-week  
15 experimental period, treatment groups experienced six weekly participatory meetings and control  
16 groups experienced six weekly meetings with an outside observer.

17 ***Observer condition (control)***. For each control group, a research assistant conspicuously  
18 monitored six 20-minute status quo meetings during the experimental period. The RA described

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<sup>1</sup> We made oral public announcements in the sewing departments to invite all sewing workers to a study called "worker experience in the factory," with the cooperation of the factory's human resource department. Workers were specifically told that "researchers are not part of the factory but are coming to learn management practices and offer new technologies on work-related issues. All of you are invited to take part[...]Participation is completely voluntary."

<sup>2</sup> The building structure allows for little communication between sewing departments and among work groups. Workers spend most of their time in their own group's working area on the production floor during work, and have little communication with other groups during and after work. Thus, we have few concerns about spillover of treatment to control groups.

1 herself as part of a visiting research team studying management strategies from the production  
2 floors. Once per week for six weeks, she silently observed and took notes as supervisors led the  
3 status quo morning meetings, which were typically 20-minute lectures on the group's production  
4 performance and working strategies, with zero group participation or discussion. The meetings  
5 ended with the supervisor writing goals for each individual worker, in terms of the number of  
6 pieces to complete, on a whiteboard where all group members could see. RAs did not encourage  
7 any change in the status quo meeting structure.

8 ***Participatory meetings condition (treatment)***. For each treatment group, a research  
9 assistant facilitated six weekly 20-minute group discussions, followed by an invitation to  
10 workers to voice their own goals in front of the group. Just as in the control condition, the RA  
11 described herself as part of a visiting research team studying management strategies. She  
12 encouraged all members of the group to participate in the discussion and the goal setting in the  
13 supervisor's presence. Supervisors were informed in advance that they should refrain from  
14 speaking, in particular from interrupting the workers. All group members were encouraged to  
15 share work experience and production strategies for their own task, such as how to prepare  
16 piecework, where to put finished or unwanted pieces, or the best way to pass finished pieces to  
17 the next worker in the group. The RA was trained to re-direct non-work-related discussions, and  
18 to set a clear expectation of active group participation at the start of the first treatment meeting  
19 by saying:

20 "We encourage everyone to speak up. Say whatever's on your mind about your work,  
21 such as issues yesterday or in the past week, the difficulties you have at work, or things  
22 you think will help you and others. I may ask some questions, and there are no right or  
23 wrong answers. Whatever you share will be helpful for us and for the group."

1 Following the group discussion, the RA announced the week's order information so that workers  
2 could use this information to form their individual production goals for the week. The  
3 participatory meetings ended with each group member announcing her goal to the group in terms  
4 of specific number of pieces she would like to complete for that week.

## 5 **Data Collection**

6 Four weeks after the experimental intervention had ended, the same team of RAs and the  
7 first author collected individual surveys from all 1,752 participants in the study's 65 work groups  
8 (for procedure see SI).

9 The survey (completion rate = 84.07%; 93.49% female) consisted of four parts:  
10 generalized attitudes toward authority (e.g. "Obedience and respect for authority are the most  
11 important virtues children should learn"), belief in a just world (e.g. "By and large, people  
12 deserve what they get"), perceived conflict between different social status groups (e.g. "In your  
13 mind, to what extent do the rich and the ordinary have conflict with each other"), participation  
14 behavior outside of work (in politics, e.g. "How often do you follow news about politics?"; in  
15 family and social life, e.g. "How often have you participated in your family's decision making  
16 lately?"). Survey items were adapted from established measurement scales from psychology and  
17 were measured with a 6-point Likert scale (see SI for the full scale). Both exploratory and  
18 confirmatory factor analyses supported these pre-registered item groupings. Questions about  
19 demographics (age, gender, marital status, and rural or urban origin) were measured previously,  
20 one week after the end of the intervention. All items were translated and back-translated into  
21 Mandarin Chinese by two English-Chinese bilingual speakers, and were piloted with an  
22 independent sample of factory workers.

## 23 **Results**

## 1 Analysis Strategy

2 We tested the average treatment effects of participatory meetings on workers' attitudes a  
 3 full month after the intervention had ended. Linear regressions used fixed effects for the 7  
 4 departments in which the 65 groups were nested, a dummy variable indicating treatment, and a  
 5 vector of pre-treatment individual demographic covariates to improve efficiency. Robust  
 6 standard errors clustered by group accounted for residual covariance on the group level. Thus, to  
 7 estimate the average treatment effect for an individual worker  $i$  of group  $j$ ,

$$8 \quad Y_{ij} = \beta_0 + \beta_1 D_{ij} + \gamma_1 \mathbf{Z}_{ij} + g_j + \mu_{ij}. \quad (1)$$

9 The regression coefficient  $\beta_1$  represents the average treatment effect of the participatory  
 10 meetings on worker attitudes, as measured by  $Y_{ij}$  in self-report surveys four weeks after the end  
 11 of the experiment.  $D_{ij}$  refers to a binary variable of experimental manipulation randomly  
 12 assigned to the participants, in which  $D_{ij} = 1$  refers to participatory meetings condition and  $D_{ij} =$   
 13 0 refers to the observer condition.  $\mathbf{Z}_{ij}$  is a vector of individual-level worker characteristics that  
 14 are unaffected by the treatment (i.e., age, gender, marital status, and rural or urban origin).  $g_j$   
 15 denotes a departmental fixed-effect, and  $\mu$  is a zero-mean error term, assumed to be mutually  
 16 independent across (but not within) groups.

17 As a robustness check, we also treat the work group as one unit ( $N = 65$ ) by calculating  
 18 group means of each outcome variable measured in the survey, and conduct between-group t-  
 19 tests of a significant difference between participatory meetings condition and observer condition  
 20 (results are consistent with what we report from linear regressions with fixed effects; see SI).  
 21 Because we estimate several outcomes from the survey data, we used a joint significance test  
 22 against the null that none of the coefficients on treatment effects from multiple regressions are  
 23 significant. As predicted, there was a jointly significant difference of the average treatment

1 effects between workers in the participatory meetings condition and observer condition,  $F(1, 58)$   
2 = 8.06,  $p < .001$ . Post-hoc power analysis indicates that the achieved power given our sample  
3 size and average effect size was 0.99. As another robustness check, we analyze individual survey  
4 items as outcomes (in addition to the pre-registered composite index scores; see SI Table S4-S7).  
5 We report in the text only when results are not consistent for each of an index's individual items.

## 6 **Attitudinal Changes toward Authority and Justice**

7 **Generalized attitudes toward authority.** The mean score of generalized attitudes  
8 toward authority for the whole sample was 4.05 ( $SD = 0.37$ ). This value indicates that, on  
9 average, workers tended to “slightly agree” with statements asserting complete obedience and  
10 respect for authority without question. However, as hypothesized, workers in the participatory  
11 meetings condition reported significantly lower scores in generalized attitudes toward authority  
12 ( $M = 3.87$ ,  $SD = 0.32$ ) than workers in the observer condition ( $M = 4.23$ ,  $SD = 0.33$ ,  $\beta = -0.39$ ,  $CI$   
13 =  $[-0.55, -0.23]$ ,  $SE = 0.08$ ,  $p < .001$ ). See Figure 1. Participatory meetings changed participants'  
14 generalized attitudes toward authority such that treatment workers registered as less authoritarian  
15 on a traditional scale of authoritarianism.

16 **Belief in a just world.** For generalized attitudes and perceptions in justice, the mean  
17 score for the whole sample was 3.98 ( $SD = 0.23$ ). This value indicates that, on average, workers  
18 tended to “slightly agree” with statements asserting belief in a just world. As hypothesized,  
19 workers in the participatory meetings condition reported significantly lower belief in a just world  
20 ( $M = 3.86$ ,  $SD = 0.22$ ) than workers in the observer condition who on average slightly agree with  
21 a just world belief ( $M = 4.10$ ,  $SD = 0.16$ ;  $\beta = -0.26$ ,  $CI = [-0.34, -0.18]$ ,  $SE = 0.04$ ,  $p < .001$ , see  
22 Figure 1).



## 1 **Group Randomization**

2 We randomly assigned administrative staff groups to participate in a weekly morning  
3 participatory meeting (*participatory meetings* or *treatment condition*) or continue with their  
4 status-quo meetings (*control condition*). Thirty-two academic departments' administrative staff  
5 groups or 172 individual staff members participated in the study (78% female, 22% male; 80%  
6 identified as White or European-American; mean age = 50 years, ranged from 25 to 88 years).

7 Each group was comprised of an academic manager (the supervisor) and staff members  
8 who directly report to the manager (the workers). Supervisors and workers provided written  
9 informed consent before the experiment's commencement. The median size of the administrative  
10 group was 6. The staff members' work is relatively independent, including job roles such as  
11 graduate and undergraduate administrators, finance managers, and event coordinators.

## 12 **Experimental Procedure**

13 In the participatory meetings condition, supervisors facilitated a weekly 20-minute group  
14 discussion on work challenges and goals in each individual department, following a participatory  
15 meeting protocol that we designed as a very close translation of the Chinese participatory  
16 meeting protocol (see SI). The main departure was that supervisors had to lead the meetings, for  
17 logistical reasons. All supervisors in the treatment condition attended a training on how to use  
18 the protocol, and specifically how to encourage their staff to discuss their work challenges,  
19 strategies, and goals, while showing active listening and without interrupting. In the control  
20 condition, supervisors continued with their status-quo meetings, which we did not attempt to  
21 modify. No observer was sent to the control groups to observe their regular meetings. The study  
22 design, hypotheses, and analyses are pre-registered at <https://osf.io/fj4sr/>.

## 23 **Data Collection and Analysis**

1 Two weeks after the experiment ended, RAs collected individual surveys from treatment  
2 and control workers. Participants from each work group completed a paper survey sitting  
3 together in the conference room of their department. We used the same items from Study 1 to  
4 measure generalized attitudes toward authority and belief in a just world, except that Study 2  
5 used a 7-point Likert scale (1 = strongly disagree to 7 = strongly agree) while Study 1 used a 6-  
6 point scale<sup>3</sup>. We did not measure perceived intergroup conflict or participation behavior outside  
7 of work in Study 2. Like Study 1, we measured the groups' productivity and work-related  
8 attitudinal outcomes, which are reported separately. We use the same analysis model as in Study  
9 1. Post-hoc power analysis indicates that the achieved power given our sample size and average  
10 effect size was 0.82.

## 11 Results

12 **Generalized attitudes toward authority.** The mean score of generalized attitudes  
13 toward authority for the whole sample was 2.77 ( $SD = 0.68$ ) on a 7-point Likert scale. On  
14 average, workers tended to “slightly disagree” with statements asserting complete obedience and  
15 respect for authority without question. Replicating Study 1, workers in groups who experienced  
16 participatory meetings reported significantly lower deference toward authority ( $M = 2.70$ ,  $SD =$   
17  $0.88$ ) than workers in the control condition ( $M = 2.90$ ,  $SD = 0.46$ ;  $\beta = -0.44$ ,  $CI = [-0.85, -0.03]$ ,  
18  $SE = 0.21$ ,  $p = 0.037$ ).

19 **Belief in a just world.** The mean score of belief in a just world for the whole sample was  
20 4.05 ( $SD = 0.39$ ). This value is slightly above the “neither disagree or agree” point of the scale,  
21 which indicates that, on average, staff members tended to be neutral with statements asserting

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<sup>3</sup> We used a 6-point scale and excluded the neutral option for our Chinese sample because from previous studies, we found that Chinese participants were particularly inclined to select “neither disagree or agree,” possibly due to the predominant cultural value of the *Middle-Way* (Wu, Bai, & Fiske, 2018).



1 generalized justice. As predicted, staff groups in the participatory meetings condition reported  
2 significantly lower score in belief in a just world ( $M = 3.93$ ,  $SD = 0.41$ ) than staff groups in the  
3 control condition ( $M = 4.18$ ,  $SD = 0.35$ ;  $\beta = -0.23$ ,  $CI = [-0.45, -0.005]$ ,  $SE = 0.11$ ,  $p = 0.045$ ).

4 As predicted, there was a joint significance of the average treatment effects on both  
5 attitudinal outcomes between administrative staff groups in the participatory meetings condition  
6 and the control condition,  $F(1, 26) = 3.35$ ,  $p = 0.039$ . We conclude that participatory meetings  
7 significantly changed administrative staff members' generalized attitudes toward authority and  
8 justice compared with those in the control condition.

9 Figure 3 compares the effect sizes for Study 1 and 2. Notably, they are quite similar in  
10 size, and understandably Study 2 features larger confidence intervals, due to its smaller sample  
11 size. In both Study 1 and 2, participatory meetings changed participants' generalized attitudes  
12 toward authority and justice such that treatment workers registered as less authoritarian on a  
13 traditional scale of authoritarianism and on widely-used measures of belief in a just world, four  
14 (Study 1) or two (Study 2) weeks after the participatory meetings ended.

## 15 Discussion

16 Across two field experiments, the results provide support for our hypothesis that short-  
17 term participatory experiences at a work group could change attitudes that are traditionally  
18 conceptualized as stable and a product of one's personality and long-term social experience:  
19 generalized attitudes toward societal authority and justice. Following a six-week period in which  
20 workers experienced a participatory meeting in which workers talked and supervisors listened,  
21 treatment workers reported less deference to generalized authority and lower belief in the just  
22 nature of the world, compared to workers who were not assigned to these meetings. The size of  
23 these changes is roughly one standard deviation on the survey measurement scale, and is perhaps

1 more impressive considering that they were observed one month (2 weeks, in Study 2) after  
2 participatory meetings had ended. Generalized attitudes toward authority and justice changed  
3 without a shift in larger societal procedural justice and without a shift in the actual mechanisms  
4 of the workplace's authority and justice structures, beyond a 20-minute meeting each week. The  
5 data suggest that generalized attitudes toward authority and justice can be affected by brief but  
6 immersive experiences with a more egalitarian local power structure.

7 In Study 1, workers assigned to the participatory meetings also reported a heightened  
8 level of perceived conflict between managers and workers in the larger Chinese society, but not  
9 greater conflict between other dominant and lower status groups, a focused finding that counters  
10 a potential alternative interpretation that treatment workers simply reported more negative  
11 attitudes. These same workers assigned to participatory meetings also endorsed a more favorable  
12 attitude toward their own local factory management, reporting at significantly higher rates that  
13 factory management (i.e., the supervisors of their supervisors) cared about and respected them  
14 (Wu & Paluck, under review).<sup>4</sup> This effect was observed one week after the intervention and  
15 remained robust when re-tested one month later along with the variables reported in this study.

16 The contrast between treatment workers' increased positive attitude toward their local  
17 authority and their increased critique toward broad societal authority suggests that attitudes  
18 toward local and societal authority were differentially influenced by the intervention. The  
19 literature of authority and procedural justice would predict the former (Tyler, 2006), but has little  
20 to say about the latter. Specifically, authorities who listen to subordinates are perceived as fairer  
21 and more legitimate, but the literature on procedural justice does not address whether these  
22 interventions affect attitudes toward authority writ large, or authoritarianism. Perhaps, after

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<sup>4</sup> Workers in Study 2 did not become more positive about their local authority, likely because of a ceiling effect in positive attitudes toward the university.

1 experiencing a certain amount of voice and participation in the workplace meetings, workers felt  
2 more positively about their local workplace authority, a feeling that contrasted with other broad  
3 types of authority in their society. Another possibility is that treatment workers' positive  
4 experience expressing their voice in front of a local authority changed their expectations for their  
5 relationship to authority more generally, and encouraged them to adopt a more critical attitude  
6 toward authority and justice in society. Either or both of these related possibilities may be at  
7 work in this experiment, and warrant further exploration.

8           Furthermore in Study 1, treatment workers' self-reported participation in politics and  
9 family life also increased, and are of interest to a broader story of change<sup>5</sup>. Workers reported  
10 greater engagement with political news and greater participation in family decisions and peer  
11 interactions. These findings should be interpreted within the context of the experiment—many of  
12 these Chinese workers experience familial and social isolation as migrant workers, and as young  
13 women are relatively disempowered even in decisions about their own children that they left  
14 back home in rural areas with family (Chang, 2008). That greater critique of authority and  
15 lowered belief in the justness of the world would accompany a self-reported increase in assertion  
16 of the self suggests a global shift that might be cautiously labeled “empowerment.”

17           China is home to an authoritarian political system, and Study 1 results could be  
18 interpreted as an effect of high contrast—a democratic-style meeting held in an authoritarian  
19 society. However, we observe similar findings in Study 2, in which the workplace and societal  
20 contexts are drastically different from a hierarchical factory environment in a non-democratic  
21 state. The decreased belief in generalized authority and justice in American university staff  
22 groups is particularly intriguing, considering that they are situated in a liberal university in a

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<sup>5</sup> Due to survey time constraints in Study 2, we did not measure the same off-work participation behavior and perceived intergroup conflict as we did in Study 1.

1 Western democratic society, and are routinely engaged in active participation in their familial,  
2 social, and political life. Indeed, the average level of authoritarianism for all Study 2  
3 administrative staff was low—few individuals reported unconditional deference to authority. Yet  
4 the participatory meetings decreased treatment staff’s reported authoritarian attitudes further.  
5 Thus, it might not be the relative difference in worker participation that drives the attitudinal  
6 change toward authority and justice, but rather the implementation of regular opportunities to  
7 speak up in group, even in the short term. This regular opportunity to voice out one’s opinion is  
8 the common factor between these two drastically different settings.

9         Participatory interventions have been popular in developing country settings, where aid  
10 organizations have attempted to found new, citizen-driven local institutions and encourage  
11 citizen involvement (see Mansuri & Rao, 2012). These interventions have not always been  
12 successful (Casey, Glennerster, & Miguel, 2012), but we do not think that they parallel the work  
13 we present here. The primary way in which the present intervention is different is that the  
14 participatory meetings are a modification to people’s every day work environments, as opposed  
15 to an invention of a new institution with which no one yet identifies. Our participants already  
16 shared an identity with their fellow work group members, met with them every day, and worked  
17 within conditions that were relatively less participatory than the treatment period. The contrast  
18 between citizen-driven development programs and this participatory meeting highlights our  
19 theoretical interpretation that a regular, immersive modification of an individual’s everyday  
20 world and social groups is the key to changing attitudes toward authority and justice.

21         We believe that our results provide some of the only causal evidence supporting the  
22 theory of participatory democracy (Pateman, 1970), which posits that the workplace provides a  
23 training ground for the development of democratic attitudes, including attitudes toward authority

1 and ideas about the just or unjust nature of the world. (We imagine this may also be true for  
2 schools, which would be a further interesting direction for research.) Underlining the importance  
3 of these findings, many contemporary theories of democracy argue that democratic attitudes are  
4 necessary for stable democracy (Pateman, 1970; Mill, 1965; Cole, 1920). Attitudes toward  
5 authority and justice are likely one set of related attitudes that could cultivate participatory  
6 behavior in the civic and political realms. Future work will need to verify participants' self-  
7 reported claims about participation from Study 1 by measuring concrete behaviors, perhaps with  
8 standardized behavioral games or, with difficulty but high payoff, observed behaviors in the  
9 context of these workers' own lives.

10 Our findings also speak directly to Lewin's original intuition about the creation of  
11 democratic spaces within society, and more broadly his idea of a "cultural island," in which  
12 group-based cultures develop in compartments that are sometimes separate from that of the  
13 larger society (Lewin, 1947). In their work on changing leadership patterns from autocratic to  
14 democratic, Lewin and colleagues noted potential conflicting norms and value systems between  
15 the face-to-face groups they theorized about and the larger societal setting. In their view, the  
16 democratic dynamics of local face-to-face groups could be cultivated apart from a hierarchical  
17 society. Our findings support their theories about how certain procedures could cultivate more  
18 participatory group members; contra their expectations, we find that the local experience of  
19 participation spilled over into workers' attitudes toward the broader world. Our data suggest that  
20 these participatory groups were not, in a strict sense, cultural islands.

21 Compared with the wealth of previous research on the influence of individual differences  
22 on attitudes toward authority and justice, relatively little research has focused on the local  
23 situational factors that influence such attitudes. Our findings support the wisdom of earlier

1 political theory on the spillover effect of local workplace participation. Perhaps surprising is that  
2 an entire workplace overhaul may not be the minimum change necessary to influence workers'  
3 outlook on society. Our research suggests that a temporary change in experience in individuals'  
4 work life can have a modest but weeks-long enduring impact, on social views considered so  
5 stable that they are often described as personality traits. Echoing Rousseau and Pateman, future  
6 research can explore whether local participatory experiences can not only change general  
7 attitudes, but also cultivate a more participatory democratic norm and active citizen engagement  
8 in the civil society.

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Figure 1. Study 1 group mean ratings of general attitudes toward authority, belief in a just world, perceived intergroup conflict between managers and workers in the larger society, and participation outside of work, on a 6-point scale. Ratings are shown as a function of assignment to participatory meetings condition (treatment). Error bars show 95% confidence intervals. Note: \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$ .

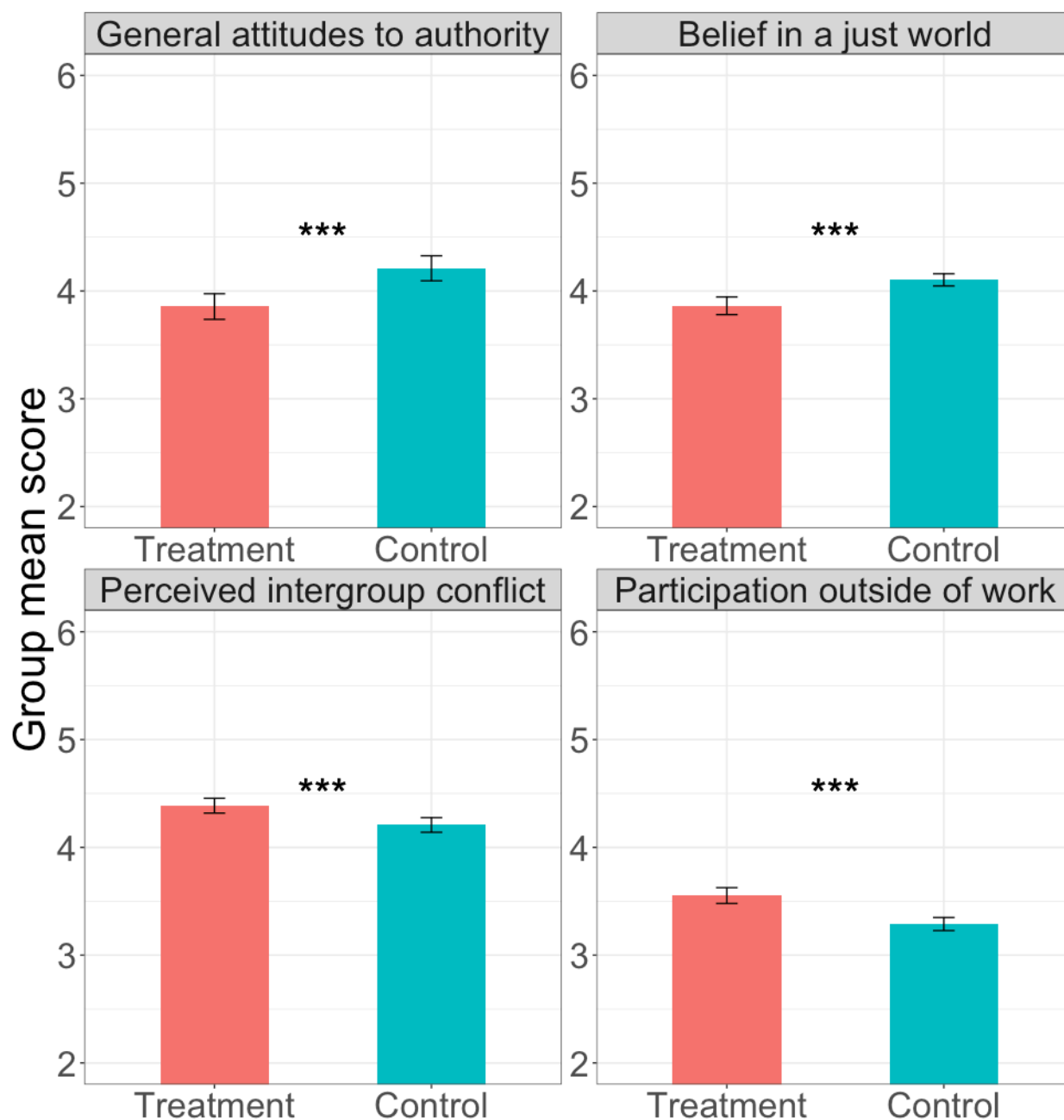
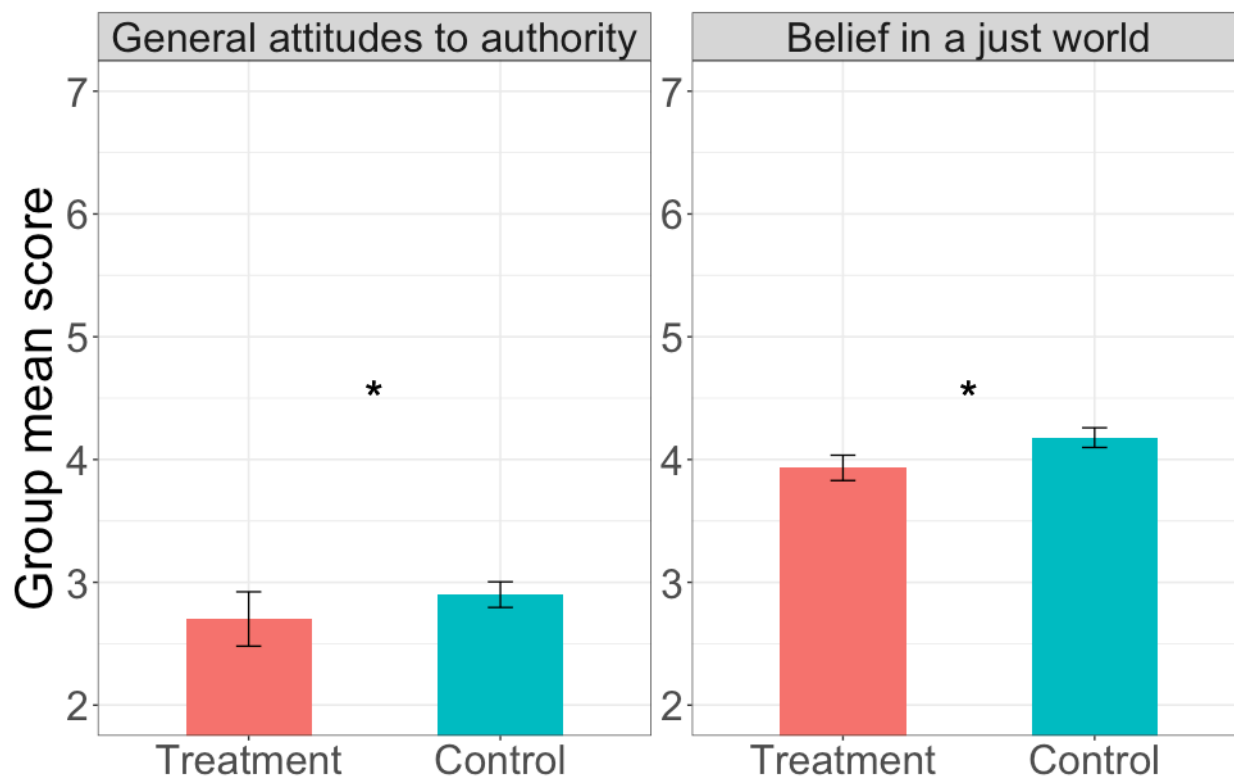


Figure 2. Study 2 group mean ratings of general attitudes toward authority and belief in a just world on a 7-point scale. Ratings are shown as a function of assignment to participatory meetings condition (treatment). Error bars show 95% confidence intervals. Note: \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$ .



*Figure 3.* Average treatment effects from participatory meetings on social outcomes. The dots indicate the estimated coefficients from linear regressions with fixed effects, with robust standard error clustered on the level of groups. Error bars show 95% confidence intervals. Participatory meetings significantly reduced workers' authoritarian attitudes and belief in a just world, significantly increased perceived intergroup conflict between managers and workers in the Chinese society and workers' participation outside of work.

