

# VOICE BEHAVIOR: THE ROLE OF PERCEIVED SUPPORT AND PSYCHOLOGICAL OWNERSHIP

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*This study aims to delineate the key socio-emotional needs important for voice behavior. To do this, we examine individual and contextual factors as mechanisms underlying how psychological ownership and perceived support influence employee voice behavior. Employing survey research of 210 employees from two big companies in Indonesia, analyses revealed that perceived supervisor support had direct and indirect effects on voice behavior, and job-based psychological ownership is a crucial mediator of the relationship between organization-based psychological ownership and perceived supervisor support on voice behavior. Path analysis offered further support for the complete model ( $\chi^2= 4.25$ ,  $df = 3$ ,  $P$ -value = 0.235,  $RMSEA = 0.045$ ). The present study contributes to current understanding by demonstrating that psychological ownership (i.e., an individual characteristic) and perceived supervisor support (i.e., a contextual characteristic) dynamically affect voice behavior. We discuss implications for research on voice behavior by highlighting key drivers to support employees' emotional needs that are essential for voice behavior.*

*Studi ini bertujuan untuk memahami aspek sosial dan emosional yang diperlukan untuk menghadirkan perilaku voice. Untuk itu, kami mengintegrasikan aspek individu dan kontekstual dan menguji bagaimana variabel rasa kepemilikan psikologis dan persepsi akan dukungan supervisi mempengaruhi perilaku voice. Survei dilakukan terhadap 210 karyawan dari dua perusahaan besar di Indonesia. Analisa menunjukkan bahwa persepsi akan dukungan supervisi berdampak langsung dan tidak langsung terhadap perilaku voice; rasa kepemilikan psikologis atas pekerjaan adalah mediator yang penting untuk menjelaskan hubungan antara rasa kepemilikan psikologis atas organisasi dan persepsi akan dukungan supervisi dengan perilaku voice. Analisa path memperkuat dukungan atas model keseluruhan dari perilaku voice ( $\chi^2=4.25$ ,  $df=3$ ,  $P$ -value=0.235,  $RMSEA=0.045$ ). Studi ini berhasil berkontribusi terhadap teori voice dengan menunjukkan bahwa rasa kepemilikan psikologis –sebagai karakteristik individu– dan dukungan supervisi –sebagai aspek kontekstual– secara dinamis mempengaruhi perilaku*

**Abstract**

**Abstrak**

*voice. Naskah ini mendiskusikan implikasi dari pemahaman ini terhadap riset tentang perilaku voice dengan menekankan pada aspek utama pendukung kebutuhan emosi dan sosial karyawan untuk menghadirkan perilaku voice.*

*Kata Kunci: Voice behavior, job-based psychological ownership, organization-based psychological ownership, perceived organizational support, perceived supervisor support*

Speaking up about one's concerns, ideas for improvement, or simply critically questioning practices to improve effectiveness are all important in organizations. Valuable information is lost when employees are reluctant to speak up, and eventually organizational performance is likely to suffer. Nowadays, as organizations must adapt and thrive in dynamic and ever-changing business environments, communication efforts that originate from employees can have important implications for organizational survival.

Employee voice, defined as discretionary behavior in which an employee communicates his or her ideas, suggestions, concerns, or opinions about work-related issues with the intent to improve organizational or unit functioning (Morrison, 2011, p. 375) is valuable for organizational well-being (e.g., Grant, 2013; Thomas, Whitman, & Viswesvaran, 2010) and for organizational learning and improvement (e.g., Detert & Burris, 2007; Tangirala & Ramanujam, 2008; Miliken, Morrison, & Hewlin, 2003). It also has positive effects on the individual employee, in that it enhances employees' feelings of control, decreases stress, and increases satisfaction and motivation (Parker, 1993; Greenberger & Strasser, 1986). Considering the positive outcomes for employees and the substantial organizational benefits, employee

voice becomes an important issue to address in the organizational context. Employee voice reflects behavior that is linked to participation in the organization. As explained by Morrison (2011), voice behavior is related to the expression of constructive challenges intended to improve rather than criticize (Van Dyne & LePine, 1998), to improve organizational functioning to someone inside the organization (Detert & Burris, 2007), and to openly state one's views or opinions about workplace matters (Premeaux & Bedeian, 2003). In other words, voice behavior potentially enables organizations to survive, self-correct, and face future challenges. Consequently, researchers have highlighted the antecedent factors that encourage employee to speak up.

Research has shown that individual and contextual factors play a vital role in the voice process (Morrison, 2011; Botero, 2013). The reason individual factors are important is because they influence the habits, skills, and knowledge required for effectiveness in social contexts (Borman & Motowidlo, 1993), and one variable that may be substantial for predicting voice behavior is organization-based psychological ownership (O'Driscoll, Pierce, & Coghlan, 2006; Avey, Wernsing, & Palanski, 2012; Avey, Avolio, Crossley, & Luthans, 2009; Vandewalle, Van Dyne, & Kostova, 1995; Pierce & Jussila, 2011). Organization-based

psychological ownership (POO) is defined as individuals' feeling that their organization is "theirs" and is usually expressed as "it is mine" (Pierce, Kostova, & Dirks, 2001). Because psychological ownership is only real on the "head" of individuals, it does not need formal legitimation (Furby, 1978), but it has the power to direct one's actions. When employees feel that their organization is theirs, they potentially are willing to pay more attention to the organization and to assist in the progress of their organizations (Furby, 1978; Belk, 1988; Dirk, Cummings, & Pierce, 1996). Organization-based psychological ownership triggers employees to commit extra work voluntarily, to protect and initiate change in their organizations (Dirk et al., 1996; Pierce et al., 2001; Pierce & Jussila, 2011), sometimes at the expense of themselves. Therefore, we argue that organization-based psychological ownership is a powerful predictor for voice behavior.

Regarding contextual factors, Botero (2013) classified supervisor characteristics as one important contextual factor in predicting voice behavior. Morrison (2011) even explains that supervisor behavior is one of the most critical predictors of employee voice, and that employees view behavior of their immediate leaders as the first important sign for employees to decide whether or not to speak up. It is not surprising that voice literature has emphasized supervisory behavior and has demonstrated relationships between either perception of one's supervisor or perception of the quality of employee-supervisor relationship and voice behavior (e.g., Detert & Burris, 2007; Ashford, Sutcliffe, & Christianson, 2009; Hsiung, 2011).

One indicator that can explain supervisor characteristics is perceived supervisor support (PSS), defined as employees' perception concerning the degree to which their supervisor values employees' contributions and cares about their well-being (Kottke & Sharafinski, 1988; Eisenberger, Stinglhamber, Vandenberghe, Sucharski, & Rhoades, 2002). Supervisors are usually perceived as agents of the organization, responsible for directing and evaluating subordinates' performance, and thus employees view their supervisor's favorable or unfavorable feelings toward them as indicative of organizational support (Eisenberger, Huntington, Hutchison, & Sowa, 1986). Recent empirical studies have found support in the positive relationship between PSS and voice behavior (Chah, Hong, Chang, Park, & Kang, 2012). Li, Ling, and Fang (2010) also find that PSS has a positive relationship with dimensions of voice behavior, which are promotive and prohibitive voice.

Despite many indications that organization-based psychological ownership and perceived supervisor support are important in predicting voice behavior, the psychological mechanisms explaining how these antecedents affect voice behavior have remained relatively unexplored. Most studies to date predominantly examine the direct relationship between each of these antecedents and voice behavior. While these associations are important, the limitation of only studying direct relationships is that the underlying mechanisms remain unclear. Keeping in mind the significant tangible and intangible benefits involved, it is imperative to unravel

these associations and explain how these antecedents influence employee voice behavior. A deeper understanding of how organization-based psychological ownership and perceived supervisor support can have positive effects on voice behavior is potentially helpful in guiding the development of more effective organizational policies and interventions.

To delineate these mechanisms, we argue that job-based psychological ownership is a powerful mediator between organization-based psychological ownership and voice behavior and that perceived organizational support mediates the relationship between perceived supervisor support and voice behavior. Job-based psychological ownership and perceived organization support are viewed as two main psychological aspects that induce felt responsibility (Pierce et al., 2001, 2003; Eisenberger et al., 1986; Rhoades & Eisenberger, 2002). We argue that this felt responsibility, in turn, increases positive employee behavior such as employee voice.

Furthermore, there is a paucity of research on integrating individual and contextual factors that increase the positive effects of voice behavior. Some works have shown that individual and contextual factors interact with each other to increase voice behavior (Morison, 2011; Tangirala & Ramanujam, 2008). Morrison (2011) asserts that the direction for future research on voice behavior should consider how person-level and contextual factors work together. These suggestions promote the necessity of investigating individual and contextual factors simultaneously as an integrated model; thus, this

model may assist researchers in having a deeper understanding in developing theoretical concepts on voice behavior.

The primary aim of this study is to explore the mechanisms underlying how organization-based psychological ownership and perceived supervisor support influence voice behavior. Specifically, we are looking for a possible integrated structural model of individual and contextual factors in affecting voice behavior. We also are looking to explore the proposed model that perceived organizational support and job-based psychological ownership are mediators. We are going to test all factors simultaneously in a path analysis model to understand the causal order of the related mediators of the two circumstances.

## LITERATURE REVIEW

### *Voice Behavior*

The investigation of employee voice consists of two different research streams. One stream includes the examination of exit, voice, loyalty, and neglect as constructive responses to job dissatisfaction and organizational problems (Hirschman, 1970; Harley, 2014; Avgar & Owens, 2014). The other stream includes research on extra-role behavior (see Van Dyne & LePine, 1998; Botero & Van Dyne, 2003) or proactive behavior (see Grant, 2013; Detert & Burris, 2007). This stream contends that voice is a spontaneous, challenging behavior that promotes the effective functioning of the organization and may not result from dissatisfaction (Van Dyne & LePine, 1998). Even though these two streams have different perspectives on the causes of voice behavior, both

of them view voice as a positive behavior that should be encouraged. As a form of communication behavior that occurs when employees proactively express constructive suggestions for change (Morrison, 2011; LePine & Van Dyne, 2001; Botero, 2013), voice emphasizes suggestions for change intended to benefit the group or organization. While voice behavior may benefit the organization, it often includes risk and cost for employees. Querying status quo may create feelings of discomfort, so employees need a positive feeling to take that risk expressing their voice, and this can be fulfilled through psychological ownership. Feeling of ownership encourages employee to express their ideas because they feel like a part of the organization, thus become willing to exert extra efforts to protect and enhance the organization (Vandewalle et al., 1995; Avey et al., 2012).

Challenging authority may raise feelings of anxiety, thus damaging the supervisor's image or harming social relationships, all of which also increase risk for employees (Van Dyne & LePine, 1998; Liu, Zhu, & Yang, 2010). Supervisor reactions are the biggest concern of employees in expressing voice behavior. Because supervisors are more or less accountable for organizational problems, they are likely to become the target of cynicism or criticism in the voice process. The other reason is that supervisors hold power and resources, so they have more authority to change situations (Hsiung, 2011; Detert & Burris, 2007). Hence, when employees want to express their opinions or ideas, they must communicate with, or confront, their supervisors.

### ***Role of psychological ownership on voice behavior***

Feeling of ownership is a natural psychological reality that grows since childhood (Kanngiesser, Gjersoe, & Hood, 2010). Pierce et al. (2001)—pioneers of research on psychological ownership in organizational setting—explain that psychological ownership is based on the psychology of possession. Owning something creates a positive feeling, which triggers identification with the ownership targets and which then generates a feeling of responsibility toward those targets (Belk, 1988; Van Dyne & Pierce, 2004; Pierce & Rodgers, 2004). This ownership and feeling responsibility is a significant positive force for improving employees' performance (Avey et al., 2009; Ozler, Yilmaz, & Ozler, 2008; Van Dyne & Pierce, 2004). Even employee stock ownership programs (ESOP) may not affect employee performance without psychological ownership (Buchko, 1992).

When an object is owned, greater care, attention, and energy are bestowed upon it (Belk, 1988). A sense of pride in employees is triggered by ownership and motivates them to give greater performance (Berstein, 1979). Considering that such success depends on organizational members developing a sense of psychological ownership, there is empirical evidence that demonstrates the positive relationship between psychological ownership and extra-role behavior (e.g., Avey et al., 2009; O'Driscoll et al., 2006; Pierce, Kostova, & Dirks, 2003; Van Dyne & Pierce, 2004). In brief, psychological ownership energizes employees to be more involved in voice behavior because psychological ownership

provides employees with identity, autonomy, and comfort as well as room for self-development (Pierce et al., 2003).

Researchers have identified two types of psychological ownership: job-based and organization-based psychological ownership (Bernhard & O'Driscoll, 2011; Mayhew, Ashkanasy, Bramble, & Gardner, 2007; O'Driscoll et al., 2006). Organization-based psychological ownership emphasizes feeling ownership and connectedness with the organization as a whole, while job-based psychological ownership relies on feeling ownership on the job. O'Driscoll et al. (2006) found that job-based psychological ownership is stronger than organization-based psychological ownership in predicting work outcomes; therefore, it can be concluded that job- and organization-based psychological ownership "play distinct roles in the development and maintenance of work attitude and behavior" (O'Driscoll et al., 2006, p. 408). In line with their conclusion, we argue that, to understand a deeper relationship between psychological ownership and voice behavior, the researcher needs to take into consideration the different basis of psychological ownership: job- and organization-based psychological ownership.

One contextual factor in predicting voice behavior is perceived support. In particular, environmental support, which includes perceived organizational support, perceived supervisor support, and perceived co-worker support, is examined as a predictor of voice behavior in previous studies. When employees feel they are supported by their supervisor, organization, and/or co-worker, they

are likely to put extra effort at work. The types of support we included in the present study are supervisor support and organizational support. Supervisor support refers to emotional, instrumental, and/or informational support that comes from immediate supervisors (Greenglass, Burke, & Konarski, 1997). Organizational support refers to individuals' perceptions about how much the organization values the employees' contributions and care about their well-being (Eisenberger et al., 1986).

The relationship between perceived support at work and voice behavior can be explained by the social exchange theory (Thibaut & Kelley, 1967; Blau, 1964; Setton, Bennett, & Liden, 1996). The fundamental basis of social exchange theory is that relationships providing more benefits than costs will yield enduring mutual trust and attraction (Blau, 1964). According to Yukl (1994), these social transactions encompass both psychological rewards (i.e., status, loyalty) and material benefits (i.e., salary, bonuses).

Central to social exchange theory is the concept of unspecified obligations. These obligations denote human behavior in that, when one individual party does a favor for another, there exists an expectation of some future return from the other party. These obligations may be enacted in the form of extra-role behavior, such as employee voice. Over time, a pattern of reciprocity evolves, resulting in perceived balance in the exchange relationships (Blau, 1964). Voice behavior is more likely to be under an individual's control and hence more likely to be a salient mode of reciprocation (Van Dyne & LePine, 1998).

From the viewpoint of organizational support theory, employees form perceptions concerning the extent to which the organization appreciates their contributions and treats them favorably or unfavorably in differing circumstances (Eisenberger, Fasolo, & Davis-LaMastro, 1990; Shore & Wayne, 1993). Because supervisors, who have the responsibility of overseeing and evaluating subordinates, act as agents of the organization, employees view their supervisors favorably or unfavorably toward them. Therefore, they develop general views concerning the degree to which supervisors value their contributions and care about their well-being (perceived supervisor support; Kottke & Sharafinski, 1988). Additionally, employees understand that evaluation from their supervisors is often conveyed and influences upper management's considerations, contributing to employees' association of supervisor support with organizational support.

***The role of organization-based psychological ownership and perceived supervisor support on voice behavior***

Strong felt ownership on a target may induce a perception that the object is an extension of the self (Belk, 1988; Pierce et al., 2001) which enforces individual's to do their best for the target of their ownerships. When individuals feel that their identity relies on the survival of an entity, most likely they will express ideas for advancement, take initiative, and improve methods or procedures of that entity. Feelings of 'mine' also cause proactive behavior aimed at protecting and enhancing the target of ownership (Pierce & Jussila, 2011). In addition, when employees feel that the organization contributes to their basic

needs, they are likely to reciprocate by making positive, proactive contributions to the organization. In other words, because psychological ownership potentially fulfills the need for emotional needs, such as, identity, it affects voice behavior.

Researchers have found empirical evidences that psychological ownership produces incremental increases in extra-role behaviors. Vandewalle, et al. (1995) found a significant positive relationship between organization-based Psychological ownership and extra-role behavior (i.e. advocacy participation). O'Driscoll, et al. (2006) found a positive relationship between organization-based psychological ownership and voice behaviour. Thus, we expected that when employees feel ownership of their organization, they are motivated to improve relationship significantly and this relationship will encourage them to offer suggestions for organization.

*H1: Organization-based psychological ownership is positively related to voice behavior*

Many voice behavior literatures have emphasized supervisory behavior as a critical predictor of perceptions of one's supervisor or the quality of one's relationship with one's supervisor. For instance, Burriss, Detert, and Chiaburu (2008) showed the extent to which employees are willing to speak up with suggestions, which was shown in empirical studies to be greater when employees have a positive leader-member exchange relationship. Skerlavaj, Cerne, and Dysvik (2014) found that perceived supervisor support provides employees with access to resources and support needed for idea implementation, making employees

more likely to speak up to communicate their creative ideas. These findings illustrate that supervisor support can facilitate voice by strengthening employees' confidence that voice will be safe and worthwhile.

Supervisors are also viewed by employees as agents of the organization who utilize employees' strengths and capacities to convert organizational goals into reality (Dawley, Houghton, & Bucklew, 2010). Janssen (2005) finds that when supervisors are perceived as supportive, employees feel encouraged to use their influence to speak up and carry out innovative activities at work, because they feel their supervisors are the key actors who have power for further development of their ideas. In line with these views, employees speak up to their supervisor if they perceive that their supervisors support the development of their strengths. We argue that perceived supervisor support is positively related to employee voice behavior. Recent research has shown the conceptual thinking and empirical findings of the positive relationship between supervisor support and extra-role behavior, such as speaking up (e.g. Gao, Janssen, & Shi, 2011; Chen & Chiu, 2008; Janssen, 2005; Janssen & Gao, 2015; Van Dyne et al., 2003). We therefore propose:

*H2: Perceived supervisor support is positively related to voice behavior*

***The mediating roles of job-based psychological ownership and perceived organizational support on voice behavior***

Psychological ownership satisfies the need of effectance, that is, the need to feel that employees are in control over an ownership target (Pierce et al., 2001).

As explained by Furby (1978 p. 60), "... the results here suggest possession may be one manifestation of effectance motivation in that a central feature of possession is the ability to affect and control the object in whatever way one wishes." Pierce et al. (2001) also argues that an ownership target that functions as a "home" stimulates strong identification, which intensifies the tendency for employees to look after that "home." Organizations may serve as "homes" for employees; if this happens, employees will wholeheartedly do everything for the sake of their organizations. Van Dyne and Pierce (2004) proposed that, when an individual's ownership needs (that is, effectance, self-identity, place) are fulfilled in an organizational context, employees will be proactive in protecting and enhancing the target of their ownership feelings.

The need to have a sense of place and belonging can be seen as influencing an individual's attachment and intention to remain a part of an organization (Avey et al., 2009). Thus, the more the sense of place is realized, the stronger the sense of psychological ownership, resulting in an intention to remain in the organization. Just as employees feel at "home" with their organization, it induces felt responsibility to do the best in their job and develop general views concerning their job. This is due to the fact that the job is embedded in and is a part of their organization and thus should be taken care of.

We argue that the job is central to the individual's relationship with the organization; thus feelings of ownership for the organization spill over and produce similar feeling for the job. In line with this, Ackfeld and Coote (2005) find that employees are



more willing to sacrifice their time when they are given autonomy and control over their jobs; this, in turn, will increase their responsibility to improve their job, which can be shown by speaking up about ideas or improvement suggestions. Therefore, we propose the following:

*H3: Job-based psychological ownership mediates the positive relationship between organization-based psychological ownership and voice behavior*

In the last decade, research has found a relationship between perceived organizational support and voice behavior (Bishop, Scott, & Burroughs, 2000; Eisenberger et al., 2002; Rhoades & Eisenberger, 2002; Wayne, Shore, Bommer, & Tetrick, 2002; Chiang & Hsieh, 2012). According to organizational support theory, perceived supervisor support potentially increases extra-role behavior by increasing perceived organizational support (Eisenberger et al., 2002). Perceived organizational support resulting from perceived supervisor support would strengthen employees' felt obligation to help the organization reach its goal, with a resultant enhancement of behavior that aids the organization, such as speaking about improving work unit procedures or simply giving ideas (Eisenberger, Armeli, Rexwinkel, Lynch, & Rhoades, 2001; Eisenberger et al., 1986; Rhoades, Eisenberger, & Armeli, 2001).

Based on the reciprocity norm, perceived supervisor support should increase obligation to the organization; thus, this perceived supervisor support has an impact on employees to perceive support from their organization because

a supervisor is viewed as a part of organization and, as a result, increasing voice behavior. The causality between perceived supervisor support and perceived organizational support is supported by Eisenberger et al. (2002), who explained the direction of causality that perceived supervisor support leads to perceived organizational support. In their study, perceived supervisor support was found to be positively related to the temporal change in perceived organizational support. In contrast, there is no statistically significance in the relationship between initial perceived organizational support and the temporal change in perceived supervisor support. In line with this, Kottke and Sharafinski (1988) and Rhoades et al. (2001) revealed that perceived organizational support and perceived supervisor support load on a separate factor. The two appear to be causally related.

Further, there is empirical support that perceived supervisor support increases extra-role performance beneficial to the supervisor (Eisenberger et al., 2002); thus, this perceived supervisor support led to perceived organizational support, which, in turn, led to greater extra-role performance beneficial to the organization. In line with this view, we argue that perceived supervisor support leads perceived organizational support to encourage voice behavior. This prediction is supported in empirical studies by Zhang, Farh, and Wang (2012). The authors found the mediating effect of perceived organizational support in the relationship between perceived supervisor support and organizational citizenship behavior with a Chinese sample. Consistent with the arguments and empirical research findings, it is reasonable to predict that:

*H4: Perceived organizational support mediates the positive relationship between perceived supervisor support and voice behavior*

## RESEARCH METHOD

### *Sample and Procedure*

The survey targeted employees in a state-owned construction company and accounting firm. Our final sample consists of 210 individuals from those two organizations: 46% male, 54% female. Respondents average 30.5 years of age with 5.6 years of tenure in their current organization.

We used a cross-sectional survey research design, with employees completing written questionnaires. The questionnaire's model uses a simple and concise format for minimizing fatigue and avoiding bias (Podsakoff, McKenzie, & Podsakoff, 2012). Given that all instruments are originally in English, we did a back-to-back translation into Bahasa (Indonesian language). We also presented the instruments to other colleagues who do not have a background in psychology to determine the extent of readability of the items. Prior to the final data collection, a pilot study was conducted on 138 respondents. Based on the pilot study, items were revised.

### *Measures*

**Voice behavior.** We combined five items from Van Dyne and Le Pine's study (1998) and one item from Morrison and Phelps (1999). These scales assessed the extent to which the respondent's experience reflects voice behavior along a 5-point Likert-type scales (1 = strongly disagree; 5

= strongly agree). Example of item of the scale: "I encourage colleagues to try new ways to apply more effectively in their duties," "I communicate my opinion about work issues to others in this group even if my opinion is different and others in the group disagree with me."

### **Organization- and job-based psychological ownership.**

We measured organization-based psychological ownership using a four-item inventory developed by Van Dyne and Pierce (2004). On that inventory, respondents rated the extent to which they agree or disagree with a series of statements on a 6-point Likert-type scale ranging from 1 (strongly disagree) to 6 (strongly agree). The scale tested individual employees' feelings of possession toward the organization (e.g., "This is MY organization," "Most people that work for this organization feel as though they own the organization"). Job-based psychological ownership was measured using an instrument developed by Mayhew et al. (2007), which consisted of four items. This instrument was an extension of Van Dyne and Pierce's (2004) scale to test employees' feelings of possession toward their job (e.g., "This is MY job," "I feel a very high degree of personal ownership for this job").

### **Perceived organizational support.**

The survey of perceived organizational support was used to measure perceived organizational support (Eisenberger et al., 1986). This study employs the shorter version of the scale assessed comprising eight items. We selected four high-loading items (loadings from .68 to .83). Respondents indicated their agreement with these four items (e.g., "my organization does not respond to my complaint," "my organization

does not appreciate any extra effort that I have done”) using a 7-point Likert-type, with responses from 1 = strongly disagree to 7 = strongly agree. Responses from the respondent were reversed before further analyzing.

***Perceived supervisor support.***

Perceived supervisor support was assessed using the eight items of Eisenberger et al. (1986) and Eisenberger et al. (2002), which were the same eight items used to assess perceived organizational support, as modified by replacing the word “organization” with “supervisor.” Individuals indicated their agreement with the items (e.g., “my supervisor concern with my job satisfaction,” “my supervisor really cares about my well-being”) using a 7-point Likert-type, with responses from 1 = strongly disagree to 7 = strongly agree.

***Control variables.*** To control for systematic biases associated with participants’ demographic characteristics, two such variables were included at the analysis as control variables (covariates): age in years and tenure. This was consistent with previous studies, which found that age and tenure influenced the relationship between work attitudes and voice behavior (e.g., Farrell & Finkelstein, 2007; Chiaburu & Byrne, 2006; Le Pine & Van Dyne, 1998). Similarly, these control variables influenced the relationship between organizational support and extra-role behavior (Eisenberger et al., 1986).

**Analytic Procedure**

Regression analysis was used to test all hypotheses. To test our model, we employed path analysis with maximum-likelihood and bootstrap estimation. The

conventional two-stage procedure was used in which the measurement model was first evaluated using confirmatory factor analysis (LISREL 8.80), followed by an assessment of the path analysis model. Given the sensitivity of the chi-square test to sample size, we used the RMSEA, SRMR, and CFI to gauge model fit (Kline, 2005).

In testing our hypothesized mediation model (H3 and H4), we employed a bootstrapping technique using PROCESS V.16, a modeling tool designed for SPSS, which was developed by Hayes (2013). For mediation to be established, there are four conditions: (1) the mediator must be significantly related to the independent variable; (2) the mediator must be significantly related to the outcome variable; (3) the independent variable must be significantly related to the outcome variable; and (4) the independent variable must indirectly affect the outcome variable through its effect on the mediator.

As per the test for mediation in PROCESS, the mediating effect is established when there is no absolute zero in the range from the boot lower limit confidence interval to the boot upper limit confidence interval in the indirect effect. This approach offers a more sophisticated test of mediating role or indirect effect than the classic mediation analysis (Preacher & Hayes, 2008; Hayes, 2009).

**RESULT AND DISCUSSION**

***Confirmatory Factor Analysis***

A series of confirmatory factor analysis (CFAs) was used to verify the factor structure and to evaluate the discrimination of our measures. We examined a model

Table 1. Confirmatory Factor Analysis

Model	Descriptions	$\chi^2$	df	$\Delta\chi^2$	RMSEA	CFI	NFI
Baseline	5-factor model <sup>a</sup>	721.02	289		0.077	0.96	0.93
Model 1	4-factor model <sup>b</sup>	822.14	293	101.12 ***	0.093	0.95	0.93
Model 2	4-factor model <sup>c</sup>	1171.16	293	450.14 ***	0.120	0.93	0.89
Model 3	3-factor model <sup>d</sup>	1269.86	296	548.84 ***	0.125	0.92	0.85

<sup>a</sup> Hypothesized model. <sup>b</sup> job-based and organization-based psychological ownership were combined into one factor. <sup>c</sup> perceived organizational support and perceived supervisor support was combined. <sup>d</sup> job- and organization-based psychological ownership were combined into one factor, perceived supervisor support and perceived organizational support were combined into one factor

\*\*\*  $p < 0.001$ .

Table 2. Means, Standard Deviations, and Correlations

	n	Mean	s.d.	Correlation									
				1	2	3	4	5	6	7	8		
1 Age in years	206	30.49	8.31										
2 Tenure in years	206	5.62	6.43	0.86 **									
3 Sex <sup>b</sup>	210	0.45	0.50	0.01	0.03								
4 Organization-based psychological ownership	210	3.99	1.09	0.31 **	0.29 **	-0.14 *	(0.90)						
5 Job-based psychological ownership	210	4.49	0.69	0.27 **	0.26 **	-0.08	0.64 **	(0.80)					
6 Perceived organization support	210	4.45	0.92	0.37 **	0.34 **	-0.04	0.42 **	0.41 **	(0.88)				
7 Perceived supervisor support	210	4.94	0.98	0.31 **	0.51 **	-0.06	0.51 **	0.49 **	0.68 **	(0.96)			
8 Voice behavior	210	3.94	0.41	0.21 **	0.18 **	0.03	0.44 **	0.45 **	0.47 **	0.49 **	(0.84)		

<sup>a</sup> internal consistency reliabilities appear in parentheses along the diagonal

<sup>b</sup> Dummy-coded: 0 for male, 1 for female

\*  $p < 0.05$ . \*\*  $p < 0.01$

with five factors (hypothesized model) and found that this model fit the observed covariance matrix  $\chi^2(206, N = 210) = 721.02, \chi^2/df = 2.49, CFI = .96, RMSEA = 0.077$ . The hypothesized model provides a significantly better fit to the data. As shown in Table 1, the fit indices support the proposed five-factor model, providing evidence for the construct validity. It distinguished our variables between job-based psychological ownership, organization-based psychological ownership, perceived organizational support, perceived supervisor support, and voice behavior.

### Descriptive Statistics

Table 2 presents the mean and standard deviations for all study variables as well as the inter-correlations between them

and reliability estimates. Most of the coefficients are moderate in magnitude and well below their reliabilities, providing supportive evidence for their discriminant validity.

As shown in Table 2, job- and organization-based psychological ownerships are high-moderately correlated ( $r = .64, p < .01$ ). As well, job-based psychological ownership and organization-based psychological ownership correlate almost similarly with voice behavior (organization-based psychological ownership,  $r = .47, p < .01$ ; job-based psychological ownership,  $r = .48, p < .01$ ). Inter-item reliability estimates are between .80 to .96, suggesting high internal consistencies for all scales (see Table 2).

Table 3. Path Coefficients and Indirect Effects for Mediation Models (Standard Errors in Parentheses)

(N = 210)

	Path Coefficients			Indirect Effects			
	to Voice Behavior (VB)	to Job-based PO (POJ)	to Perceived organizational support (POS)	Estimate	Sobel Z	95% CI	
						Lower	Upper
<b>Model 1 (Figure 1)</b>							
from Organizational-based PO (POO)	0.09*** (0.03)	0.39*** (0.04)	-	-	-	-	-
from Job-based PO (POJ)	0.16*** (0.05)	-	-	-	-	-	-
POO --> POJ --> VB				0.07** (0.02)	3.26	0.02	0.12
Total Effect = 0.1567 (0.0251)							
<b>Model 2 (Figure 2)</b>							
from Perceived Supervisor Support (PSS)	0.13*** (0.04)	-	0.59*** (0.05)	-	-	-	-
from Perceived Organizational Support (POS)	0.11*** (0.04)	-	-	-	-	-	-
PSS --> POS --> VB				0.07** (0.03)	2.82	0.02	0.12
Total Effect = 0.1964 (0.0272)							

Note -- CI, Confidence Interval; 5,000 bootstrap samples  
 \*  $p < 0.1$  \*  $p < 0.05$ . \*\*  $p < 0.01$ . \*\*\*  $p < 0.001$ .

**Relationship between organization-based psychological ownership and voice behavior**

The model predicting Hypothesis 1 explained 44.74% of the variance,  $R^2 = 0.20$ ,  $F(3, 202) = 16.85$ ,  $p < 0.001$ . Organization-based psychological ownership was found to be significantly and positively related to voice behavior ( $B = 0.157$ ;  $p < .001$ ), after controlling age and tenure. Thus, we found support for Hypothesis 1, which predicted that organization-based psychological ownership is positively related to voice behavior.

**Association between perceived supervisor support and voice behavior**

The model predicting Hypothesis 2 explained 49.09% of the variance,  $R^2 = 0.24$ ,  $F(3, 202) = 18.74$ ,  $p < 0.001$ . Perceived supervisor support was found to be significantly related to voice behavior ( $B = 0.196$ ,  $p < .001$ ), after controlling age and tenure. Therefore, this result supported Hypothesis 2 and seemed to be consistent with previous studies in that if the individual gain much support from their leader, he or she is more likely to speak up.

**Mediation effects**

The mediation effects were tested by adopting the procedure suggested by Hayes (2013): applying an indirect effect approach. Similar with the statistical analysis in Hypothesis 1 and 2, we applied age and tenure as control variables. The estimated regression coefficients' direct and indirect effects are displayed in Table 3.

Results yielded a significant indirect effect of organization-based psychological ownership on voice behavior through job-based psychological ownership (indirect effect = 0.065,  $SE = 0.019$ , 95% CI: 0.022 – 0.119), Sobel  $Z = 3.263$  ( $p < 0.001$ ); thus, supporting Hypothesis 3, there is a positive relationship between organization-based psychological ownership and voice behavior, which is mediated by job-based psychological ownership.

There is also a significant indirect effect of perceived supervisor support on voice behavior via perceived organizational support (indirect effect = 0.064,  $SE = 0.025$ , 95% CI: 0.017 – 0.119), Sobel  $Z = 2.8174$  ( $p < 0.001$ ). Therefore, this finding

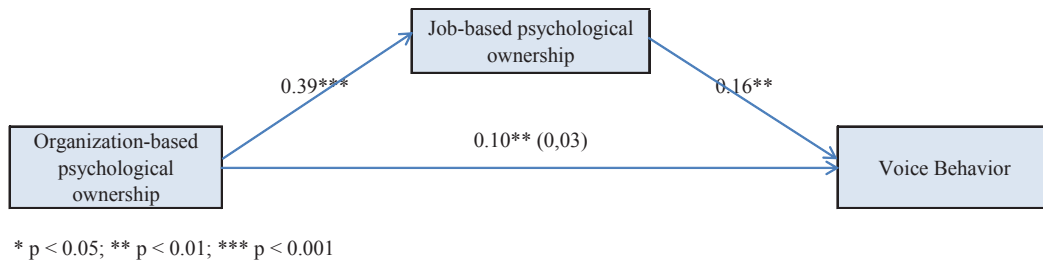


Figure 1. Indirect Effect of Job-Based Psychological Ownership

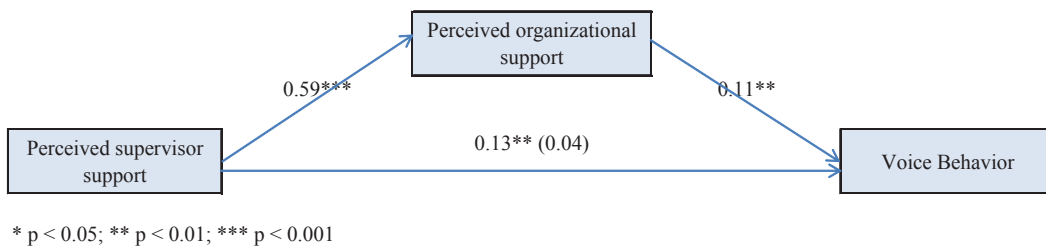


Figure 2. Indirect Effect of Perceived Organizational Support

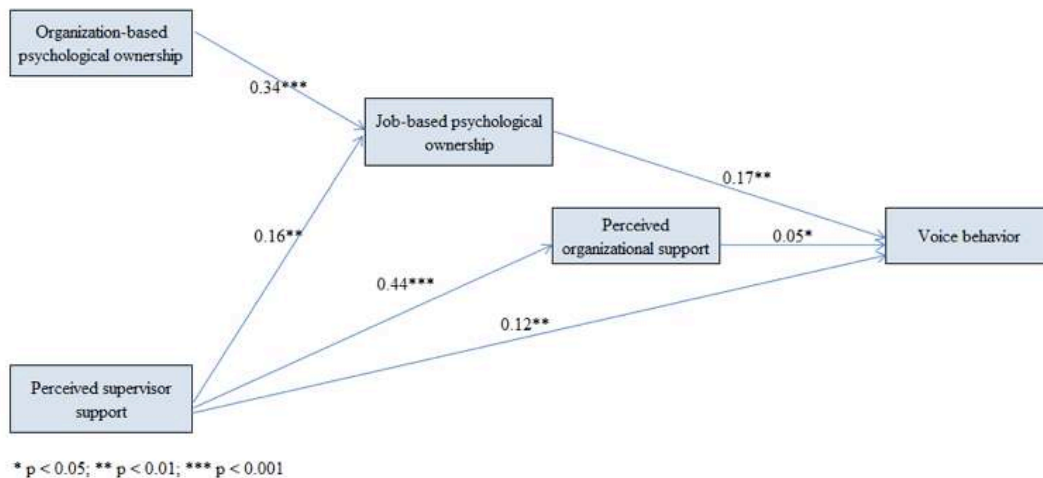


Figure 3. Structural Model of Voice Behavior Using Path Analysis

supports Hypothesis 4, perceived organizational support mediates the positive relationship between perceived supervisor support and voice behavior.

Figures 1 and 2 explain more detailed information of the mediating models. In Figure 1, we found that the direct effect of this relationship is 0.092.

Notice that the total effect (see Table 3) equals the sum of the direct and indirect effects:  $0.1567 = 0.092 + 0.0646$  (i.e.,  $0.394 \times 0.164$ ) (Hayes, Preacher, & Myers, 2011). Combining all this information, we can say that of the 0.1567 unit difference in voice behavior attributable to a unit difference in organization-based psychological ownership (the total effect), 0.0646

of it is the result of the effect of organization-based psychological ownership, which in turn influences voice behavior. The remaining 0.092 is direct, spurious, or attributable to other indirect effects not explicitly modeled.

According to Hayes et al. (2011), this equality can be seen as proportion. The proportion of total effect that is mediated measure can be interpreted to mean that 41.44% (0.0649/0.1567) of total effect of organization-based psychological ownership on voice behavior is due to its indirect effect through job-based psychological ownership. We also can calculate the ratio of the indirect effect to the direct effect, i.e.,  $0.0649/0.092 = 0.7050$ , meaning that the indirect effect through job-based psychological ownership is about 70.50% of the size of the direct effect.

Using a similar approach as shown in Figure 2, we can conclude that 32.90% of total effect of perceived supervisor support on voice behavior is due to its indirect effect through perceived organizational support. The indirect effect through perceived organizational support is about 49.03% of the size of the direct effect.

### ***Path analysis model***

To get a complete picture of the pattern of specific relationships, direct and indirect effects of the dynamic mechanism on voice behavior, we tested the model using path analysis that allows specification of relationships between variables (see Figure 3). We use LISREL as statistical software in analyzing path model. Figure 3 shows the model fit of path analysis is  $\chi^2(210, N = 210) = 4.25$ ,  $\chi^2/df = 1.416$ , GFI = .99, RMSEA = 0.045, SRMR = .022, NFI = .99. Overall, all the goodness-of-fit indices exceeded

their respective common acceptance level, which suggests that the proposed research model exhibited a good fit with the data (Byrne, 1998; Joreskog & Sorbom, 1998).

The relationships among the variables were significant and explained a significant amount of variance. As Figure 3 shows, job-based psychological ownership was positively related to organization-based psychological ownership ( $B = 0.34$ ) and perceived supervisor support ( $B = 0.16$ ), explaining 45% of the variance in job-based psychological ownership. Voice behavior was significantly related to job-based psychological ownership ( $B = 0.17$ ), perceived supervisor support ( $B = 0.12$ ), and perceived organizational support ( $B = 0.05$ ), explaining 31% of the variance in voice behavior.

This figure shows interesting findings in that voice behavior can be significantly predicted by perceived supervisor support and organization-based psychological ownership through job-based psychological ownership as an indirect effect.

### ***Discussion***

This study is one of a few empirical studies that test theoretical predictions concerning employee voice based on multiple variables within individual and organizational context frameworks. The use of path analysis, serial mediation, or structural equation modeling gives us the chance to identify how one mediator has an impact on others in a chain of indirect effects. Therefore, the present study provides a greater understanding of the relationship between individual and contextual factors on voice behavior,

including evidence concerning the underlying mechanisms of this relationship, which are the mediating roles of perceived organizational support and job-based psychological ownership. It is successful in integrating individual and contextual factors and in providing a model with excellent fit with the data.

Second, this study extends current understanding by demonstrating that a supervisor's role in stimulating employees' feeling of responsibility is essential. Although an increasing number of studies significantly contribute to our understanding of how supervisory behaviors and leadership encourage or constrain employees' voice (e.g., Detert & Burris, 2007; Gao et al., 2011; Hsiung, 2011; Van Dyne, Kamdar, & Joireman, 2008), not enough attention has yet been given to explain how they do that. Our model suggests that, although building an organizational system that is supportive for their employees is essential, it is the leader's behavior that induces employee perception of how good organizational support is. In other words, this research suggests the importance of organizations to understand, develop, and nurture immediate supervisors because they potentially act as the face of, or even the spokesperson for, the organization. Kouzes and Posner (2012) and Walumbwa and Hartnell (2011) support this realization.

Third, this study advances psychological ownership theory by highlighting the importance of differentiating between job- and organization-based psychological ownership. Our results show that organization-based psychological ownership, as a distal predictor of

behavior, influences employee voice through the proximal predictor of job-based psychological ownership. Even though voice behavior can be predicted merely by organization-based psychological ownership or by job-based psychological ownership (see, O'Driscoll et al., 2006; Avey et al., 2012), considering the dynamic mechanism in voice behavior, it should involve both socio-emotional needs fulfilled by organization and job-based psychological ownership. Future research should differentiate both types of psychological ownership and examine the relation between them in predicting other work behaviors.

Further, our finding demonstrates the significant role of job-based psychological ownership, in that it acts as the key mediator for both organization-based psychological ownership and for leadership factors. This implies that one potentially important role of leaders is to instill job-based psychological ownership for their employees. Leaders need to build up an atmosphere for employees to feel that the job is theirs. Delegation, trust, and participative management become essential for encouraging this behavior. It is also an important step for management, first to develop job-based psychological ownership of their employees, then organization-based psychological ownership. As Pierce and Jussila (2011) note, it is, in part, because the job is central to the individual-organization relationship in that, over time, this increased sense of ownership for the job is likely to surpass and give rise to similar ownership feelings for the organization.

As for the limitations of this study, in addition to the usual weakness of cross-sectional design, the data was collected



from same source (self-rating), which may lead to common method bias. However, Van der Heidjen and Nijhof (2004) state that the use of self-rating is appropriate because individuals can appropriately assess themselves. Studies on extra-role behavior including employee voice tend to consider self-rating as appropriate (Allen, Barnard, Rush, & Russell, 2000; Khalid & Ali, 2005). Further, for the current data set, the results of confirmatory factor analysis supported construct validity of all research variables, suggesting that this research does not suffer from common-method bias.

#### CONCLUSION AND SUGGESTIONS FOR FUTURE RESEARCH

This study advances voice behavior literature by demonstrating how individual and organizational aspects play a role in the dynamic mechanisms of voice behavior. Specifically, this study elaborates how psychological ownership and perceived support act as key drivers to support employees' emotional needs essential for voice behavior. The literature on voice behavior could be further informed by examinations of more nuanced relationships among specific voice behavior, such as, acquiescent and defensive voice (see Van Dyne, Ang, & Botero, 2003), or supportive and

challenging voice (see Burris, 2012).

We also encourage future research to study other types of psychological ownership, such as collective psychological ownership (see Pierce & Jussila, 2010), team-based psychological ownership (see, Pierce & Jussila, 2011), or idea-based (see Baer & Brown, 2012) and assess its impacts on voice behavior. Another potential research is related to the role of job complexity on the formation of psychological ownership (see Brown, Pierce, & Crossley, 2013; Pierce, Jussila, & Cummings, 2009). These future works are important to expand the understanding of psychological ownership itself.

In conclusion, increasingly dynamic, competitive business environments and uncertain economies require organizations to depend on employees to speak up in communicating ideas or suggestions (Morrison, 2011). These activities can sustain the organization by continually adapting changes (Podsakoff, MacKenzie, Paine, & Bachrach, 2000; Palmer, Dunford, & Akin, 2009). Thus, strengthening organization- and job-based psychological ownership and giving support to employees may be a better means of encouraging them to speak up to the benefit of organization.

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