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Author

Kim, Minseo, Beehr, Terry A

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**Self-Efficacy and Psychological Ownership Mediate the Effects of Empowering
Leadership on both Good and Bad Employee Behaviors**

Minseo Kim and Terry A. Beehr

Department of Psychology

233 Sloan Hall

Central Michigan University

Mount Pleasant, Michigan 48859, U.S.A.

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Author biographies

Minseo Kim is an I/O Psychology PhD student at Central Michigan University. Her research interests include occupational stress, leadership, motivation, and contextual performance.

Terry A. Beehr is a Professor of Psychology and member of the I/O Psychology faculty at Central Michigan University. His research interests include occupational stress, retirement, leadership, motivation, and careers.

Corresponding Author:

Minseo Kim, Department of Psychology, College of Humanities and Social and Behavioral Sciences, Central Michigan University, 233 Sloan Hall, Mount Pleasant, MI 48859, U.S.A.
Email: minseokim0331@gmail.com

Abstract

This study examined the potential effects of empowering leadership on followers' in-role performance and deviant behaviors via self-efficacy and psychological ownership over a three-week period in a sample of 299 full-time employees working in the United States. Results from structural equation modeling demonstrated that empowering leadership was positively related to both self-efficacy and psychological ownership, which in turn were both negatively related to deviant behaviors. Alternative model comparisons and bootstrapping both confirmed the mediation effects of self-efficacy and psychological ownership. However, only one of the two mediators, self-efficacy, was positively related to followers' in-role performance. Together, these findings highlighted the important roles of self-efficacy and psychological ownership explaining why empowering leadership may result in followers' behaviors.

Keywords

empowering leadership, self-efficacy, psychological ownership, in-role performance, workplace deviance

**Self-Efficacy and Psychological Ownership Mediate the Effects of Empowering
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Empowering leadership has received increasing attention from researchers and practitioners alike, because of its potential to have positive effects on important work outcomes such as creativity, job satisfaction, citizenship behavior, and turnover intentions (Amundsen & Martinsen, 2015; Dewettinck & van Amejide, 2011; Fong & Snape, 2015; Raub & Robert, 2010; Zhang & Bartol, 2010). According to the theory of psychological ownership (Van Dyne & Pierce, 2004), when employees have feelings of possession toward the organization, they become more attached to, protective of, and responsible for it. This occurs because empowering leaders provide employees with greater autonomy, power, responsibility, and development support, leading subordinates to work independently, with increased feelings of competence, self-determination, meaningfulness, and impact (Amundsen & Martinsen, 2014b; Zhang & Bartol, 2010). As a result, employees are intrinsically motivated to work hard to achieve their work goals, believing that their performance depends on their efforts, resulting in high productivity (Fong & Snape, 2015; Vecchio, Justin, & Pearce, 2010).

However, not all studies show these favorable results. Instead, some studies suggest empowering leadership might even have detrimental consequences, perhaps because empowering leaders' focus on high autonomy in decision-making and task delegation might increase task uncertainty, thereby resulting in reduced performance (Cordery, Morrison, Wright, & Wall, 2010). Other studies find weak or no direct effects of empowering leadership on performance (e.g., Ahearne, Mathieu, & Rapp, 2005; Srivastava, Bartol, & Locke, 2006). If there are weak or no direct effects however, there may be indirect effects.

We suggest self-efficacy and psychological ownership as key mediating processes in the empowering leadership-employee behavior relationships because they are motivational in nature. Figure 1 illustrates a proposed model in which empowering leadership leads to both good (i.e., job performance) and bad (i.e., deviance) employee behaviors through two mediators. The model proposes effects for empowering leadership because it leads to the psychological states of self-efficacy and psychological ownership, which are the more proximal determinants of employees' reactions. Self-efficacy, an individual's belief in his or her capacity to perform tasks successfully (Bandura, 1997), may be enhanced by empowering leader behaviors including motivation and development support (e.g., coaching, modeling, and encouraging initiative). Self-efficacy is inherently part of motivation from some theoretical viewpoints, such as expectancy theory in which it is a form of the expectancy that one's effort will lead to performance (e.g., Vroom, 1964). Leaders who empower employees are giving them more control over their work, which should increase employees' beliefs that they can perform the job.

The second mediator is another consequence of empowering leadership, psychological ownership. Psychological ownership is employees' feeling that the organization is "theirs" and sense of shared responsibility towards its success (Mustafa, Martin, & Hughes, 2016; Pierce, Kostova, & Dirks, 2001). Psychological ownership can be intrinsically rewarding, because the success of the organization is a reflection upon the owners, and employees who feel such ownership can help it succeed by working hard. In expectancy theory terms, employees who feel ownership of the organization can expect to feel more proud if the organization is successful, and they can help make the organization successful with their good job performance. Empowering leaders may create an environment wherein followers can develop that sense of ownership by

letting them make decisions or involving them in work processes, thereby leading to an increased responsibility.

The two mediators in the model, self-efficacy and psychological ownership, are related, but they correspond to different parts of intrinsic motivation based on expectancy theory (Vroom, 1964). Self-efficacy corresponds to expectancy I (sometimes just labeled expectancy), which is the employees' expectancy that they can perform well if they try hard (effort). Psychological ownership represents employees' expectancy that they will experience a positive intrinsic outcome (e.g., pride) if they perform well, which corresponds to expectancy II (sometimes labeled instrumentality); as noted earlier, the sense of pride is expected to result from good performance in part because performance is part of the success of the organization, which is "owned" by the employee.

A leader might be reluctant to empower subordinates because empowerment constitutes control and freedom, which can enable employees to do bad, as well as good behaviors. One recent study showed that empowering leadership might have both positive and negative aspects in predicting followers' performance (Cheong, Spain, Yammarino, & Yun, 2016). Contrary to that concern however, we expect that to the extent leaders' empowering behaviors result in self-efficacy and psychological ownership, employees should be more motivated to do good and less motivated to engage in bad behaviors. Therefore, we examined not only employees' in-role performance (good behavior), but also their deviant behaviors (bad behaviors). In-role performance refers to performance that is formally expected of the employee; it is often contrasted with extra-role performance, which refers to employees doing behaviors that are helpful to the organization's effectiveness but that are outside the formal requirements of their

jobs. In-role behavior in the workplace, a concept first introduced by Katz and Kahn (1966) is the performance of the core tasks that constitute one's job.

Deviant behaviors of employees directed at both an individual and an organization (e.g., verbal harassment, spreading rumors, and wasting resources) can be costly (Litzky, Eddleston, & Kidder, 2006; Robinson & Bennett, 1995). Research on employee deviance suggests that some leadership styles including charismatic, authentic, and ethical leadership could be antecedents (Brown & Treviño, 2006; Erkutlu & Chafra, 2013; van Gils, Van Quaquebeke, van Knippenberg, van Dijke, & De Cremer, 2015). The present study, however, examines the role of empowering leadership and focuses on mediators that explain its link to both performance and deviance.

Although empowering leadership may conceptually overlap with other positive forms of leadership such as transformational leadership and leader-member exchange, several studies established the distinctiveness of empowering leadership from other leader behaviors (e.g., Amundsen & Martinsen, 2014b; Pearce, Sims, Cox, Ball, Schnell, Smith, & Trevino, 2003; Tekleab, Sims, Yun, Tesluk, & Cox, 2008). Empowering leadership theory emphasizes the role of autonomy support, which is an important factor in generating intrinsic motivation, thereby predicting job performance (Dysvik & Kuvaas, 2011; Morgeson, Delaney-Klinger, & Hemingway, 2005). We propose that empowering leadership may lead to more desirable work behaviors and fewer undesirable behaviors by increasing the two mediation processes, self-efficacy and psychological ownership.

Weak relationships between empowering leadership and employee behaviors may have been found in previous research because empowering leadership is a more distal influence (Vecchio et al., 2010), having effects through the more proximal mediators, as the model in Figure 1 suggests. The study contributes to the empowering leadership literature by (1)

examining bad as well as good behaviors and also (2) providing a theoretical explanation for why empowering leadership affects subordinates— it creates psychological resources in the form of self-efficacy and psychological ownership which are more proximal motivators of employees' behaviors.

Relationships of Empowering Leadership with Self-Efficacy and Psychological Ownership

Generalized self-efficacy is the belief that one can achieve desired outcomes across a variety of tasks and situations (Bandura, 1997; Chen, Gully, & Eden, 2001). From the perspective of social cognitive theory (Bandura, 1986, 1997), self-efficacy can be enhanced by verbal persuasion (encouragement), direct mastery experience of accomplishing a task or skill, and observational learning. In the workplace, empowering leadership such as coaching (verbal persuasion) and modeling (observational learning) may make subordinates feel more confident in their capability to perform their jobs, because they could learn how effective performance can be attained through leaders' guidance and feedback, and by observing the work of their supervisor (e.g., vicarious learning). When empowering leaders encourage employees to take part in their work-related decision-making and increase their involvement, they have opportunities to expand their knowledge and learn from each other by exchanging information (Latham, Winters, & Locke, 1994). All of these processes contribute to fostering self-efficacy. More directly, empowering leaders should be familiar with their subordinates' capabilities and encourage the use of their competencies, which contributes to the development of subordinates' self-efficacy beliefs (Amundsen & Martinsen, 2014a).

H1. Empowering leadership is positively related to followers' self-efficacy.

Empowering leadership not only helps to increase followers' self-efficacy, but it may also help followers develop feelings of psychological ownership, which is characterized by

belongingness, self-identity related to the organization, and accountability (Avey, Avolio, Crossley, & Luthans, 2009). An important part of an employee's self-concept can be derived from membership or identity in an organization or group where organizational identity is defined as the perception of oneness with or belonging to an organization (Mael & Ashforth, 1992). Empowering leaders pay attention to followers' voice and encourage them to engage more fully in their task activities. When employees feel that they are heard and have input into their work environment, feelings of belongingness are likely to develop. Through participative goal-setting and discussions, employees can strengthen their role within the organization, amplifying their sense of belongingness, a core component of psychological ownership. An experience of control, which accompanies participation and influence, can make people feel responsible for the work and for the organization. Thus, a sense of belonging and feelings of organizational identification are related to the construct of psychological ownership.

According to Pierce et al. (2001), people use a sense of ownership for the purpose of defining themselves and expressing their self-identity to others. Empowering leader behaviors are likely to contribute to increasing the perception of self-identity, because individuals have a drive to identity in work settings (Ashforth & Mael, 1989) and develop feelings of psychological ownership through experiences with the target organization (Brown, Crossley, & Robinson, 2014). Empowering leaders are willing to provide a wealth of opportunities for their followers to invest themselves in job or work outcomes, and thereby to help gain a sense of connectedness within the organization.

Lastly, leaders' behaviors such as encouraging followers' initiative and letting them make decisions will lead to an increased sense of accountability or responsibility of followers. As employees engage in the decision-making process, they show high attention to their tasks and

feel more responsible for their performance, which can affect psychological ownership. Thus, empowering leadership should help influence three elements in the definition of psychological ownership—belongingness, self-identity, and accountability (Avey et al., 2009), all of which are predicted to result in feelings of psychological ownership.

H2. Empowering leadership is positively related to followers' psychological ownership.

Relationships of Self-Efficacy and Psychological Ownership with Behavioral Outcomes

Empowering leadership can engender self-efficacy and psychological ownership as depicted in Figure 1, but the model also proposes that self-efficacy and psychological ownership are likely to affect subordinates' behaviors. In-role performance refers to basic acts that are required or expected of members by the organization (Williams & Anderson, 1991) and is often referred to simply as job performance. Self-efficacy is related to confidence in one's ability. It is the employee's belief or expectation that they can successfully accomplish tasks if they exert effort, a feature of expectancy theory of motivation (Vroom, 1964), and motivation should lead to better performance. Employees who see themselves as efficacious and feel better about their job through the positive experiences of work are likely to exert considerable effort on their tasks, leading to successful in-role performance. As one would expect, thus, meta-analyses have confirmed the positive relationship between self-efficacy and task performance (Chen, Casper, Cortina, 2001; Stajkovic & Luthans, 1998).

H3. Self-efficacy is positively related to followers' in-role performance.

The model indicates that employees experiencing self-efficacy not only perform more good behaviors, but they also perform fewer bad behaviors. Self-efficacy is an element of employees' core self-evaluations or favorable assessments of one's self-worth (e.g., Judge, Locke, & Durham, 1997), and behaving badly would contradict those assessments. Therefore,

reduction in deviant behaviors that violate organizational norms and threaten the well-being of the organization, its members, or both (Robinson & Bennett, 1995) is another possible consequence of self-efficacy. These behaviors include major offenses (e.g., stealing, bullying, and sabotaging), or less offensive behaviors including publically criticizing the organization or gossiping about coworkers, and employees' self-efficacy may be negatively related to them because they tend to feel intrinsically rewarded only for more positive accomplishment.

According to arguments by Fox and Spector (1999), employees may exhibit counterproductive behavioral responses when experiencing stressful events (e.g., failing to achieve personal and organizational goals). Individuals with high efficacy beliefs may be less vulnerable to the negative influence of stressors and react to stressful situations with positive attitudes rather than responding with deviant behaviors. This is because they feel confident in their abilities to effectively control and endure adverse situations, that is, to continue being successful by completing tasks well (Bandura, 1997). Supporting this assumption, army soldiers with high self-efficacy behaved less negatively than did those with low self-efficacy when exposed to stressors such as work overload and long work hours (Jex & Bliese, 1999). Additionally, Latham and Frayne (1989) suggested a negative relationship between enhanced self-efficacy and still other undesirable behaviors such as absenteeism. Overall, high self-efficacy is negatively related to bad behavior, and therefore we propose that it is negatively related to employees' bad or deviant behaviors in the workplace.

H4. Self-efficacy is negatively related to followers' deviant behaviors.

Self-efficacy should result in good employee behaviors because it helps employees feel confident that they can perform successfully, thereby gaining a sense of achievement, similar to an expectancy in expectancy theory, as noted earlier. Similar to self-efficacy, psychological

ownership also contributes to generating motivational drives to perform well in response to increased responsibility over the job. Doing the job well reflects favorably on one's self-identity (Brown, Pierce, & Crossley, 2014). When employees consider the job and organization as possessions (psychological ownership), their sense of responsibility and self-identity increase if the job and organization are successful. Thus, they feel committed to help their job and organization through high performance.

Employees with feelings of ownership tend to be more satisfied with their job and show more interest in the organization (Avey et al., 2009). If the organization is "theirs," they should feel more responsible for its success, which they can help enhance with good job performance. Overall, when employees show greater attention to their job and greater interest in the organization, their performance should be improved.

H5. Psychological ownership is positively related to followers' in-role performance.

Parallel to the hypothesized effects of self-efficacy on deviant behaviors, psychological ownership may also serve to inhibit employees from engaging in deviant acts against the organization and other individuals in it. Employee deviance occurring within the organization may result from a failure of responsibility to others and a lack of belongingness to the work setting. Psychological ownership is likely to help overcome dysfunctional behaviors because it places greater responsibility on the employee for the welfare of the organization, raising an employee's sense of self-identity and belongingness. Employees should not purposely harm the organization if they consider themselves to be its owners. Therefore, organization members who feel strong ownership for the organization will be less likely to engage in dysfunctional behaviors toward it. For example, employees who feel a sense of ownership for their organization criticize the organization less and disclose confidential company information less

(Van Dyne & Pierce, 2004). Similarly, when employees feel ownership toward a variety of targets within the organization, they tend to believe that they have the right to influence the targets in positive, but not negative ways and feel more accountable to the targets (Pierce, Rubenfeld, & Morgan, 1991). Therefore, it is expected that feelings of ownership to lead organizational members to not only adopt behaviors that are beneficial to the targets but also to discourage them from exhibiting certain types of undesirable behavior such as bullying and theft. Supporting these assumptions, psychological ownership was found to be negatively associated with counterproductive work behaviors in one previous study (Avey et al., 2009). Therefore, we expected it to be negatively related to bad or deviant behaviors in the present study.

H6. Psychological ownership is negatively related to followers' deviant behaviors.

Self-Efficacy and Psychological Ownership as Mediators

The set of hypotheses is embedded within and form the model in Figure 1, and testing the model constituted a simultaneous test of the hypotheses. Especially key to the study's model however, is the process of mediation. We propose that the reasons why empowering leadership is related to employees' in-role performance and deviant behaviors are employees' psychological states of self-efficacy and psychological ownership, which mediate the relationships of empowering leadership with both good and bad employee behaviors. Empowering leadership is linked to the two outcomes to the extent that it may affect these employee states.

H7. Employees' self-efficacy and psychological ownership mediate the relationships of empowering leadership with in-role performance and deviant behaviors.

Methods

Participants and Procedure

Participants were recruited using Amazon's Mechanical Turk, an online survey system connecting researchers and survey respondents. Only full-time employees working in the United States were recruited for this survey. Data were collected at two time points, three weeks apart, to measure the outcomes separately from the predictors, which helps reduce common method bias effects (Podsakoff, MacKenzie, & Podsakoff, 2012). This amount of time between measurements has been used successfully in past leadership studies and therefore should be an appropriate delay between data collections (e.g., Demirtas, 2015; Keller, 2000; Neubert, Kacmar, Carlson, Chonko, & Roberts, 2008; Zohar, & Polachek, 2015). To further reduce response bias effects, social desirability was used as a control variable in case there was socially desirable responding across variables. Initially, 606 participants completed the first survey. Of these, 375 (61 percent) employees completed the second survey three weeks later. Due to missing data, unmatched codes of the Time 1 and Time2, and low effortful responding (data from participants who selected the same answers (80%) for scales and who completed the survey more than twice as fast as the average time were removed), 76 participant's data were eliminated, resulting in a final sample of 299 participants answering both surveys. Of the total sample, 56.2% were female, 82.9% were white, and 66.1 % had at least a bachelor's degree. The sample consisted of relatively young employees: 62.0% were between 18 and 39, 17.8% between 40 and 49, 16.8% between 50 and 59, and 3.4% for more than 60 years old. In terms of employment tenure, 9.0% were employed for less than a year, 52.2% from 1-5 years, 18.4% from 6-10 years, and 20.4% for more than 10 years. The participants were employees from a variety of industries (e.g., education, health-care, finance).

Measures

The first survey (Time 1) included measures of empowering leadership, general self-efficacy, psychological ownership, and demographics. The Time 2 survey measured in-role performance, deviant behaviors, social desirability, general self-efficacy, and psychological ownership. Thus, the two mediators—self-efficacy and psychological ownership—were measured at both times to use their average as an estimate of their scores at the midpoint (designated as Time 1 ½) between Time 1 and Time 2. Temporally, mediators should have their effects between the timing of the predictor and the criterion variables, which suggest a three-wave data collection process. Each data collection period in a research project typically results in addition sample attrition however, and to avoid excessive attrition we employed only two measurement times three weeks apart, but used the data to estimate scores on the mediators between those two time periods. The mean of the mediator scores at the first and second time points estimates their scores between those time points if their scores change over time, an assumption we support statistically below.

Empowering leadership was measured using the eighteen-item *Empowering Leadership Scale (ELS)* (Amundsen & Martinsen, 2014a). Four items ($\alpha = .88$) measured power sharing, six items ($\alpha = .93$) measured development support, and eight items ($\alpha = .91$) measured motivational support. Example items are “My leader gives me authority over issues within my department” (power sharing), “My leader shows me how I can improve my way of working” (development support), and “My leader listens to me” (motivational support), rated on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree). Reliability for the full scale was .96.

General self-efficacy was measured with the eight-item (Time 1 $\alpha = .92$; Time 2 $\alpha = .94$) *New Generalized Self-Efficacy Scale (NGSE)* developed by Chen et al. (2001). An example item

is “When facing difficult tasks, I am certain that I will accomplish them” rated on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). The mean *absolute* difference in self-efficacy from T1 to T2 was 0.28 with a standard deviation of 0.33. A one-sample *t*-test showed that the average absolute change was significant, $t(298) = 14.53, p < .01$, indicating that employees’ scores had changed during this three-week interval. Note that because *absolute* differences were tested, the result does not mean that the scores increased; some may have increased and some decreased. Because there were changes from T1 to T2, the mean of T1 and T2 was used to estimate the score between T1 and T2.

Psychological ownership was assessed using six items (Time 1 $\alpha = .86$; Time 2 $\alpha = .87$) from Avey et al. (2009), which reflected the three dimensions of psychological ownership. The original psychological ownership scale had eight items, but two of them referred directly to self-efficacy, which overlapped with the wording of items in the self-efficacy scale described above. Therefore, those two items were not used in the psychological ownership measure. Example items are “I would challenge anyone in my organization if I thought something was done wrong” (accountability; Time 1 $\alpha = .78$; Time 2 $\alpha = .75$), “I feel I belong in this organization” (belongingness; Time 1 $\alpha = .83$; Time 2 $\alpha = .88$), and “I feel being a member in this organization helps define who I am” (self-identity; Time 1 $\alpha = .77$; Time 2 $\alpha = .80$). Items were rated on a 6-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree). The mean *absolute* difference in psychological ownership from T1 to T2 was 0.52 with a standard deviation of 0.49. A one-sample *t*-test showed that the average absolute change was significant, $t(298) = 18.62, p < .01$, indicating that many employees’ scores had changed during this three-week interval. Therefore, the mean of T1 and T2 was used to estimate the score between T1 and T2.

In-role performance was assessed using Williams and Anderson's (1991) seven-item job performance scale ($\alpha = .87$). An example item is "I adequately complete assigned duties" rated on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree).

Workplace deviance was measured with the nineteen items developed by Bennett and Robinson (2000). Interpersonal deviance was measured with seven items ($\alpha = .87$), and organizational deviance was measured with twelve items ($\alpha = .89$). Example items include "Said something hurtful to someone at work" (interpersonal deviance), and "Taken an additional or longer break than is acceptable at your workplace" (organizational deviance). Respondents were asked to rate the extent they had participated in each of the behaviors over the past year using a 7-point Likert scale from 1 (never) to 7 (daily). Reliability for the full scale was .93.

Control variables were social desirability and gender, because responses of in-role performance and deviant behaviors could especially be susceptible to social desirability biases, and gender may also influence employee deviant behaviors. Two meta-analyses suggested that males are more aggressive than females, displaying more deviant behaviors (Berry, Ones, & Sackett, 2007). Social desirability was measured at Time 2 using the five-item ($\alpha = .74$) *Socially Desirable Response Set (SDRS)* (Hays, Hayashi, & Stewart, 1989). An example item is "No matter who I'm talking to, I am always a good listener." Respondents were asked to indicate the degree to which each statement is true or false on a 5-point Likert scale from 1 (definitely true) to 5 (definitely false). Because social desirability was measured from the same source as the other variables (the employee), using it as a control variable helped to control not only for the socially desirability construct but also for common method variance, similar to the marker variable approach (Podsakoff et al., 2012).

Results

Means, standard deviations, reliabilities, and correlations of all the variables are presented in Table 1. Because empowering leadership and psychological ownership were highly correlated ($r = .70, p < .01$), a confirmatory factor analysis (CFA) using LISREL 8.8 was run to test the fit of the two-factor model (using the three dimensions for empowering leadership and three dimensions for psychological ownership as indicators). The strong correlation could have meant that the measures were overlapping in some artefactual way because participants were not distinguishing between the constructs. The two-factor model produced a reasonable fit, however, $\chi^2(8, N = 299) = 27.72, p < .01$; RMSEA = .09; CFI = .99; NNFI = .98; IFI = .99, providing evidence of discriminant validity of empowering leadership and psychological ownership, in spite of the high correlation. A CFA of the two mediators of self-efficacy and psychological ownership was also run to statistically confirm the differences between these constructs. The result revealed the two mediator constructs in the present study to be distinct, $\chi^2(8, N = 299) = 38.76, p < .01$; RMSEA = .11; CFI = .98; NNFI = .96; IFI = .98.

Empowering leadership, the predictor in the model, was positively correlated to the two mediators, self-efficacy ($r = .49, p < .01$; Table 1) and psychological ownership ($r = .70, p < .01$); the predictor was also related to the criteria (empowering leadership to in-role performance, $r = .14, p < .05$, and to deviant behaviors, $r = -.16, p < .01$). The two mediators were related to the criteria: Self-efficacy was related to in-role performance ($r = .45, p < .01$) and deviant behaviors ($r = -.28, p < .01$), and psychological ownership was related to in-role performance ($r = .18, p < .01$), and deviant behaviors ($r = -.25, p < .01$).

Hypotheses and Model Testing

The correlations in Table 1, as noted above, were consistent with all hypotheses. Structural equation modeling was used to further test the hypotheses. For full structural equation modeling with latent variables, subscales were used as manifest indicators of the two measures that had three subscales (empowering leadership and psychological ownership). For deviant behaviors, which had only two subscales, four indicator variables were used: two parcels of interpersonal deviance (one consisting of three items and one of four items) and two parcels of organizational deviance (two consisting of six items each). For the two other variables with more than five items (self-efficacy, in-role performance, and social desirability), the item-parceling method was used. The eight items measuring self-efficacy were randomly parceled to form three indicators of a latent variable (two consisting of three items each and one of two items). Similarly, the seven responses from the in-role performance were parceled into three indicators (two consisting of two items each and one of three items). Finally, for the five-item social desirability scale, the items were used as indicators.

All the model fit indices are shown in Table 2. The hypothesized model fit the data moderately well $\chi^2(181, N = 299) = 583.79, p < .01$; RMSEA = .09; CFI = .95; NNFI = .94; IFI = .95. Standardized coefficients are in Figure 2. Empowering leadership was positively related to self-efficacy ($\beta = .54, p < .01$) and psychological ownership ($\beta = .74, p < .01$), supporting hypotheses 1 and 2. The results also supported hypothesis 3, that self-efficacy would be positively related to in-role performance ($\beta = .44, p < .01$), as well as Hypothesis 4, that self-efficacy would be negatively related to deviant behaviors ($\beta = -.15, p < .01$). However, hypothesis 5 was not supported, because the path coefficient for psychological ownership to in-

role performance ($\beta = -.01, ns$) was not significant. Hypothesis 6, that psychological ownership would be negatively related to deviant behaviors was supported ($\beta = -.19, p < .01$).

Regarding the two control variables, gender and social desirability, the association between gender and deviant behaviors was very weak ($r = -.14, p < .05$). We therefore included only social desirability as a control variable in the analyses presented in Figure 1: It was moderately correlated with in-role performance ($r = .30, p < .01$) and deviant behaviors ($r = -.39, p < .01$). We note, however, that more complete analyses showed that neither control variable significantly affected the conclusions in the present study. In summary, the results suggested that empowering leadership had indirect effects on deviant behaviors via both self-efficacy and psychological ownership, but empowering leadership had effects on in-role performance only through one mediator, self-efficacy.

The fit of the overall model is consistent with the mediation hypothesis (H7). For further evidence about mediation, two alternative overall models were tested: one model adding a direct path from empowering leadership to in-role performance (alternative model 1), and a second model adding a direct path from empowering leadership to deviant behaviors (alternative model 2). If mediation is a key feature in the model, the alternative models with direct paths would not significantly improve the fit, and that is what happened. The additional paths did not significantly improve or change any fit indices, $\Delta\chi^2(1, N = 299) = 3.11, p = .08$ for alternative model 1; $\Delta\chi^2(1, N = 299) = 2.51, p = .11$ for alternative model 2 (Table 2). Therefore, given no noticeable improvement in fit, the originally hypothesized mediation model was retained as the ideal model because it was the most parsimonious.

Mediation and Bootstrapping

Furthermore, for more rigorous tests of the mediation proposed in hypothesis 7, bootstrapping analyses were calculated using PROCESS macro, a computational tool for mediation analysis (Hayes, 2013). Table 3 presents the direct effects and bootstrapped estimates for the indirect effects with 95% confidence intervals. Following the recommendations of Preacher and Kelley (2011), k^2 (Kappa-squared) is also reported as a mediation effect size. The k^2 is not sensitive to sample size because the k^2 is the ratio of the indirect effect to the maximum possible size of the indirect effect given the constraints of the data (Hayes, 2013). To determine the criteria for describing the magnitude of effect sizes, Cohen's guidelines defining small (.01), medium (.09), and large (.25) effect sizes were considered (Preacher & Kelley, 2011). Both self-efficacy and psychological ownership significantly mediated the relationships between empowering leadership and the two outcomes, because their confidence intervals did not include a zero, supporting mediation effects.

As an example, the model included empowering leadership as a predictor and in-role performance as an outcome, and this relationship was mediated by psychological ownership. As seen in the third row of Table 3, the direct effect from empowering leadership to in-role performance was not significant ($c' = .02, p = .77$). However, the indirect effect of empowering leadership on in-role performance via psychological ownership was significant ($ab = .10, CI$ (95%): LL = .02, UL = .18, $k^2 = .08$), and the effect size of k^2 can be interpreted as small with reference to Cohen's standard. However, we advise caution when interpreting this particular finding, because the standardized path coefficient from psychological ownership to in-role performance in the path diagram (Figure 2) was not significant. Note that the bivariate correlation of these two variables in Table 1 was significant ($r = .18, p < .01$). The non-

significant relationship between psychological ownership and in-role performance in Figure 2 may be a statistical artifact caused by a suppression effect that occurred when two or more variables (self-efficacy and psychological ownership in the present study) jointly predicted one outcome (in-role performance).

Discussion

The primary purpose of the present study was to explain why empowering leadership could affect employees' in-role performance and deviant behaviors by examining the potential mediating role of self-efficacy and psychological ownership, thereby shedding light on the mechanisms by which empowering leadership influences subordinates' behaviors. The results generally supported the hypothesized relationships: Empowering leadership may affect these employee behaviors to the extent that it leads to these two psychological states. Subordinates with empowering leaders encouraging their initiative and responsibility towards the job experienced enhanced feelings of self-efficacy and psychological ownership (including facets of self-identity, belongingness, and accountability), and thereby engaged in fewer deviant behaviors. In addition to reducing the bad employee behaviors (deviance), self-efficacy also contributes to good employee behaviors in the form of in-role performance, although psychological ownership may not. That is, employees' performance can be enhanced if leaders can increase follower's feelings of self-efficacy by offering coaching and professional challenges with high standards, which can be components of empowering leadership.

No significant direct effect was found between empowering leadership and either in-role performance or deviant behaviors, consistent with the mediation model. Some other research found weak or nonsignificant relationships of empowering leadership with criteria (e.g., Srivastava et al., 2006), and this is because empowering leadership is a more distal predictor; its

effects occur only to the extent that it leads to more proximal influences on employee behavior such as the two mediators identified in the present study. The present study, therefore, contributes to the empowering leadership literature by explaining how and why it may affect followers' behaviors.

Regarding the specific outcome variables in the present study, past research examining the impact of empowering leadership on contextual performance including deviant behaviors is scarce, although some studies have suggested positive relationships between empowering leadership and positive organizational citizenship behaviors (Fong & Snape, 2015; Raub & Robert, 2010). Unlike past research focusing only on positive employee behaviors, the present study examined the relationship of empowering leadership with workplace deviance. By stimulating self-efficacy and psychological ownership, empowering leaders may inhibit unfavorable behaviors.

Additionally, by leaders' role modeling and letting subordinates actually make decisions, the overall meaning of the study's mediators can be conceived as subordinates experiencing a sense of responsibility and as a result, making positive behavioral contributions to the organization. Given that employees' deviant behaviors can impede organizational effectiveness, development of employees' self-efficacy and psychological ownership can be potential human resource management strategies to counteract workplace deviance and promote individual performance in organizations. If employees feel lack of belongingness to their organization, low self-efficacy, and blurred self-identity and accountability, the organization may fail to thrive. Both deviant behaviors and in-role performance, therefore, are important workplace behaviors that may be affected by empowering leadership.

Contrary to theoretical assumptions about one of the study's mediators, psychological ownership, the present study did not support a positive unique relationship for it with in-role performance. Psychological ownership thus may transfer empowering leaders' effects to dampen bad employee behaviors (deviance), but not necessarily to increase good ones (performance). One possible explanation is that a sense of ownership may more strongly lead to defending than to striving. That is, employees experiencing ownership will not hurt the organization (will not perform deviant behaviors), but they also do not strive very much to help it through improved performance. This owner-defense mechanism needs to be tested by further research, however, before concluding that it exists, because the result may be inconsistent. One previous study similarly examined these relationships, without finding positive links between psychological ownership and general employee performance (Mayhew, Ashkanasy, Bramble, & Gardner, 2007). By contrast, in a study by Brown et al. (2014), feelings of ownership significantly affected sales performance. If the relationship is inconsistent, that implies possible moderator effects. Therefore, there is a further need to examine these relationships in order to replicate the positive effect of psychological ownership on employee performance or to explain possible moderator effects; such moderators might include individual differences (e.g., ego-defensive personality) and the nature of the job; for example to what extent is in-role performance possible in some jobs where maximum performance is limited by constraints (e.g., amount of job resources available or assembly-line work wherein the employee cannot work faster than the line moves)?

Overall, empowering leadership can lead to employees' experiences of psychological ownership and feelings of self-efficacy in today's organizations. In organizations exercising empowering leadership style and practicing employees' development support, employees feel

responsible for their actions, improving their performance and decreasing workplace deviant behaviors. Therefore, power sharing, fostering autonomy, motivational support, recognition, guidance, and modeling (i.e., empowering leadership) are important for shaping a sense of self-efficacy and psychological ownership in employees.

Limitations and Future Research

One limitation of this study is the use of single-source data, risking problems such as inflated relationships due to common method variance. That effect is unlikely in the present study, however, because (1) the predictor, mediator, and criterion variables were not gathered at the same time (Podsakoff et al., 2012), and (2) the results were the same even controlling for social desirability (and gender). As noted earlier, because social desirability was measured with the same method as the other variables in the study, its use as a control variable helps to control for both the effects of social desirability and for common method effects. Nevertheless, it would be recommended that ratings of behavioral outcomes such as in-role performance and deviant behaviors should be collected from supervisors, coworkers, or objective sources to further reduce common method effects.

Relatedly, the leadership variable is a measure of the perceptions of the employees about their supervisors' empowering behaviors rather than a clearly objective measure of the behaviors. One of the most objective operationalizations of empowering leadership would be to manipulate the leaders' behaviors in an experiment. Future research using experimental manipulations of the leaders' behaviors could provide stronger evidence about the effects of empowering leader behaviors.

Although the timing of the measures' data collection was consistent with a causal interpretation of empowering leadership causing self-efficacy and psychological ownership,

which then causes in-role behavior and deviant behavior, only a true experiment with manipulated variables and random assignment could provide strong evidence for causation. The interpretation of causation in the model must therefore rest on the theoretical rationales for the hypotheses and the gathering of measures in the hypothesized sequence. Thus, again, future research would benefit from adopting an experimental or quasi-experiment method, especially manipulating the empowering leadership variable (e.g., in the form of leader training) in order to more firmly establish causation.

The present study included both positive and negative behavioral outcomes, but there are many other potential criteria that need to be explored to provide better understanding of the contribution of empowering leader behaviors in the workplace. Some examples of variables for future research include other consequences of empowering leadership such as employees' life satisfaction, work happiness, and physical and psychological health. Autonomy provided by empowering leadership is closely related to job stressor appraisals, which in turn is likely to have an impact on employees' well-being. Future research also could explore boundary conditions that accentuate or mitigate the strength of relations hypothesized in the present study. For example, employees having strong need for autonomy or internal locus of control may respond more favorably to empowering leadership. Additionally, certain types of autonomy such as the discretion to schedule work and to choose the work methods used to accomplish jobs may result in different reactions and behaviors of employees. Future research, therefore, is encouraged to examine the effect of level or type of autonomy on employees' behaviors, which may offer further understanding of how working autonomously may drive desired work outcomes as well as psychological states.

In addition to destructive deviant behaviors or constructive citizenship behaviors, empowering leadership may elicit constructive deviant behaviors—defined as “behaviors that violate organizational norms with the intent of helping the organization” (Galperin, 2012, p. 2989). Vadera, Pratt, and Mishra (2013) proposed psychologically empowered employees were likely to exhibit constructive deviant behaviors including searching for innovative methods to achieve work goals, even if the methods might be considered “incorrect” by the organization’s current practices and procedures.

Conclusion

We examined how empowering leadership style may affect subordinates’ behaviors by testing potential explanations for effects of empowerment in the form of two mediating variables: self-efficacy and psychological ownership. Empowering leaders who give subordinates autonomy and support for pursuing unstructured tasks make them feel more personally accountable and more engaged in work processes; this can result in employees’ behaviors that are favorable for the organization due to their feelings of self-efficacy and psychological ownership. Leaders developing subordinates’ self-efficacy and psychological ownership may improve task performance and decrease deviant behaviors. In summary, findings suggested that self-efficacy and psychological ownership are critical mediating processes because empowering leadership may not directly affect subordinates’ behavioral responses. Employees’ psychological states explain why empowering leadership affects their behaviors.

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Table 1. Means, Standard Deviations, Reliabilities, and Correlations.

Variables	Mean	SD	1	2	3	4	5	6	7
1. Empowering leadership (T1)	4.90	1.15	<i>.96</i>						
2. Self-efficacy (T1+T2 average)	4.09	.55	.49**	<i>.92/.94</i>					
3. Psychological ownership (T1+T2 average)	4.35	.89	.70**	.51**	<i>.86/.87</i>				
4. In-role performance (T2)	6.09	.95	.14*	.45**	.18**	<i>.87</i>			
5. Deviant behavior (T2)	1.73	.86	-.16**	-.28**	-.25**	-.35**	<i>.93</i>		
6. Social desirability (T2)	3.60	.75	.10	.28**	.14*	.30**	-.39**	<i>.74</i>	
7. Gender (T1)	1.56	.50	-.04	.06	-.10	.03	-.14*	.09	-

Note. $N = 299$. Reliabilities are in italics on the diagonal. Gender: Male = 1; Female = 2. ** $p < .01$. * $p < .05$.

Table 2. Summary of Model Fit Indices.

Model Test	χ^2	<i>df</i>	RMSEA	CFI	NNFI	IFI	$\Delta\chi^2$	Δdf	<i>p</i>
Measurement model	546.31	174	.08	.95	.94	.95			
Hypothesized model	583.79	181	.09	.95	.94	.95			
Alternative model 1: Direct path from empowering leadership to in-role performance	580.68	180	.09	.95	.94	.95	3.11	1	.08
Alternative model 2: Direct path from empowering leadership to deviant behaviors	581.28	180	.09	.95	.94	.95	2.51	1	.11

Note. χ^2 -values for the structural models are significant at $p < .01$.

Table 3. Results of Bootstrapping Tests for Estimating Indirect Effects with 95% Confidence Intervals.

Predictor	Mediator	Outcome	Direct effects	Indirect effects				
			β (<i>p</i>)	<i>ab</i>	<i>SE</i>	<i>CI</i> 95%	<i>ab_{cs}</i>	<i>k</i> ²
Empowering leadership	Self-efficacy	In-role performance	-.09(.07)	.20	.04	.13, .29	.25	.23
		Deviance	-.03(.58)	-.09	.02	-.15, -.05	-.13	.11
	Psychological ownership	In-role performance	.02(.77)	.10	.04	.02, .18	.12	.08
		Deviance	.01(.25)	-.14	.05	-.24, -.05	-.18	.13

Note. $N = 299$. $\beta = c'$ (direct effect). *ab* = unstandardized indirect effect. *SE* = bootstrap standard error. *ab*, *SE*, and *CI* 95% were obtained from 10000 bootstrap samples. *ab_{cs}* = completely standardized indirect effect. *k*² = indirect effect/ maximum possible mediation.

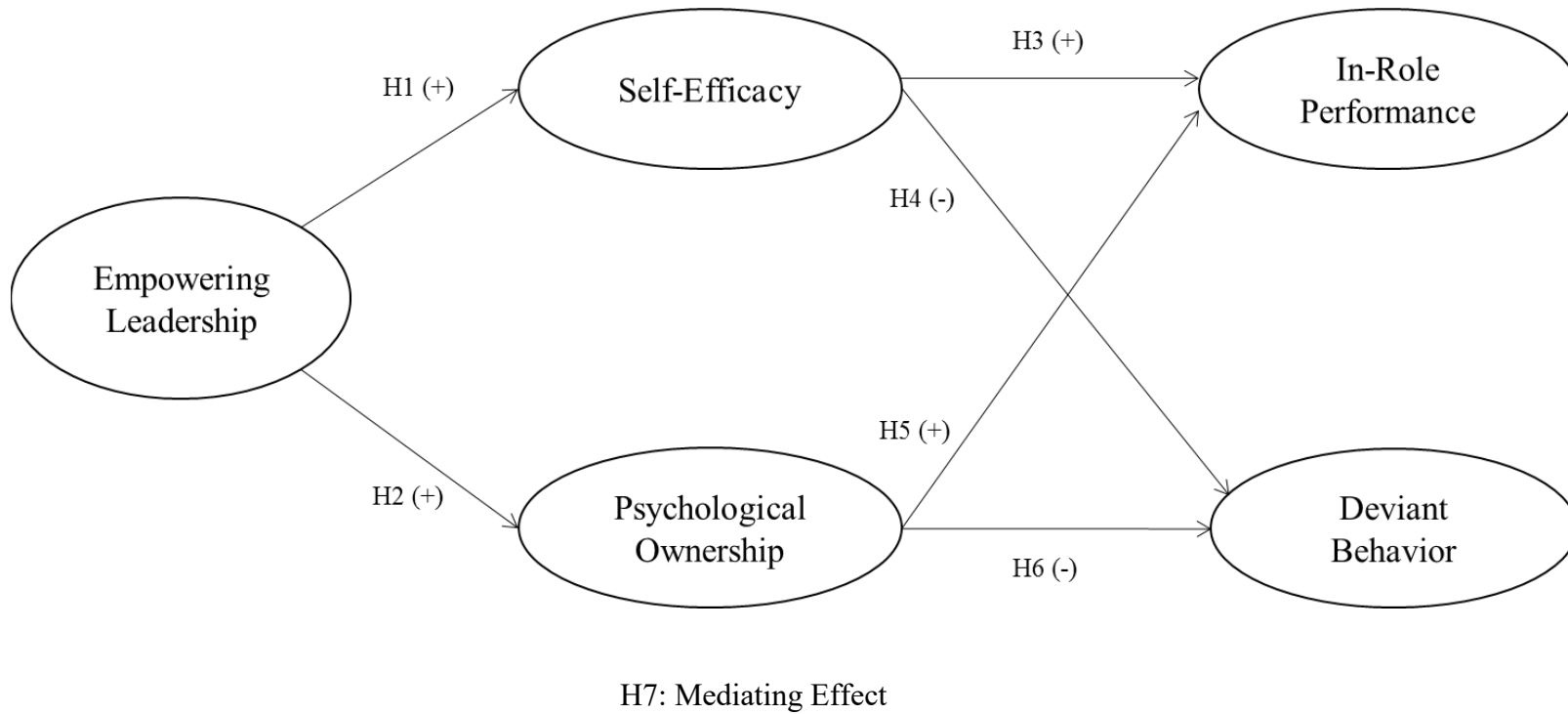


Figure 1. Hypothesized model

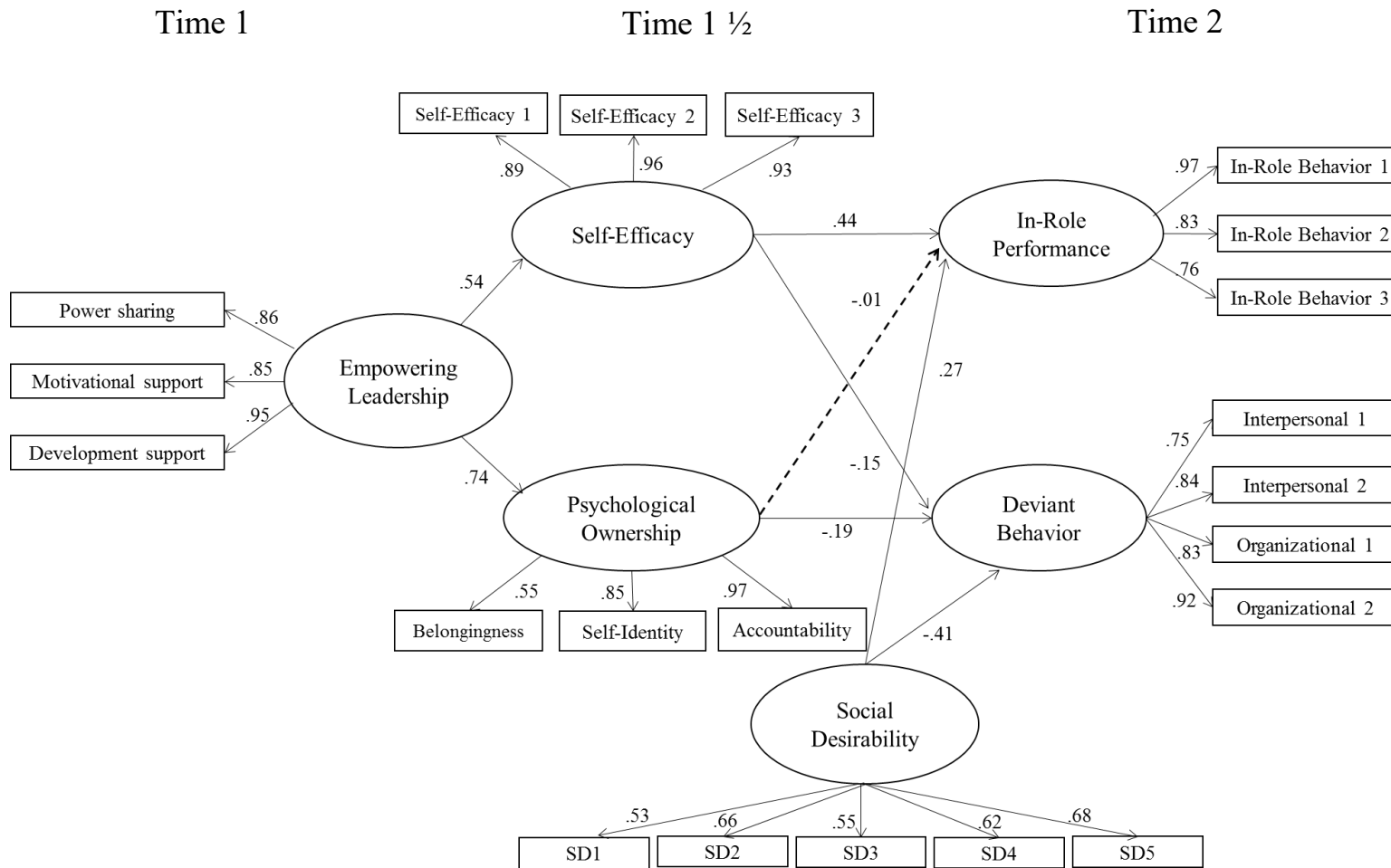


Figure 2. Structural equation model with standardized coefficients

Note. All paths in structural model analysis are significant at $p < .01$ except the path from psychological ownership to in-role performance ($\beta = -.01, ns$)