I Z A Institute
of Labor Economics
Initiated by Deutsche Post Foundation

DISCUSSION PAPER SERIES

IZA DP No. 18023

Employee Ownership and Promotive Voice: The Roles of Psychological Ownership and Perceived Alignment of Interests

Dylan A. Cooper
Tony Fang
Vincent Wan

JULY 2025

I Z A Institute
of Labor Economics

Initiated by Deutsche Post Foundation

DISCUSSION PAPER SERIES

IZA DP No. 18023

Employee Ownership and Promotive Voice: The Roles of Psychological Ownership and Perceived Alignment of Interests

Dylan A. Cooper
California State University Channel Islands

Tony Fang
Memorial University of Newfoundland and IZA

Vincent Wan
Bank of Chongqing and Shandong University

JULY 2025

ISSN: 2365-9793

IZA – Institute of Labor Economics

Schaumburg-Lippe-Straße 5–9
53113 Bonn, Germany

Phone: +49-228-3894-0
Email: publications@iza.org

www.iza.org

ABSTRACT

Employee Ownership and Promotive Voice: The Roles of Psychological Ownership and Perceived Alignment of Interests

Using a National Bureau of Economic Research dataset of employees of 14 United States companies with shared capitalism practices, we compare two prominent explanations of employee ownership's influence on pro-organizational behaviors—psychological ownership and alignment of financial interests—by testing the effects of Employee Stock Ownership Plans (ESOPs) and current profit sharing on promotive voice. We conducted a path-analysis of a moderated multiple-mediation regression model using the PROCESS macro. Our sample included 16,557 participants. We find that psychological ownership partially transmits the effects of ESOP participation and current profit sharing on promotive voice. Employee decision influence strengthens the relationship between ESOP participation and psychological ownership. Perceived alignment of interests does not mediate the relationships between employee ownership and promotive voice.

JEL Classification: J33, J54, J24, J26, J28

Keywords: employee ownership, promotive voice, psychological ownership, Employee Stock Ownership Plan, profit sharing, decision influence

Corresponding author:
Tony Fang
Department of Economics
Memorial University of Newfoundland
St. John's, NL, A1C 5S7
Canada

E-mail: tfang@mun.ca

Employee Ownership and Promotive Voice:
The Roles of Psychological Ownership and Perceived Alignment of Interests

Employee-owned companies generally perform better than conventional companies (for a meta-analysis, see O'Boyle *et al.*, 2016) on metrics such as return on equity (Blasi *et al.*, 2016), productivity (Kim and Ouimet, 2014; Kramer, 2010; Robinson and Wilson, 2006), and firm survival (Blasi *et al.*, 2013; Park *et al.*, 2004). To explain these gains, researchers in organizational behavior and labor economics have begun to investigate individual-level mechanisms through which employee ownership affects employee behavior. In organizational behavior, psychological ownership is the leading explanation. According to this argument, ownership rights give employees a cognitive and emotional sense of possession of and connectedness to the firm (Pierce *et al.*, 1991, 2003). The sense of possession is accompanied by feelings of responsibility and obligation (Avey *et al.*, 2009; Pierce *et al.*, 2001), causing employees to "think and act like owners" (Wagner *et al.*, 2003), and leading to attitudes and behaviors such as increased job satisfaction, increased work engagement, and reduced turnover (Zhang *et al.*, 2021). In labor economics, on the other hand, employee ownership is often viewed from an agency theory perspective (Jensen and Meckling, 1976; Ross, 1973). Employee ownership is an incentive that aligns the economic interests of employees with those of the firm. Because employee wealth is linked to firm valuation and profit, employees act like owners to increase the firm's financial success.

The research described here compares how these two mechanisms, one psychological and one economic, transmit the effects of employee ownership onto employee behavior. We focus on a behavior that particularly reflects the idea thinking and acting like an owner, *promotive voice,* which is defined as "employees' expression of new ideas or suggestions for improving the

overall functioning of their work unit or organization" (Liang *et al.*, 2012, p. 74). Voice is an extra-role behavior meant to benefit the organization, which entails personal risk for the employee (Van Dyne and LePine, 1998) and requires a wider view of one's role in the firm (Morrison, 2014). It is believed to improve individual, group, and organizational performance by bringing attention to innovative ideas and local information (Morrison, 2014; Van Dyne and LePine, 1998). If, as we hypothesize, providing employee ownership increases promotive voice, voice may be an important link between employee ownership and organizational performance.

Much attention has been given to the importance of organizational practices that complement employee ownership to deepen employees' sense of ownership (Blasi *et al.*, 2016). We consider the moderating role of employee influence on decisions. In particular, we argue that decision influence increases the impact of some, but not all, types of employee ownership on psychological ownership and that this moderation effect is transmitted to promotive voice.

The current research's contributions to understanding the individual-level effects of employee ownership are both theoretical and practical. First, we compare the two most prominent theoretical mechanisms for employee ownership's effects, assessing their separate and combined effects on promotive voice. Second, we investigate the moderating effect of decision influence on those relationships, revealing differences between the mechanisms. Third, as described below, we test the mechanisms with common formal and informal employee ownership structures in the United States. Finally, this study contributes to the literature on promotive voice. In her most-recent review, Morrison (2023) called for research on the influence of economic contexts on employee voice. Our work answers that call by investigating how employee ownership impacts voice. We believe this is the first research that examines the effect of broadly-based equity compensation practices on employee voice.

Theory and Hypothesis Development

Ownership is conveyed by rights. In the context of firm ownership, Pierce *et al.* (1991) summarized the rights as equity, influence, and information. The *right of equity* includes one or more of share ownership, dividends, profit sharing, and control of tangible or intangible resources. The *right of influence* encompasses firm governance (e.g., attendance of shareholder meetings, board membership, voting rights) and participation in operational decision making. The *right to information* can include access to the firm's financial records, business literacy training, information about the firm's activities, and/or details of employee ownership plans (Kaarsemaker, 2006). It is not necessary to possess all these rights, or all the attributes associated with a right, to be considered an owner, and not all owners share equally in these rights.

Forms of employee ownership vary widely (Tannenbaum, 1983). Most generally, ownership may be *formal* when granted through legal structures or *informal* when ownership rights are granted to employees through voluntary organizational practices. In the present study, we focus on one formal ownership structure, Employee Stock Ownership Plans (ESOPs) (NCEO, 2020), and one informal ownership practice, profit sharing (Kruse, 1993). Governed by federal law, ESOPs are the most common type of formal, broad, employee ownership in the United States. Shares are granted, rather than sold, to employees in annual distributions, and are vested over a period of up to six years. These shares are held in individual retirement accounts of a tax-exempt trust and are repurchased by the firm upon retirement. In 2022, there were 6,358 ESOP firms in the United States covering 14.9 million workers (NCEO, n.d.). ESOPs provide equity rights through share ownership, but only in a time-delayed manner, because employee shares are held in retirement accounts. ESOP regulations also provide limited rights of influence through employees' status as shareholders. Legally granted information rights include

information about the ESOP rules, employees' own share in the plan, and a summary of the plan's annual financial performance. ESOP participation has been empirically related to increased work motivation (Marsh and McAllister, 1981), job satisfaction (Gamble *et al.*, 2002), organizational commitment (Buchko, 1993; Gamble *et al.*, 2002; Klein, 1987, but see Pendleton, 2001), and reduced turnover (Buchko, 1993; Klein, 1987; Marsh and McAllister, 1981).

Profit sharing is a compensation plan in which a portion of employee pay during a specific period, usually year or quarter, is based substantially on company profitability during that period (Kruse, 1993). Due to their contrast with ESOPs' delayed equity payments, we focus on *current* (aka cash) profit sharing plans (Coates, 1991), which provide immediate payouts to employees. Although profit sharing provides employees with equity rights, it provides no formal ownership and no influence or information rights. Profit sharing has been empirically related to job satisfaction (Klein, 1987; Bryson *et al.*, 2016), organizational commitment (Blasi *et al.*, 2008; Chiu and Tsai, 2007; Heras-Saizarbitoria, 2014; Meyer *et al.*, 1993), lower turnover (Meyer *et al.*, 1993), and organizational citizenship behavior (Blasi *et al.*, 2008; Chiu and Tsai, 2007; Pendleton and Robinson, 2011).

In the next sections, we argue that ESOPs and current profit sharing increase promotive voice, by describing two mediating paths. The first path, grounded in research from organizational behavior, is through *psychological ownership* of the firm. Employee owners exercise voice due to a sense of identification with and responsibility for the firm. We expect decision influence to strengthen the effect of ESOP participation on the first step of this path. The second path, through employees' perceived *alignment of interests* with the firm, is supported by research in labor economics. Employee owners exercise voice to increase personal compensation based on the firm's value or profit. These paths, which we label the psychological

and economic paths, are complementary, that is, we expect some of the overall effect of employee ownership to be transmitted through each of the two channels. Our theoretical model is presented in Figure 1.

Psychological Path: Psychological Ownership and Promotive Voice

Psychological ownership is the cognitive and affective state directed toward a tangible or intangible target in which an individual feels that the target is "theirs" (Pierce *et al.*, 2003). This leads to feelings of accountability toward the target, both expecting to be held accountable oneself and holding others accountable for how their actions impact the target (Avey *et al.*, 2009). We argue that psychological ownership of the firm, defined as "the psychologically experienced phenomenon in which an employee develops possessive feelings for the [firm]" (Van Dyne and Pierce, 2004, p. 439) mediates an effect of employee ownership on promotive voice.

Pierce and colleagues (1991, 2001, 2003) proposed that possession of ownership rights is causally related to psychological ownership. As described previously, ESOPs and profit sharing provide these rights, although in different ways. Ownership rights can increase employees' sense of control, knowledge, and investment in the firm, which lead to greater self-identification with the firm and enhanced psychological ownership (Pierce *et al.,* 2001; Wagner *et al.*, 2003; Zhang *et al.*, 2021). There is a small amount of empirical support linking ESOP participation and profit sharing to psychological ownership. Chiu *et al.* (2007) found that participation in a plan somewhat similar to an ESOP in ten state-owned, Chinese petrochemical firms was associated with three owner-like behaviors, which were used as a proxy for psychological ownership. Chi and Han (2008) found that profit sharing with research and development engineers in 20 Taiwanese high-technology companies was positively related to psychological ownership.

Psychological ownership transmits the effects of ESOP participation and profit sharing onto voice by motivating employees to voice. Employees who experience psychological ownership perceive themselves as having responsibility to protect the firm and ensure that it thrives (Avey *et al.*, 2009; Parker *et al.*, 1997; Pierce *et al.*, 2001). These responsibilities may prompt employees to voice (Liang *et al.*, 2012), because voice is believed to have positive organizational effects (Morrison and Milliken, 2000). These arguments are supported by findings that organizational identification, a component of psychological ownership, promotes constructive voice (Bajaba et al., 2023). By speaking up, employees both assert their right to influence and enact their responsibility of looking out for the firm's interests. Voicing further reinforces employees' sense of control and belonging (Lind and Tyler, 1988), which may create a virtuous feedback loop with psychological ownership.

Psychological ownership also prepares employees to be able to voice. First, making constructive suggestions requires attentiveness to organizational affairs to produce useful and novel suggestions (Liang *et al.*, 2012). Such attentiveness is enhanced by psychological ownership (Van Dyne and Pierce, 2004). Second, psychological ownership allows employees to overcome fear of voicing. Psychological ownership can help employees overcome the risk of voicing, because the willingness to take risks or make sacrifices for the target is a consequence of psychological ownership (Pierce *et al.*, 2003). Third, psychological ownership increases employees' confidence that their suggestions will be heard. Psychological ownership is positively related organization-based self-esteem, the belief that one is a capable and valued organization member (Pierce *et al.*, 1989), due to feelings of self-identity associated with ownership (Van Dyne and Pierce, 2004). Empirical evidence also supports these arguments. A meta-analysis (Zhang *et al.*, 2021) found a positive relationship between psychological

ownership and voice, although the analyses mixed types of psychological ownership and voice (e.g., by customers rather than employees). Accordingly, we propose the following hypothesis.

> *Hypothesis 1.* Psychological ownership of the firm mediates positive relationships between participation in (a) an ESOP and promotive voice and (b) current profit sharing and promotive voice.

Comparing Effects of ESOP Participation and Current Profit Sharing

ESOPs and current profit sharing provide ownership rights in substantially different ways. Because ESOPs are classified as a retirement benefit and funds are held in a trust, equity gains can be psychologically distant. This could weaken the effect of ESOP equity rights on psychological ownership. Current profit sharing, on the other hand, provides equity much more directly (Coates, 1991; Long and Fang, 2012), which may provide a stronger sense of equity rights, and hence psychological ownership. On the other hand, ESOPs provide influence and information rights, while profit sharing provides neither. The additional rights may enhance psychological ownership. Finally, ESOPs establish formal employee ownership of the firm. Profit sharing, in contrast, provides only informal ownership. The mere fact of formal ownership has been proposed to influence behavior (Tannenbaum, 1983), suggesting that ESOP participation may increase psychological ownership by conveying legal ownership. Given this ambiguity, we investigate the following research question.

> *Research Question 1.* Are participation in an ESOP and participation in current profit sharing related to psychological ownership at different levels?

Decision Influence

Several researchers have argued ESOPs' positive effects on employee behavior are enhanced by complementary human resource management practices (Blasi *et al.*,

2016; Pendleton, 2001). Combining formal ownership with practices that provide additional ownership rights creates mutually reinforcing messages that help employees construct self-identities as owners (Kaarsemaker, 2006) and develop a shared understanding of employees as owners (Rousseau and Shperling, 2003). The increased identification and social recognition enhance employees' sense of ownership. Enabling employee influence in decisions is one such a practice. It is an antecedent to psychological ownership (Chi and Han, 2008; Han *et al.*, 2010; Pierce *et al.*, 1991), a common practice in ESOP firms, and an antecedent to employee proactivity (Edgar et al., 2025). We hypothesize that, by providing influence rights beyond those granted by ESOPs, decision influence interacts with the rights granted by ESOPs to increase the effect of ESOP participation on psychological ownership.

Contradicting these theoretical claims, Torp and Nielsen (2018) found a negative effect on psychological ownership from the interaction of participatory leadership and share ownership by middle managers. They argued that the extrinsic reward of share ownership crowded out the intrinsic motivation provided by decision influence. We argue that this finding does not generalize to ESOPs, because ESOP participation provides more than an extrinsic reward. Instead, it creates an ongoing ownership relationship with the firm. However, we make no similar hypothesis for current profit sharing because it is more easily seen as strictly an extrinsic reward.

Hypothesis 2. Decision influence moderates the relationship between ESOP participation and psychological ownership such that the relationship is stronger with more decision influence.

Economic Path: Perceived Interest Alignment and Promotive Voice

Equity rights link employees' compensation directly to the firm's success. In ESOPs, the value of an employee's balance depends on the firm's share price, which is determined by the market for publicly traded firms and through annual audits for privately held firms (NCEO, 2020). With profit sharing, the size of an employee's bonus depends on firm profits, through either an explicit formula or methods that allow for more managerial discretion (Kruse, 1993). From an agency theory perspective, tying a portion of employee compensation to the firm's financial success aligns employee interests with those of the firm (Ang *et al.*, 2000; Jensen and Meckling, 1976; Kruse, 1993; Weitzman, 1995). Receiving those benefits, through an ESOP account or a cash bonus, should cause employees to perceive this alignment of interests.

Perceived alignment of interests provides extrinsic motivation for employees to expend effort towards the firm's goals (Ross, 1973), which should increase both task performance and organizational citizenship behaviors such as promotive voice due to their potential to improve firm performance. However, agency theory was developed in the context of providing ownership to top managers (e.g., Jensen and Meckling, 1976). Extending ownership more broadly faces critiques because the motivational power of rewards based on collective outcomes, such as firm profitability, is questioned (Han *et al.*, 2015; Weitzman, 1995). First, employees may not believe that their actions can meaningfully influence collective success such as firm profit or share price, providing a weak line of sight between their effort and reward (Lawler, 1990). In the case of ESOP participation and profit sharing, the employee's efforts must influence the firm's valuation or profitability, respectively, for the employee to profit. This may seem unlikely to employees at lower levels of the firm's hierarchy. Second, collective rewards may incentivize social loafing (Kruse, 1993). As the number of employees whose outputs are pooled to determine collective performance grows, the incentive for an economically rational actor to provide high effort

shrinks (Olson, 1971). In summary, weak line of sight and social loafing may negate the predicted effects of aligned interests on promotive voice.

However, empirical studies suggest that, in the context of employee-owned firms, these issues do not reduce employee effort as predicted (Freeman, Kruse, and Blasi, 2010; Kruse, 1993). In a meta-analysis, Nyberg and colleagues (2018) found positive correlations between ESOPs/profit sharing and both organizational financial outcomes and pro-organizational employee behaviors. This suggests that neither line-of-sight issues nor social loafing erase the organizational benefits from ESOP and profit sharing. In addition, the potential of voice to improve collective performance may make it less susceptible to these critiques. For example, if an employee suggests a cost-saving change to a common work process, the efficiency of all employees who perform that process will increase. This may lead to a stronger line of sight from voice to organizational success. Similarly, voice may suffer less from social loafing if the potential for influencing collective productivity changes employees' cost/benefit logic (Hambly *et al.*, 2019).

In summary, we propose that when employees believe they will share in the financial successes of the firm due to ESOP participation or profit sharing, they are motivated to make suggestions to improve organizational performance, and this motivation is not erased by line-of-sight issues or social loafing.

Hypothesis 3. Employees' perceived alignment of interests with the firm mediates the relationships between participation in (a) an ESOP and (b) current profit-sharing and promotive voice.

Comparing ESOP Participation and Current Profit Sharing

Agency theory (Ross, 1973) holds that rewarding firm members for achieving organizational outcomes that reflect owners' priorities, e.g., high share price, aligns their interests with that of the firm. ESOP participation and current profit sharing do this through providing equity rights. However, the strength of employees' perception of interest alignment may vary based on the form of equity granted. In particular, the deferred nature of ESOP equity, which is held in a retirement account and which employees can redeem only when they leave the firm, may reduce its effects due to issues such as time discounting (Frederick et al., 2002) and lack of salience. On the other hand, reinforcement theory suggests that current profit sharing, especially when frequent, will affect employee attitudes and behaviors more strongly (Hambly et al., 2019) because receiving rewards temporally closer to the positive outcome, e.g., organizational profit, makes the connection between behavior and reward more salient, thereby creating stronger psychological and behavioral effects. In short, because current profit sharing provides immediately useful financial rewards while ESOP participation does not, we predict that current profit sharing influences perceived alignment of interests more strongly than ESOP participation.

> *Hypothesis 4.* When comparing participation in current profit sharing to participation in an ESOP, profit sharing is more strongly related to employees' perceived alignment of interests with the firm.

Method

Sample

Our sample is a subset of data from the NBER Shared Capitalism Research Project (Freeman, Blasi, and Kruse, 2010). This survey of 41,206 employees was conducted at 323 worksites of 14 United States firms. Our subset includes the US residents of the seven firms for

which questions about promotive voice were included. These firms operated in the manufacturing, service, technology, and financial services industries. Three firms had an ESOP and six had current profit-sharing plans. Four profit-sharing plans were broad-based. Within those firms, 59,520 employees were surveyed and 37,397 (63%) responded. However, not all employees answered all questions; the number of observations in our analyses varies accordingly. Five firms had between 1,000 and 10,000 employees, while two had over 10,000 employees. The distribution of the employees by occupation was as follows: production (53%), administrative support (6%), professional/technical (23%), sales (4%), customer service (3%), and management (11%). The respondents were 18 to 84 years old (M = 42.78, SD = 10.71) with 34% female. The race/ethnicity distribution was White (84%), Black (6%), Hispanic (4%), Asian (3%), Native American (1%), and other (1%).

Measures

Independent Variables

For firms with an *ESOP*, participation was measured with the question, "Do you participate in the company ESOP?" Responses of *yes* were coded as 1, 0 otherwise. For firms with *profit sharing*, participation was measured by first asking, "In your job are you eligible for any type of performance-based pay, such as individual or group bonuses, or any type of profit-sharing?" Participants who answered *yes* were then asked, "What does the size of these performance-based payments depend on? (Mark all that apply)," and shown a list that included *company profits or performance*. Only responses with that option selected were coded as 1.

Dependent Variables

Promotive *voice frequency* was measured with this question, "How often have you taken such ideas [for making your department or the company more effective] to someone in the

company in the past?" Responses were recorded on a 5-point scale (1 = *daily*, 2 = *weekly*, 3 = *monthly*, 4 = *occasionally*, 5 = *never*) and then reversed. We also included a novel promotive voice measure, *important voice*, of whether employees voiced key ideas. Important voice was measured with the multiple-choice question, "Thinking now about the most important idea that you have had for making your department or the company more effective, where did you take this suggestion?" Choices coded as 1 included coworkers, managers, human resources, a meeting, or other. Not taking the idea to someone or not having any ideas were coded as 0.

Mediators

Psychological ownership of the firm was measured with the question, "How much do you feel like an owner of this company?" Responses were coded on a 10-point scale (1 = *not at all*; 10 = *to a great extent*). Perceived *interest alignment* between employee and firm was measured by agreement with the statement, "When the company does well, employees share the benefits," on a 7-point Likert scale.

Moderator

Decision influence was measured with the mean of three items asking how much influence the employee had in the following decisions: "Deciding HOW to do your job and organize the work," "Setting GOALS for your work group or department," and "Overall company decisions." Responses were rated on a four-point scale (1 = *a lot*; 4 = *none*) and reversed. Internal reliability was acceptable ($\alpha = 0.72$).

Control Variables

Because organizational culture influences employee behavior, we controlled for perceived *voice culture*, operationalized as the degree to which respondents saw the firm's culture as encouraging voice (4-point scale). Because they influence opportunities to voice, we

controlled for the number of *weekly hours* worked, whether the employee primarily worked as a *team member* (1) or alone (0), and *job role* (*production*, *administrative*, *professional*, *sales*, *customer service*, *management*). Due to its relationship to psychological ownership (Zhang *et al.*, 2021), we controlled for organizational *tenure* measured in years. Because voice can be risky for employees (Van Dyne and LePine, 1998), we controlled for perceived *job stability* measured as the self-reported likelihood of losing their job within 12 months (4-point scale). Some firms had plans by which employees could obtain firm shares without ESOP participation, so we controlled for whether the respondent *owned shares* in the firm separate from an ESOP. To account for unobserved within-firm variation, we controlled for *firm* fixed effects. Finally, because status is a predictor of voice (Morrison, 2023), we controlled for demographic variables *age*, *sex*, *race*, and level of *education* (9-point scale) that may influence perceptions of status.

Analysis

To test the hypotheses in a single model, we conducted a path analysis using PROCESS 4.2 in SPSS 29. Specifically, we combined two models of multiple mediation (models 7 and 4) using a fixed seed for bias-corrected bootstrapping (Hayes, 2018, pp. 141-146). We executed model 7 with ESOP participation as the independent variable and profit sharing as a covariate, using the wmatrix option so that decision influence moderated only the relationship between ESOP participation and psychological ownership. For model 4, the roles of ESOP participation and profit sharing were reversed and the cmatrix option added decision influence and its interaction with ESOP participation as covariates to the regression on psychological ownership. Decision influence was mean centered. In bootstrapped mediation models, mediation is significant when the confidence interval of the indirect effect does not include zero. Moderated mediation is significant when zero is excluded from the confidence interval of the index of

moderation (Hayes, 2015). We conducted separate analyses with voice frequency (N = 16,463) and important voice (N = 13,095) as the dependent variables, using logistic regression for important voice and listwise deletion for missing values.

Results

Descriptive statistics are presented in Table I. ESOP participation was negatively correlated with voice frequency (r = -.04) and not significantly related to important voice (r = .01), while profit sharing was positively correlated with voice frequency (r = .06) and important voice (r = .10). Our mediators were positively related to both measures of voice, as well as ESOP participation and profit sharing. Table I presents a regression of all variables on the dependent variables. Table SI in the online supplementary materials presents the full model. Figure 3 summarizes those results.

Psychological Path

We hypothesized that psychological ownership mediates positive relationships from ESOP participation (H1a) and profit sharing (H1b) to promotive voice. Table III summarizes the mediation results. For ESOP participation, the hypothesized indirect effect was positive for voice frequency, ß = .013, 95% CI [.005, .022] and important voice, ß = .061, 95% CI [.025, .103]. For profit sharing, the indirect effect was positive for both voice frequency, ß = .004, 95% CI [.002, .006], and important voice, ß = .019, 95% CI [.010, .031]. Hypotheses 1 was supported.

For ESOP participation, we further hypothesized that decision influence moderates the first step of this relationship (H2). Supporting the hypothesis, the interaction of ESOP participation and decision influence was positive, ß = .455, SE = .086, p < .000. Figure 2 displays the form of the interaction. The effect of ESOP participation on psychological ownership was positive when decision influence was high (+1 SD), ß = .734, SE = .166, p < .000, but not

significant when decision influence was low (-1 *SD*), ß = .054, *SE* = .173, *p* = .758. More importantly, the index of moderated mediation for the effect of ESOP participation on voice frequency through psychological ownership was positive, .010, 95% CI [.006, .015]. The indirect effect was positive when decision influence was high (+1 *SD*), ß = .016, 95% CI [.008, .026], but not significant when decision influence was low (-1 *SD*), ß = .001, 95% CI [-.006, .009]. The results were similar for important voice. The index of moderated mediation was positive, .043, 95% CI [.025, .065]. The indirect effect was positive when decision influence was high, ß = .077, 95% CI [.040, .118] and not significant when decision influence was low, ß = .010, 95% CI [-.024, .046]. Hypothesis 2 was supported. Supplemental analyses found no moderating effect of decision influence on the relationship between profit sharing and psychological ownership.

We also asked whether ESOP participation and current profit sharing are differently related to psychological ownership (RQ1). Our full model includes the interaction of decision influence with ESOP participation, so we tested this question in a separate regression of psychological ownership on profit sharing, ESOP participation, and the control variables (*N* = 16,463). Because both focal variables are dichotomous and the confidence intervals of the coefficients do not overlap, we simply compared those intervals, ESOP participation ß = .573, 95% CI [.257, .888] versus profit sharing ß = .163, 95% CI [.071, .254]. ESOP participation had a stronger effect.

Economic Path

We hypothesized that perceived alignment of interests mediates positive relationships from ESOP participation (H3a) and profit sharing (H3b) to promotive voice. Table III summarizes the mediation results. This was not supported for ESOP participation. The confidence interval for the indirect effect included zero for both voice frequency, ß = .001, 95% CI [-.002, .004], and important voice, ß = .000, 95% CI [-.007, .005]. For profit sharing, contrary

to our expectations, the indirect effect on voice frequency was negative, ß = -.009, 95% CI [-.014, -.003]. For important voice, the confidence interval for the indirect effect included zero, ß = .003, 95% CI [-.020, .027]. Hypothesis 3 was not supported.

We hypothesized that profit sharing's effect on perceptions of interest alignment is stronger than ESOP participation's effect (H4). Examination of the confidence intervals for the coefficients in the full model, ESOP participation ß = -.084, 95% CI [-.291, .123] versus profit sharing ß = .716, 95% CI [.656, .776], supports Hypothesis 4.

Discussion

We compared a psychological path and an economic path by which employee ownership may influence promotive voice. Through the psychological path employees develop a sense of identification with and responsibility toward the firm. Through the economic path, alignment of interests influences employees through rational self-interest. We tested these paths with two types of employee ownership, ESOP participation and current profit sharing. The psychological path partially mediated the relationships between both forms of employee ownership and promotive voice. The effect of ESOP participation was stronger than the effect of profit sharing, but only when paired with decision influence. We found no evidence for the economic path.

Theoretical Implications and Future Research

There are several reasons for why psychological ownership had a greater mediating effect. First, psychological ownership leads to a stronger emotional attachment to the organization (Pierce *et al.*, 1991, 2003). This emotional connection drives employees to speak up and share their ideas for improvement, as they are genuinely invested in the organization's success. Second, when employees have a sense of psychological ownership, they feel more responsible for the outcomes of their actions and decisions (Avey *et al.*, 2009; Pierce *et al.*,

2001). This sense of responsibility motivates them to engage in promotive voice to contribute to the organization's performance. Third, psychological ownership can increase employees' motivation and commitment to their work (Zhang *et al.*, 2021). Committed and motivated employees are more likely to be proactive in identifying and suggesting solutions to problems or opportunities for improvement. Fourth, employees who feel a sense of ownership are more likely to share their thoughts and ideas with others, as they believe that their input will be valued and enacted by management (Liang *et al.*, 2012; Pierce *et al.*, 1989). Finally, psychological ownership encourages employees to adopt a long-term perspective, as they view themselves as stakeholders in the organization's future success (Wagner *et al.*, 2003). This long-term focus can lead to more strategic and forward-thinking voice. In contrast, perceived alignment of interests focuses primarily on financial incentives, which may not foster the same level of emotional attachment, responsibility, motivation, or long-term perspective that psychological ownership provides.

ESOP participation, which conveys limited forms of all three ownership rights, was related to higher levels of psychological ownership and promotive voice than was profit sharing, which conveys only equity rights. This suggests that ownership rights may have additive rather than substitutive effects. Beyond this, employees' influence on decisions was important for ESOP participation's relationship to psychological ownership. When decision influence was low, ESOP participation was unrelated to psychological ownership and voice. A possible explanation is that ESOP participants expect decision influence. When that expectation is not met, they lose their sense of ownership. This supports researchers who emphasize the importance of combining formal leadership with complementary human resource practices (e.g., Kaarsemaker, 2006). Additional study of how ownership rights complement and interact with each other would

provide both theoretical and practical insights. Study of the psychological impacts of formal versus informal rights may also be fruitful. Formal ownership corresponds to lay concepts of ownership and conveys what Tannenbaum (1983) referred to as the "direct" effects of ownership. He theorized that the mere fact of ownership is ego-enhancing and causes identification with the firm. When compared to profit sharing, it is possible that much psychological ownership associated with ESOP participation is attributable to formal ownership rather than the wider range of rights.

From an economic perspective, employee ownership has been proposed as a solution to the agency problem, whereby employees pursue their own interests rather than those of the firm (Chiu *et al.*, 2007; Duncan, 2001; Klein, 1987). Our results call that argument into question. Participation in an ESOP was not related to employees' perception that their financial interests were aligned with those of the firm. We suspect this is due to the distal nature of financial gains in ESOPs. Although profit sharing was strongly related to perceived alignment of interests, alignment of interests had a negative relationship with promotive voice frequency and no relationship with important voice.

Psychological ownership and interest alignment are the most prominent explanations for the effects of employee ownership on pro-organizational behavior. However, in our study, although there was an overall positive effect of profit sharing on promotive voice, perceived alignment of interests transmitted a small *negative* effect on voice frequency, due to a negative relationship between interest alignment and voice frequency. We argued that line-of-sight and social loafing issues are less important for voice, due to its potential for improving group performance. This may not be true for most ideas that employees might voice. Instead, employees may be willing to stay quiet and endure some inconveniences if they will share in

firm profits. Psychological ownership only weakly transmitted the effects of employee ownership on promotive voice; a larger proportion of the effect was transmitted directly. It is possible that voice is different from other pro-organizational behaviors, such as increased task effort, due to its social nature. Future research should investigate additional mechanisms. Increased social cohesion, suggested by Kim and Han (2019), is a promising candidate due to its emphasis on employee interactions. From a more transactional perspective, employees receiving ownership rights may feel an obligation to repay the employer (Goldner, 1960).

Finally, Morrison (2023) called for research on the influence of economic context on voice. Our results demonstrated two such relationships. First, the link to profit sharing suggests that voice may be increased through rewards based on collective performance, although not due to perceived alignment of interests. The results could be tested with other collective and individual incentive practices such as gain sharing, merit raises, and individual bonuses, or could be tested with prohibitive voice (Liang et al, 2012). Second, the link between ESOP participation and voice suggests that formal ownership promotes voice in the absence of immediate financial gain. Future research could test whether more provisional formal ownership, such as restricted stock units, also increases voice.

Implications for Policy and Practice

Firms that wish to promote owner-like behaviors, such as voice, should consider granting a range of ownership rights. In particular, profit sharing and ESOP participation both contribute to psychological ownership and voice, after controlling for each other. This suggests that ESOP firms can reap additional benefits by adding profit-sharing plans. Our results also support enhancing employees' decision influence, especially in ESOP firms. By augmenting the rights provided by ESOP participation with decision influence, employees' sense of being an owner

increases. On the other hand, employees who felt they had little influence in decisions gained no sense of ownership from ESOP participation.

Our research also found that ESOP participation is not sufficient for employees to perceive their interests as aligned with those of the firm. ESOP firms could invest in communication to make the connection between firm success and employees' personal interests more salient. Reinforcement theory suggests this communication should be frequent and transparent (Hambly *et al.*, 2019). For privately held ESOP firms that conduct valuations only once a year, messages focusing on ESOP account balances may be too infrequent. Messages that tout monthly earnings, or the success of notable projects, and tie those to expected increases in employees' ESOP balances may be more effective in prompting pro-organizational behavior than waiting for yearly valuations to explicitly link individual and firm success. For publicly held ESOP firms, regularly tying employees' work to share prices is advised.

Limitations

Our study has methodological weaknesses meriting discussion. Our dataset is cross-sectional and, thus, cannot detect causal relationships. Future research with panel data is warranted. The data was primarily self-reported which may lead to single-source bias (Donaldson and Grant-Vallone, 2002). This weakness is ameliorated in two ways. First, the independent variables are reports of objective fact, and in firms without an ESOP or without profit sharing, were reported by the firm's management. Second, the dependent variable of important voice is little open to interpretation. Employees were asked to whom, if at all, they voiced their idea. Although the importance of the idea is open to interpretation, whether they voiced it is less so. The consistency in results between this dependent variable and voice frequency is encouraging.

The effects we discovered are small. An examination of Table I reveals that correlations between the independent variables, mediators, and dependent variables are weak. Studies using smaller sample sizes or lacking controls would be unlikely to detect these effects. In addition, as can be seen in Figure 3, the indirect effects only account for a fraction of the influence of employee ownership on promotive voice.

Our use of an archival dataset developed by economists resulted in mostly single-item measures. Multiple-item measures would have been preferred due to concerns about construct coverage and reliability (Fisher *et al.*, 2016). However, single-item measures are often valuable alternatives (Gardner *et al.*, 1998; Fisher *et al.*, 2016). This weakness of the dataset was offset by the large sample size and wealth of controls, both of which are rare in studies of voice and psychological ownership.

Our sample also has limitations. We restricted our sample to United States residents, because ESOPs function differently in different countries. The results may not generalize to other cultures or forms of ESOPs. In addition, all companies engaged in some form of "shared capitalism" (Freeman *et al.*, 2010) and may be more committed to empowering employees than typical companies. To reduce possible confounding effects, we controlled for the organizational culture's support for voice, employee participation in other forms of shared capitalism, and firm fixed effects. Finally, employees who work at the surveyed companies and answered the survey may differ from typical employees. We controlled for several individual differences but cannot rule out omitted variable biases.

Conclusion

In a large sample of workers with rich controls, we differentiated between two leading mechanisms for explaining the effect of employee ownership on behavior—psychological

ownership and perceived alignment of interests with the firm—by testing the effect of two forms of employee ownership on promotive voice. We found that ESOP participation increased promotive voice through psychological ownership, but only when employees had decision influence. Current profit sharing also increased promotive voice through psychological ownership, albeit more weakly. Neither increased promotive voice through perceived alignment of interests. These findings corroborate previous studies that emphasize the positive impact of psychological ownership on desirable employee attitudes and behaviors, such as promotive voice, and the important role of decision influence. Organizations may strengthen psychological ownership through employee ownership to promote desirable employee behaviors and superior organizational performance.

References

Ang, J.S., Cole, R.A. and Lin, J.W. (2000), "Agency costs and ownership structure", *Journal of Finance*, 55(1), pp. 81-106.

Avey, J.B., Avolio, B.J., Crossley, C.R. and Luthans, F. (2009), "Psychological ownership: theoretical extensions, measurement, and relation to work outcomes", *Journal of Organizational Behavior*, 30, pp. 173-191.

Bajaba, A., Bajaba, S. and Alsabban, A. (2023), "Exploitative leadership and constructive voice: the role of employee adaptive personality and organizational identification," *Journal of Organizational Effectiveness: People and Performance* 10(4), pp. 601-623.

Blasi, J., Freeman, R. and Kruse, D. (2016), "Do broad-based employee ownership, profit sharing and stock options help the best firms do even better?", *British Journal of Industrial Relations*, 54(1), pp. 55-82.

Blasi, J.R., Freeman, R.B., Mackin, C. and Kruse, D.L. (2008), *Creating a bigger pie? The effects of employee ownership, profit sharing, and stock options on workplace performance* (No. w14230), National Bureau of Economic Research.

Blasi, J.R., Kruse, D.L. and Weltmann, D. (2013), "Firm survival and performance in privately held ESOP firms", Kruse, D.L. (Ed.), *Advances in the Economic Analysis of Participatory and Labor-Managed Firms*, Emerald Group Publishing Limited, pp. 109-124.

Bryson, A., Clark, A.E., Freeman, R.B. and Green, C.P. (2016), "Share capitalism and worker wellbeing", *Labour Economics*, 42, pp. 151-158.

Buchko, A.A. (1993), "The effects of employee ownership on employee attitudes: an integrated causal model and path analysis", *Journal of Management Studies*, 30(4), pp. 633-657.

Burris, E.R. (2012), "The risks and rewards of speaking up: managerial responses to employee voice", *Academy of Management Journal*, 55, pp. 851-875.

Chi, N.W. and Han, T.S. (2008), "Exploring the linkages between formal ownership and psychological ownership for the organization: the mediating role of organizational justice", *Journal of Occupational and Organizational Psychology*, 81(4), pp. 691-711.

Chiu, W.C., Harry Hui, C. and Lai, G.W. (2007), "Psychological ownership and organizational optimism amid China's corporate transformation: effects of an employee ownership scheme and a management-dominated board", *The International Journal of Human Resource Management*, 18(2), pp. 303-320.

Chiu, S.F. and Tsai, W.C. (2007), "The linkage between profit sharing and organizational citizenship behaviour", *The International Journal of Human Resource Management*, 18(6), pp. 1098-1115.

Coates III, E.M. (1991), "Profit sharing today: plans and provisions", *Monthly Labor Review*, 114, pp. 19-25.

Donaldson, S.I. and Grant-Vallone, E.J. (2002), "Understanding self-report bias in organizational behavior research", *Journal of Business and Psychology*, 17, pp. 245-260.

Duncan, W.J. (2001), "Stock ownership and work motivation", *Organizational Dynamics*, 30, pp. 1-11.

Edgar, F., Zhang, J., Podgorodnichenko, N. and Akmal, A., (2024), “Exploring the impact of egalitarianism on employee proactivity: unpacking the mediating role of relational social capital”, *Journal of Organizational Effectiveness: People and Performance*, 12(1), pp. 145-167.

Fisher, G.G., Matthews, R.A. and Gibbons, A.M. (2016), "Developing and investigating the use of single-item measures in organizational research", *Journal of Occupational Health Psychology*, 21(1), pp. 3-23.

Frederick, S., Loewenstein, G. and O'Donoghue, T. (2002), "Time discounting and time preference: a critical review", *Journal of Economic Literature*, 40(2), pp. 351-401.

Freeman, R.B., Blasi, J.R. and Kruse, D.L. (2010), "Introduction", Kruse, D.L., Freeman, R.B. and Blasi, J.R. (Ed.s), *Shared capitalism at work: employee ownership, profit and gain sharing, and broad-based stock options*, University of Chicago Press, pp. 1-37.

Freeman, R.B., Kruse, D.L. and Blasi, J.R. (2010), "Worker responses to shirking under shared capitalism", Kruse, D.L., Freeman, R.B. and Blasi, J.R. (Ed.s), *Shared capitalism at work: employee ownership, profit and gain sharing, and broad-based stock options*, University of Chicago Press, pp. 77-103.

Gamble, J.E., Culpepper, R. and Blubaugh, M.G. (2002), "ESOPs and employee attitudes: the importance of empowerment and financial value", *Personnel Review*, 31(1), pp. 9-26.

Gardner, D.G., Cummings, L.L., Dunham, R.B. and Pierce, J.L. (1998), "Single-item versus multiple-item measurement scales: an empirical comparison", *Educational and Psychological Measurement*, 58(6), pp. 898-915.

Gouldner, A. (1960), "The norm of reciprocity", *American Sociological Review,* 25, pp. 161–178.

Hambly, K., Kumar, R.V., Harcourt, M., Lam, H. and Wood, G. (2019), "Profit-sharing as an incentive", *The International Journal of Human Resource Management*, 30(20), pp. 2855-2875.

Han, J.H., Bartol, K.M. and Kim, S. (2015), "Tightening up the performance–pay linkage: roles of contingent reward leadership and profit-sharing in the cross-level influence of individual pay-for-performance", *Journal of Applied Psychology*, 100(2), pp. 417-430.

Han, T.S., Chiang, H.H. and Chang, A. (2010), "Employee participation in decision making, psychological ownership and knowledge sharing: mediating role of organizational commitment in Taiwanese high-tech organizations", *The International Journal of Human Resource Management*, 21(12), pp. 2218-2233.

Hayes, A.F. (2015), "An index and test of linear moderated mediation", *Multivariate Behavioral Research*, 50, pp. 1-22.

Hayes, A.F. (2018), *Introduction to mediation, moderation, and conditional process analysis: a regression-based approach, second edition*, Guilford Publications, New York, NY.

Heras-Saizarbitoria, I. (2014), "The ties that bind? Exploring the basic principles of worker-owned organizations in practice", *Organization*, 21(5), pp. 645-665.

Jensen, M.C. and Meckling, W.H. (1976), *Journal of Financial Economics*, 3(4), pp. 305-360.

Kaarsemaker, E.C. (2006), *Employee ownership and human resource management. A theoretical and empirical treatise with a digression on the Dutch context* [Unpublished doctoral dissertation], Radboud University Nijmegen. Available at: https://repository.ubn.ru.nl/bitstream/handle/2066/45250/45250.pdf.

Kim, A. and Han, K. (2019), "All for one and one for all: a mechanism through which broad-based employee stock ownership and employee-perceived involvement practice create a productive workforce", *Human Resource Management*, 58(6), pp. 571-584.

Kim, E.H. and Ouimet, P. (2014), "Broad-based employee stock ownership: motives and outcomes", *The Journal of Finance*, 69(3), pp. 1273-1319.

Klein, K.J. (1987), "Employee stock ownership and employee attitudes: a test of three models", *Journal of Applied Psychology*, 72(2), pp. 319-332.

Kramer, B. (2010), "Employee ownership and participation effects on outcomes in firms majority employee-owned through employee stock ownership plans in the US", *Economic and Industrial Democracy*, 31, pp. 449-476.

Kruse, D.L. (1993), *Profit sharing: does it make a difference? The productivity and stability effects of employee profit-sharing plans*, W. E. Upjohn Institute for Employment Research.

Lawler, E.E. (1990), *Strategic pay*, Jossey-Bass, San Francisco, CA.

Liang, J., Farh, C.I. and Farh, J.L. (2012), "Psychological antecedents of promotive and prohibitive voice: a two-wave examination", *Academy of Management Journal*, 55(1), pp. 71-92.

Lind, E.A. and Tyler, T.R. (1988), *The social psychology of procedural justice*, Plenum Press, New York.

Long, R.J. and Fang, T. (2012), "Do employees profit from profit-sharing? Evidence from Canadian panel data", *Industrial and Labor Relations Review*, 65(4), pp. 899-927.

Marsh, T. and McAllister, D. (1981), "ESOPs tables: a survey of companies with employee stock ownership plans", *Journal of Corporation Law*, 6(3), pp. 551-623.

Meyer, J.P., Allen, N.J. and Smith, C.A. (1993), "Commitment to organizations and occupations: extension and test of a three-component conceptualization", *Journal of Applied Psychology*, 78(4), p. 538.

Morrison, E.W. (2014), "Employee voice and silence", *Annual Review of Organizational Psychology and Organizational Behavior*, 1, pp. 173-197.

Morrison, E.W. (2023), "Employee voice and silence: taking stock a decade later", *Annual Review of Organizational Psychology and Organizational Behavior*, 10, pp. 79-107.

Morrison, E.W. and Milliken, F.J. (2000), "Organizational silence: a barrier to change and development in a pluralistic world", *Academy of Management Review*, 25(4), pp. 706-725.

National Center for Employee Ownership (NCEO). (2020, August 24), *How an employee ownership plan (ESOP) works*, Available at: https://www.nceo.org/articles/esop-employee-stock-ownership-plan [accessed 21 November 2022].

National Center for Employee Ownership (NCEO). (n.d.), *Employee ownership by the numbers*, Available at: https://www.nceo.org/research/employee-ownership-by-the-numbers [accessed 14 April 2025].

Nyberg, A.J., Maltarich, M.A., Abdulsalam, D.D., Essman, S.M. and Cragun, O. (2018), "Collective pay for performance: a cross-disciplinary review and meta-analysis", *Journal of Management*, 44(6), pp. 2433-2472.

Olson, M. (1971), *The logic of collective action*, Harvard University Press, Cambridge.

O'Boyle, E.H., Patel, P.C. and Gonzalez-Mulé, E. (2016), "Employee ownership and firm performance: a meta-analysis", *Human Resource Management Journal*, 26(4), pp. 425-448.

Park, R., Kruse, D.L. and Sesil, J.C. (2004), "Does employee ownership enhance firm survival?", *Advances in the Economic Analysis of Participatory and Labor-Managed Firms*, 8, pp. 3-33.

Parker, S.W., Wall, T.D. and Jackson, P.R. (1997), "That's not my job: developing flexible employee work orientations", *Academy of Management Journal*, 40(4), pp. 899-929.

Pendleton, A. (2001), *Employee ownership, participation, and governance: a study of ESOPs in the UK*, Routledge.

Pendleton, A. and Robinson, A. (2011), "Employee share ownership and human capital development: complementarity in theory and practice", *Economic and Industrial Democracy*, 32(3), pp. 439-457.

Pierce, J., Gardner, D., Cummings, L. and Dunham, R. (1989), "Organization-based self-esteem: Construct definition, measurement, and validation", *Academy of Management Journal*, 32, pp. 622-648.

Pierce, J.L., Kostova, T. and Dirks, K.T. (2001), "Toward a theory of psychological ownership in organizations", *Academy of Management Review*, 26(2), pp. 298-310.

Pierce, J.L., Kostova, T. and Dirks, K.T. (2003), "The state of psychological ownership: integrating and extending a century of research", *Review of General Psychology*, 7(1), pp. 84-107.

Pierce, J.L., Rubenfeld, S.A. and Morgan, S. (1991), "Employee ownership: a conceptual model of process and effects", *Academy of Management Review*, 16(1), pp. 121-144.

Robinson, A.M. and Wilson, N. (2006), "Employee financial participation and productivity: an empirical reappraisal", *British Journal of Industrial Relations*, 44, pp. 31-50.

Ross, S.A. (1973), "The economic theory of agency: the principal's problem", *The American Economic Review*, 63(2), pp. 134-139.

Rousseau, D.M. and Shperling, Z. (2003), "Pieces of the action: ownership and the changing employment relationship", *Academy of Management Review*, 28(4), pp. 553-570.

Tannenbaum, A.S. (1983), "Employee-owned companies", Staw, B.M. and Cummings, L.L. (Ed.s), *Research in Organizational Behavior*, Vol. 5, JAI Press, pp. 235-268.

Torp, S. and Nielsen, B.B. (2018), "Psychological ownership and financial firm performance: the interplay of employee stock ownership and participative leadership", *Australian Journal of Management*, 43(3), pp. 476-492.

Van Dyne, L. and LePine, J.A. (1998), "Helping and voice extra-role behaviors: evidence of construct and predictive validity", *Academy of Management Journal*, 41(1), pp. 108-119.

Van Dyne, L. and Pierce, J.L. (2004), "Psychological ownership and feelings of possession: three field studies predicting employee attitudes and organizational citizenship behavior", *Journal of Organizational Behavior*, 25(4), pp. 439-459.

Wagner, S.H., Parker, C.P. and Christiansen, N.D. (2003), "Employees that think and act like owners: effects of ownership beliefs and behaviors on organizational effectiveness", *Personnel Psychology*, 56(4), pp. 847-871.

Weitzman, M.L. (1995), "Incentive effects of profit sharing", Siebert, H. (Ed.), *Trends in business organization: do participation and cooperation increase competitiveness?*, J. C. B. Mohr, pp. 51-78.

Zhang, Y., Liu, G., Zhang, L., Xu, S. and Cheung, M.W.L. (2021), "Psychological ownership: a meta-analysis and comparison of multiple forms of attachment in the workplace", *Journal of Management*, 47(3), pp. 745-770.

Figure 1

Theoretical Model

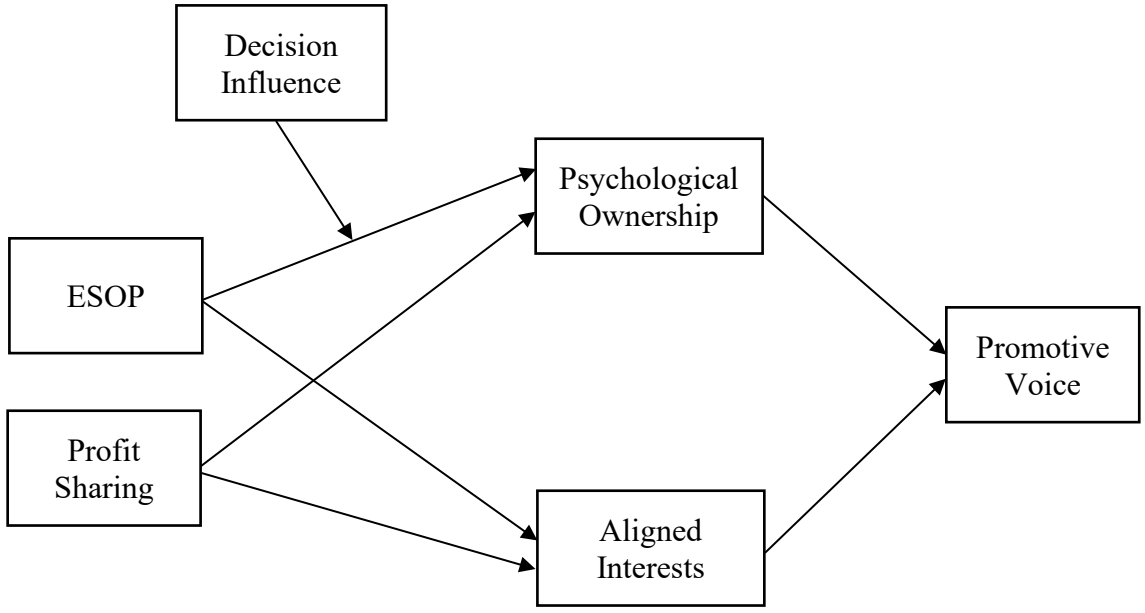


Figure 2

Interactive Effect of ESOP Participation and Decision Influence on Psychological Ownership

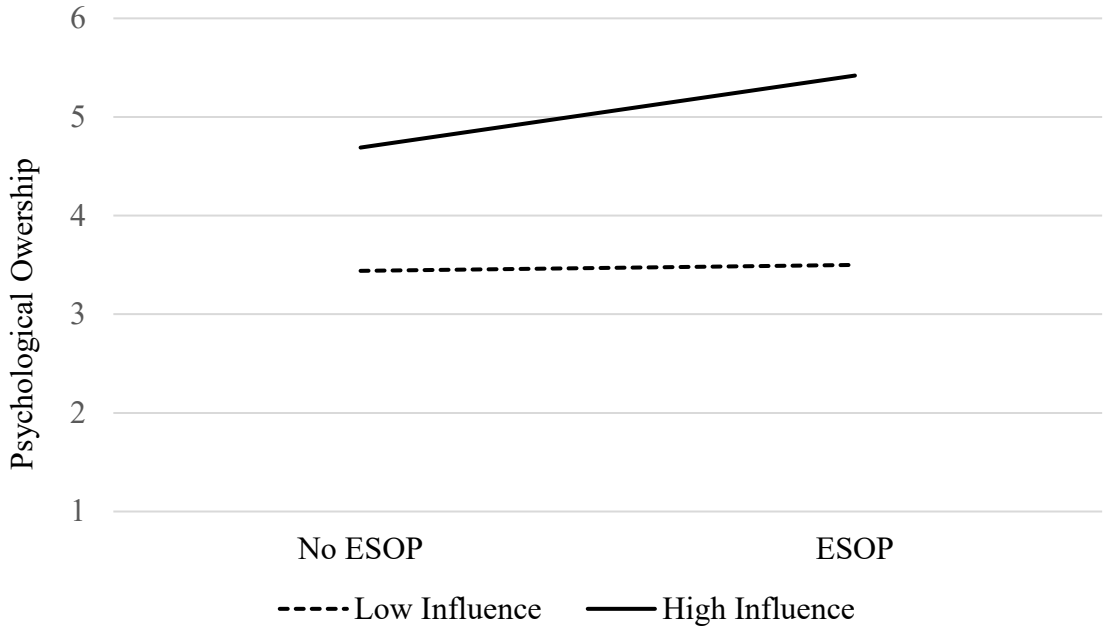
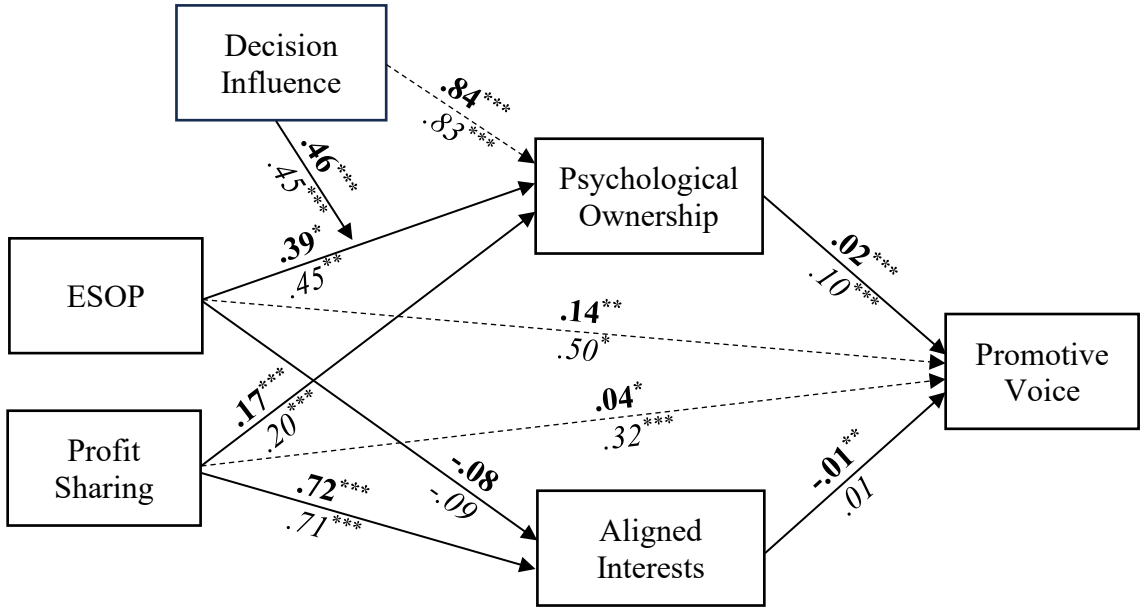


Figure 3

Effects of ESOP Participation and Profit Sharing on Promotive Voice



Note. Bold coefficients for voice frequency. Italic coefficients for important voice. Control variables: voice culture, age, sex, job stability, weekly hours, team member, education, tenure, owned shares, firm, job role, race. Unstandardized coefficients reported.
* $p < .05$, ** $p < .01$, *** $p < .001$

Table I

Means, Standard Deviations, and Correlations

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Voice frequency	2.23	.81															
2. Important voice	.84	.36	.34***														
3. Psych. ownership	4.13	2.76	.15***	.17***													
4. Interest alignment	4.93	1.71	.03***	.09***	.32***												
5. ESOP	.09	.28	-.04***	.01	.11***	.06***											
6. Profit sharing	.76	.43	.06***	.10***	.09***	.18***	.01										
7. Decision influence	2.48	.76	.28***	.25***	.45***	.23***	.04***	.07***									
8. Age	42.73	11.02	.00	.03***	.13***	.05***	-.08***	.07***	.08***								
9. Female	.34	.47	-.16***	-.07***	.00	.06***	.09***	-.05***	-.07***	-.02							
10. Voice culture	2.77	.91	.06***	.11***	.42***	.34***	.08***	.03***	.44***	.01	.05***						
11. Job stability	3.16	.76	.05***	.09***	.22***	.21***	.09***	.09***	.23***	-.02**	.01	.26***					
12. Weekly hours	45.07	7.31	.19***	.12***	.12***	.02	.05***	.04***	.20***	.02	-.19***	.08***	.07***				
13. Team member	.57	.50	.09***	.09***	.14***	.10***	.06***	.07***	.15***	-.03***	.01	.14***	.07***	.11***			
14. Education	4.33	1.41	.23***	.19***	.16***	.08***	-.02	.05***	.28***	-.04***	-.15***	.07***	.11***	.23***	.06***		
15. Owned shares	.62	.49	.15***	.17***	.17***	.09***	-.30***	.18***	.18***	.12***	-.09***	.05**	.07***	.11***	.01	.26***	
16. Tenure	11.29	9.44	.07***	.07***	.10***	-.06***	-.12***	.11***	.10***	.52***	-.10***	-.04***	.00	.06***	-.03***	-.07***	.18***

Note. $N = 13{,}768$.
* $p < .05$, ** $p < .01$, *** $p < .001$

Table II

Regression of All Variables on Promotive Voice

	Voice frequency		Important voice	
	B	*SE*	*B*	*SE*
ESOP	.123*	.050	.462*	.202
Profit sharing	.040**	.015	.345***	.063
Psychological ownership	.012***	.003	.063***	.012
Interest alignment	-.015***	.004	-.005	.016
Decision influence	.182***	.010	.563***	.042
Age	-.005***	.001	-.006*	.003
Voice culture	-.047***	.008	.026	.033
Female	-.139***	.013	-.218***	.057
Job stability	-.017*	.008	-.016	.034
Weekly hours	.009***	.001	.022***	.044
Team member	.062***	.012	.288***	.054
Education	.034***	.005	.165***	.027
Owned shares	.040**	.014	.371***	.059
Tenure	.003***	.001	.018***	.003
Intercept	1.849***	.068	-.985**	.339
R^2 / Cox & Snell R^2	.14		.11	
Observations	16,463		13,095	

Note. Additional control variables: firm, job role, race. Unstandardized coefficients reported.
* $p < .05$, ** $p < .01$, *** $p < .001$

Table III

Summary of Hypothesized Indirect Effects

Hypothesized indirect effect	*B*	*SE*	95% CI
ESOP → psychological ownership → voice frequency	.013	.004	[.005, .022]
At +1 *SD* of decision influence	.016	.004	[.008, .026]
At -1 *SD* of decision influence	.001	.004	[-.006, .009]
ESOP → psychological ownership → important voice	.061	.019	[.025, .103]
At +1 *SD* of decision influence	.077	.020	[.040, .118]
At -1 *SD* of decision influence	.010	.018	[-.024, .046]
ESOP → aligned interests → voice frequency	.001	.001	[-.002, .004]
ESOP → aligned interests → important voice	.000	.003	[-.007, .005]
Profit sharing → psychological ownership → voice frequency	.004	.001	[.002, .006]
Profit sharing → psychological ownership → important voice	.019	.005	[.010, .031]
Profit sharing → aligned interests → voice frequency	-.009	.003	[-.014, -.003]
Profit sharing → aligned interests → important voice	.003	.012	[-.020, .027]

Note. N = 16,463 with voice frequency as DV. N = 13,095 with important voice as DV. 95% CI = 95% bootstrap confidence interval. Unstandardized coefficients reported.