

Psychological Ownership in Small Family-Owned Businesses:
Leadership Style and Nonfamily Employees' Work Attitudes and
Behaviors

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Psychological Ownership in Small Family-Owned Businesses: Leadership Style and Nonfamily-Employees' Work Attitudes and Behaviors

ABSTRACT

Using a sample of 229 nonfamily employees working in 52 small family-owned businesses, we examined the relationships between owner-managers' leadership style and employees' psychological ownership of the family business and their job. We also examined whether psychological ownership mediated the link between leadership style and employees' organizational attitudes and behaviors. Hierarchical linear modeling (HLM) analysis confirmed transformational and transactional leadership as contextual facilitators of psychological ownership of the family business and the job. Passive (*laissez-faire*) leadership was negatively related to employees' ownership feelings for the family business. Psychological ownership of the organization and the job mediated the relationship between leadership style and organizational commitment, job satisfaction, and turnover intention. In addition, psychological ownership for the family business mediated the relationship between transformational leadership and organizational citizenship behavior (OCB). Implications for research and practice are discussed.

Keywords: Attitudes, family business, leadership style, psychological ownership, role behaviors

INTRODUCTION

The existence of high levels of ownership feelings for the family business is repeatedly described as glue binding the family to the firm (Bernhard & Jaskiewicz, 2010; Pieper, 2007). As an outcome of this common ownership feeling, strong personal commitment has been suggested as one major advantage of family firms compared to nonfamily firms (Sharma & Irving, 2005; Vallejo, 2008). One of the biggest challenges for family-owned firms, however, is not to leave those behind that are outside the circle of the owner family (Chua, Chrisman, & Sharma, 2003). Having a dedicated workforce of nonfamily employees is an essential backbone of business success in many family firms. Although key positions in family firms are frequently held by relatives, many of these businesses employ more nonfamily employees than family members (Barnett & Kellermanns, 2006). Therefore, managing nonfamily employees and enhancing their value-creating attitudes and behaviors is an essential factor in ensuring a basis for a family business's long-term prosperity (Chua et al., 2003).

Some businesses have tried to use the motivational power of ownership, and overcome the discrepancy between family and nonfamily employees by using employee ownership programs (Eisenhardt, 1989). However, applied employee stock holdings and ownership programs can dilute ownership rights, reduce family influence, and thus oppose the dominant wish of many families to keep the firm under full control across generations (Gomez-Mejia, Haynes, Nunez-Nickel, Jacobson, & Moyano-Fuentes, 2007). Consequently, family business owners may be interested in finding different means to manage the ownership perceptions of their nonfamily employees in order to develop the potential favorable behavioral and attitudinal outcomes of ownership perceptions.

Instead of distributing equity shares in the business, the possibility of retaining valued workers and enhancing their performance by creating a *feeling of ownership* for the

organization has increasingly received scholarly attention (Avey, Avolio, Crossley, & Luthans, 2009; Pierce & Jussila, in press; Pierce, Jussila, & Cummings, 2009; Pierce, O'Driscoll, & Coghlan 2004; Van Dyne & Pierce, 2004). These feelings of ownership have been described as *psychological ownership* and conceptually defined as a certain state of mind “in which individuals feel as though the target of ownership [...] or a piece of it is ‘theirs’ (i.e., ‘It is MINE!’)” (Pierce, Kostova, & Dirks, 2001, p. 299). Key characteristics are a strong feeling of possessiveness for and a high degree of psychological attachment to the target. Such feelings are believed to cause individuals to protect their object, to take care of it, to nourish it, and to seek more information about it (Pierce, Kostova, & Dirks, 2003). In addition, several studies have empirically demonstrated the importance of employees’ ownership feelings in the absence of formal or legal ownership rights (Mayhew, Ashkanasy, Bramble, & Gardner, 2007; O’Driscoll, Pierce, & Coghlan, 2006).

Although some important correlates have been found, there is still a lack of understanding of the contextual factors which enable organizations to foster psychological ownership among their members. Empirical work has observed relationships between psychological ownership and organizational factors such as work environment structure (O’Driscoll, et al., 2006, Pierce et al., 2004), climate of self-determination (Wagner, Parker, & Christiansen, 2003), and an organizational culture of participative decision making (Martins, Pundt, Horsman, & Nerdinger, 2008). The majority of work on the antecedents of psychological ownership focuses on work/job design (Pierce et al., 2009). However, it appears that in small family firms other factors have a more direct impact on the development of ownership feelings. Employees in small family firms are frequently required to fulfill a variety of tasks that extend beyond their regular job description. Accordingly, role ambiguity may prevail (Dodge, Fullerton, & Robbins, 1994), and clearly defined jobs lose their importance when the necessity to assist in different functions arises. In such environments, the emergence of psychological ownership can depend less on a formal job description and more

on the discretion of the owner. For instance, small family firms are often characterized by an organizational structure featuring a strong concentration of managerial control in the owner-manager (e.g. Kets de Vries, 1985). Such a constellation can limit opportunities for employees to exercise control and autonomy. In contrast to this traditional view of family firms with (authoritarian) restricting leaderships, family business owners with transformational leadership styles tend to share control and information (Bass, 1985). They can provide a feeling of significance to employees' tasks and for the organization as a whole. This leadership style can support identity-building, induce perceived control, and simultaneously strengthen the development of nonfamily employees' ownership perceptions. Therefore, the owner's behavior as leader can play a central role to augment employees' ownership perceptions.

In the present research, we focus on the emergence and consequences of ownership feelings among nonfamily employees in different leadership style environments. More specifically, we examine the relationship of leadership style with psychological ownership, a link that to date neither the literature on leadership nor on psychological ownership has systematically tested in empirical research. Our study thus follows the call by Avey et al. (2009) to research frameworks in which "leaders may be able to create conditions to enhance psychological ownership" (p.186). Furthermore, we also investigate the mediating role of psychological ownership in creating desirable outcomes. It is well established that leadership style can have an impact on employees' attitudes and behavior. However, in a recent review of leadership theory and research, Avolio, Walumbwa, and Weber (2009) recommended that "determining the causal mechanisms that link leadership to outcomes will be a priority" (p.442) for future research. Taking up this suggestion, we examine psychological ownership as a potential mediator which helps to explain how leadership influences favorable organizational attitudes and behaviors. Small family business environments are especially suitable for investigation of the antecedents and consequences of psychological ownership.

Individuals in small family businesses may be particularly receptive to psychological ownership due to the (psycho-social) proximity between the individual and owner-managers (Dirks, Cummings, & Pierce, 1996). In addition, social capital theory (Adler & Kwon, 2002) suggests that the social capital a family adds to these firms, can affect the organizational culture, the individual's willingness to invest in their relationship with the organization, and hence the binding of employees to the family business (Arregle, Hitt, Sirmon, & Very, 2007). The family can therefore be considered an influencing factor on the organization's social capital which nonfamily firms cannot provide. In spite of this distinctiveness, there is a lack of empirical assessment of psychological ownership in the context of small family businesses (Ikävalko, Pihkala, & Jussila, 2006).

PSYCHOLOGICAL OWNERSHIP

Research on feelings of possession differentiates between two distinct types of psychological ownership in organizational settings (Mayhew et al., 2007; Pierce et al., 2004). While psychological ownership of the organization relates to employees' psychological connection to the organization as a whole, psychological ownership of the job is concerned with an individual's feeling of possession towards their specific position. In this paper we integrate both types of psychological ownership in our model as leadership might equally affect feelings toward the organization and the job.

Numerous effects of psychological ownership on favorable individual attitudes and behaviors have been observed. For instance, Vandewalle, Van Dyne, and Kostova (1995) found extra-role behavior of student housing residents that experience feelings of ownership. Wood (2003) demonstrated enhanced learning and satisfaction with group work by creating a sense of ownership in the minds of students. Paré, Sicotte, and Jacques (2006) noticed higher

technology acceptance among physicians who developed psychological ownership. Several other studies report that employees with strong ownership beliefs feel and act like owners. For example, Van Dyne and Pierce (2004), as well as Mayhew et al. (2007), examined links between psychological ownership of the organization and positive employee attitudes (organizational commitment, job satisfaction, organization-based self esteem) and behavior (employee performance, organizational citizenship). Wagner, Parker, and Christiansen (2003) indicated that ownership beliefs are positively related to ownership behavior and ownership behavior is positively related to financial performance of the organization.

Research on the organizational conditions which enhance psychological ownership has, however, tended to be sidelined. Pierce et al. (2001) theoretically specify three mechanisms for the emergence of psychological ownership. These mechanisms, the so-called “routes”, comprise ‘controlling the object of ownership’, ‘coming to intimately know’, and ‘investing one’s self’ into the object. Control over an object, a key characteristic of ownership, refers to the power to exercise property rights, i.e. being able to govern, to change or to exert influence over the object (e.g. Furby, 1978; Rudmin & Berry 1987). Empirical evidence confirms that jobs and organizations which provide employees with a higher degree of autonomy imply higher levels of control (O’Driscoll et al., 2006; Pierce et al., 2004). Thus, ownership perceptions and psychological ownership tend to be increased in such settings.

Small family businesses are in a good position to benefit from the positive effects of psychological ownership. Contrary to large organizations, they can offer a close proximity between organizational top management and each organizational member, leading to low structural distance between owner-managers and employees (Dirks et al., 1996). This increases employees’ opportunities to influence and interact with top-level decision-makers (i.e. the head of the family business). In contrast to larger companies with standardized

procedures, employees' perceived control and thus psychological links with the organization can be extended.

Simultaneously, the less complex environment in small family firms puts nonfamily employees in a more dependent position than their colleagues in a large corporate environment. Their level of control depends to great extent on the owner-manager's discretion. In many small businesses the leader not only occupies the highest management position, but simultaneously holds the majority of legal ownership (as owner-manager), which facilitates a centralized power situation, allowing more managerial discretion (Ling, Simsek, Lubatkin, & Veiga, 2008). Owner-managers have to answer few stakeholder groups, and thus face less leadership constraints (Hambrick & Finckelstein, 1987) allowing them to ration employees' autonomy and participative decision making. On the other hand, large, professionally managed public firms have strong bureaucratic structures and strict regulations that limit the scope of leader influence (Felfe, Tartler, & Liepmann, 2004; Lubatkin, Simsek, Ling, & Veiga, 2006). Leaders within such companies have to fulfill certain role expectations which inhibit expressive and dominating behavior as well as overly powerful leadership positions. In contrast with small family firms where organizational culture is mainly determined by the owner-manager, employees' access to control is well-defined. For example, an organizational culture of employee participation (Martins et al., 2008) as well as formal institutions (e.g. work councils) can safeguard employees from disproportionate actions by leaders.

Another factor that accords nonfamily employees' less access to control within the less formalized structure of family businesses is their lack of family bonds to the owners. Nepotism and favoritism have frequently been associated with leadership in family firms (Barnett & Kellermanns, 2006; Schulze, Lubatkin, & Dino, 2003). The small scale of these businesses make switching work groups, departments, or supervisors challenging if not

impossible. This often leaves the employee only with the choice to either accept the owner-manager's leadership style or to leave. In sum, nonfamily employees in small family businesses tend to face greater dependence on the leadership of the owner-manager in order to influence the organization and their work.

LEADERSHIP IN FAMILY FIRMS AND PSYCHOLOGICAL OWNERSHIP

The appropriate application of suitable leadership style is important for any business leader. However, compared to large organizations, small family businesses have less formalized and structured work conditions (Ling, et al., 2008). With high role ambiguity, there is more room for employees to develop different interpretations of their job requirements (Yun, Takeuchi, & Liu, 2007). This can be considered a weak situation (Mischell, 1977), where well-recognized rules of conduct that constrain behavior, and uniform expectancies regarding appropriate response patterns are only partly developed, and where employees are consequently more likely to look to a leader for cues (Ling et al., 2008).

Three major styles of organizational leadership have been identified in the literature: Transformational, transactional, and passive (*laissez-faire*) leadership (Bass, 1985; Conger & Kanungo, 1987; Podsakoff, MacKenzie, Moorman, & Fetter, 1990). Transformational leaders adopt mentor- or coach-like behavior (Bass, 1985). They understand the employees' needs and wishes, recognize their performance potential, and thus can successfully contribute to their personal growth and advancement (Bycio, Hackett, & Allen, 1995). The goal of transformational leaders is to develop a self-reliant employee whose responsibility and access to control can gradually be increased. Likewise, strong transformational leaders seek followers' opinions and let them regularly participate in decision making processes (Jermier

& Berkes, 1979; Rhodes & Steers, 1981). This enhancement of employees' involvement can increase employees' association with the business, strengthen their role within the organization and amplify perceptions of control (Pierce et al. 2004).

In order to prepare their employees for future challenges, transformational leaders also support and promote their followers' professional development. They question procedures, encourage followers to think laterally, and foster innovative behavior (Avolio, 1999; Pieterse, van Knippenberg, Schippers, & Stam, 2010). Through active participation and engagement with their organization, employees become more familiar with it (Beggan & Brown, 1994), which amplifies their sense of ownership over their role and the organization as a whole (Pierce et al., 2003).

Since transformational leadership enhances employees' perceived control and involvement, invites employees to immerse themselves in the business, fosters employees' accumulation of knowledge about the job and the organization, and supports their personal investment in the job and the organization, we hypothesized that:

H1: Perceptions of transformational leadership will be positively related to employees' psychological ownership (a) of the organization and (b) the job.

Transactional leadership is described as motivating employees primarily through contingent-reward-based exchanges (Burns, 1978). Transactional leaders concentrate on clarifying expectations, setting goals and limits, and rewarding good performance (Bass, 1985). The development and training of employees takes on a secondary role and are primarily task-related. Employees receive information that satisfies the requirements to accomplish job duties. As a consequence employees' level of organizational knowledge under

transactional leaders can be expected to be high when directly task-related but low on nontask-related matters.

Transactional leadership relies predominantly on extrinsic motivation by rewards (Burns, 1978). As a result, transactional leaders can effectively motivate employees but do not encourage behavior that exceeds expectations. Similar to transformational leaders, transactional leaders can grant autonomy and control to their subordinates, but tend to limit this control to a much greater extent, and solely relate this autonomy to the current task. Influence over the organization is likely to be constrained, and only be granted to the extent that it improves job performance. Therefore, even though ownership feelings may arise due to perceptions of control and personal involvement (Pierce et al., 2001), they may be expected to be lower than under transformational leadership.

Transactional leadership effectively manages the employees' possibilities to exercise control over their job and the organization. It offers room to gain insights about the job and the organization within the scope of employees' duties and hence should be associated with psychological ownership. However, since these opportunities are limited to the range of task fulfillment and subject to discretion by the leader, we expect the relationship between transactional leadership and psychological ownership to be somewhat lower than that between transformational leadership and psychological ownership.

H2: Perceptions of transactional leadership will be positively related to employees' psychological ownership (a) of the organization and (b) the job.

H3: The relationship between perceived transformational leadership and employees' psychological ownership (a) of the organization and (b) the job will be stronger than

the relationship between perceived transactional leadership and employees' psychological ownership (a) of the organization and (b) the job.

Passive leadership (often referred to as laissez-faire leadership) marks the negative end of the leadership range (Bass, 1985). The leader exhibits a lack of involvement during critical junctures resulting in a delay of decision-making. Passive leaders do not proactively counter future challenges by developing and training employees. Likewise, they tend to delay providing goals to employees and guidance on how to accomplish them, but rather leave them to their own resources. Passive leadership behavior is thus expected to be counterproductive to employees' understanding of business goals, organizational aspirations, and job development.

Passive leaders tend not to function as motivators and role models. Moreover, by avoiding leadership responsibilities they serve as a negative role model and thus promote equally laissez-faire behavior from employees. Important decision making gets postponed, and their tendency to be reactive rather than proactive can lead to employee disinterest and low involvement with their role. Therefore, managers who engage in laissez-faire leadership can reduce employees' personal investment in the job and organization. With reduced willingness to invest oneself we expect to see a negative impact on employees' association with the organization and the job, hence reduced ownership perceptions (Pierce et al., 2001).

H4: Perceptions of passive leadership will be negatively related to employees' psychological ownership (a) of the organization and (b) the job.

THE MEDIATING ROLE OF PSYCHOLOGICAL OWNERSHIP

Several studies (e.g. Avolio, Zhu, Koh, & Bhatia, 2004; Bono & Judge, 2003; Korek, Felfe, & Zaepernick-Rothe, 2009) as well as meta-analyses (Dumdum, Lowe, & Avolio, 2002) highlight the association between leadership and work attitudes and behaviors. However, little is known about the mechanisms underlying this link (Avolio et al., 2009). The second aim of this study is therefore to provide insight into an important mechanism by which leadership exerts its influence on followers' motivation and performance. Recognizing that a variety of different processes may be involved in the connection between leadership style and outcome (Avolio, et al., 2004; Bono & Judge, 2003; Kark & Shamir, 2002), this study explores the potential role of psychological ownership as a mediating factor. We concentrate on five favorable organizational outcomes which have frequently been associated with both psychological ownership and leadership style: Affective commitment to the organization, job satisfaction, turnover intention, organizational citizenship behavior (extra-role behavior), and individual performance (in-role behavior). The theoretical framework which guides the mediation analysis is presented in Figure 1.

Insert Fig.1 here

Organizational commitment is considered as an “affective or emotional attachment to the organization such that the strongly committed individual identifies with, is involved in, and enjoys membership in the organization” (Allen & Meyer, 1990, p.2). Antecedents to organizational commitment can be found in work experiences, personal and organizational

factors. Accumulated evidence indicates that leadership style exerts a significant influence on organizational commitment (Dumdum et al., 2002; Felfe & Gohhl, 2002). In the previous section we argued that leadership styles which allow followers higher levels of control and enable them greater opportunities to gain knowledge and invest themselves in the organization and their job can trigger possessive feelings. Feeling a sense of attachment, the essence of affective organizational commitment, increases the wish to maintain a close relationship with the organization. This is in line with theoretical articles (e.g. Pierce, Rubenfeld, & Morgan, 1991) and recent studies (Mayhew et al., 2007; Md-Sidin, Sambasivan, & Muniandy, 2010; Van Dyne & Pierce, 2004) which have introduced psychological ownership as a central factor related to, but distinct from, organizational commitment. Therefore, combining the proposed effect of leadership style on psychological ownership and the antecedent effect of psychological ownership on affective organizational commitment, we expect to find a mediation effect of psychological ownership in the relationship of leadership style and organizational affective commitment.

Similar to organizational commitment, several studies have provided support for the influence of leadership styles on job satisfaction (e.g. Bycio et al., 1995; Fuller, Patterson, Hester, & Stringer, 1996). More specifically, transformational leadership regularly produces higher levels of satisfaction than transactional, and transactional higher levels than passive leadership. We propose that one explanation for this relationship lies in the association of leadership styles with psychological ownership and between ownership and satisfaction (Mayhew et al., 2007; Md-Sidin et al., 2010; Van Dyne & Pierce, 2004). Therefore, we reason that the influence of leadership on job satisfaction operates through psychological ownership.

Employees, especially under transformational but also under transactional leaders, are less likely to leave the organization and give up their current job (Bycio et al., 1995). Valued possessions have been regarded as part of the extended self and losing them would

equal giving up a part of the self (Belk, 1988). Therefore, the willingness to give up one's job (i.e. turnover intention) is expected to be lower for employees with strong ownership feelings for the organization and their role in it (Pierce et al., 2009). Hence psychological ownership will function as a mediator between leadership and turnover intention.

Besides pro-organizational attitudes, psychological ownership is followed by a variety of care-taking behaviors. Individuals take on responsibility for the owned object, treat their possessions with great care, and give it more attention (Belk, 1988). In an organizational setting ownership can be expressed through conscientious role behavior and job performance, but also in discretionary behavior related to the work place (Organ, 1988), which are not part of the formal organizational reward system but promote the effective functioning of the organization (Van Dyne, Cummings, & McLean Parks, 1995; Van Dyne & LePine, 1998). Such extra-role behaviors include helping co-workers, volunteering for extra-tasks, and orienting new employees. Previous research has suggested that employees with high psychological ownership show increased likelihood of displaying positive in-role (Md-Sidin et al., 2010; Wagner et al., 2003) and extra-role behaviors (Meyhew et al., 2007; Van Dyne & Pierce, 2004).

In summary, we argue that employees with high levels of psychological ownership tend to show owner-like behavior, which is expressed via in-role and extra-role efforts, high levels of commitment and job satisfaction, as well as reduced turnover intention. Based on the above arguments and hypotheses 1, 2, and 4, that leadership style will be associated with psychological ownership, we consider psychological ownership as a mediator in the leadership-outcome relationship. Therefore, we hypothesize that:

H5: Employees' psychological ownership of the organization and the job will mediate the relationship between the owner-managers' transformational leadership style and employees' a) extra-role behavior, b) in-role behavior, c) organizational commitment, d) job satisfaction, and e) turnover intention.

H6: Employees' psychological ownership of the organization and the job will mediate the relationship between the owner-managers' transactional leadership style and employees' a) extra-role behavior, b) in-role behavior, c) organizational commitment, d) job satisfaction, and e) turnover intention.

H7: Employees' psychological ownership of the organization and the job will mediate the relationship between the owner-managers' passive leadership style and employees' a) extra-role behavior, b) in-role behavior, c) organizational commitment, d) job satisfaction, and e) turnover intention.

METHOD

Sample

Our empirical analysis is based on a sample of 52 small family-owned and managed businesses in South-West Germany, operating in a variety of different industries. We contacted owner-managers of family-businesses in the geographical proximity of the first author's university and explained the purpose of our study. The first author distributed and collected the questionnaires on site.

The study design involved the collection of data from two sources. First, self-report data were collected from nonfamily employees working in the businesses. In addition, these employees provided an assessment of the leadership style of the owner-manager. To ensure

that each employee knew and reported to the owner-manager, we selected only small businesses¹ for our sample which had a maximum of 20 employees, only one managing owner, and no formal hierarchical organization among employees. Employees were introduced to the study and given assurances of confidentiality. The questionnaires were distributed, completed and collected in the employees' regular working environment in the absence of the owner-manager. Second, family business owner-managers were assured of confidentiality and asked to assess each of their employees' in-role performance and organizational citizenship behavior (OCB).

Overall, we received responses from 50 owner-managers and 229 nonfamily employees (a response rate of 47%), of which we could match 224. On average the businesses had 9.8 employees, all employed in white collar jobs. The mean age of the participating employees was 39 years (SD = 12.04 years, range = 18-64 years). Average length of tenure was 9.1 years (SD = 10.47 years) and 76% of the employees were female.

Measures

For the measurement of *psychological ownership of the organization*, we relied on the 7-item instrument originally developed by Pierce, Van Dyne, and Cummings (1992), with further validation evidence provided by numerous psychological ownership studies (e.g., Mayhew et al., 2007; O'Driscoll et al., 2006; Van Dyne & Pierce, 2004;). A sample item is "I feel a very high degree of personal ownership for this organization". The seven-point Likert-type scale ranges from 1 = strongly disagree to 7 = strongly agree. After translating the scale into German, we compared it with a previously used translation by Martins and colleagues (Martins, Pundt, Horsman, & Nerdinger, 2008). Two independent bilingual experts, who did

¹ According to the definition recommended by the European Commission, enterprises with less than 50 employees qualify as small companies .

not know the original scale, retranslated the items into English. Together with a native English speaker we compared the English version with the translation and found no major differences.

We performed a confirmatory factor analysis using AMOS to uncover the latent structure of this measure. A better measurement fit was obtained when we removed one original item (“Most of the people that work for this organization feel as though they own the company”) due to its low factor loading in the translated version. Deleting this item also makes sense from a content validity perspective, as it appeals to a mutual sense of ownership rather than to the individual’s personal level of perceived ownership. The one-factor model with six items, allowing for error co-variances, produced a good fit ($\chi^2/df = 1,706$; RMSEA = .06, CFI = .994, GFI = .982). The scale reliability was Cronbach's alpha of .91.

We followed the same procedure to measure *psychological ownership of the job*. This measure has also been previously used (e.g. Meyhew et al., 2007; O’Driscoll et al., 2006) and consists of five items (e.g. “I feel a very high degree of personal ownership for this job”). After the translation process and similar to the measure of psychological ownership towards the organization, we obtained good model fit ($\chi^2/df = 4.059$; RMSEA = .124, CFI = .969, GFI = .964). Due to its low factor loading, we removed one item (“Most of the people that work for this organization feel as though they own this organization”). Cronbach’s alpha for the remaining four items was .88.

Family business owner-managers’ *leadership styles* were assessed by nonfamily employees on Avolio and Bass’ (1995) Multi-Factor-Leadership Questionnaire (MLQ version 5X). We used a version of this questionnaire translated and validated by Felfe (2006). A central element of Bass and Avolio’s scale is the differentiation between transformational and transactional leadership. Several studies and meta-analyses provided evidence on the usefulness of the instrument as well as the concept of transformational leadership itself (Bass,

Avolio, Jung, & Berson, 2003; Avolio, Bass, & Jung, 1999;). In addition, the instrument measured passive leadership (*laissez-faire*). Modifications in the validation of a translated MLQ version (Felfe & Goihl, 2002) increased the number of items to 37, with 23 items measuring transformational leadership, seven transactional leadership, and seven passive leadership. The items described typical leadership behaviors. Respondents were asked to mark the frequency with which their owner-manager engaged in each of the behaviors on a five-point scale (ranging from 1=never to 5=always). Removal of three items (one from each scale), based on low factor loadings, improved measurement fit. The fit statistics for transformational, transactional, and passive leadership were ($\chi^2/df = 2.209$; RMSEA = .078, CFI = .918, GFI = .834), ($\chi^2/df = 2.582$; RMSEA = .089, CFI = .947, GFI = .968), and ($\chi^2/df = 2.389$; RMSEA = .084, CFI = .973, GFI = .969) respectively. Testing the scale's internal validity yielded Cronbach's alphas for transformational, transactional, and passive leadership of .96, .76, .85 respectively.

To measure *organizational commitment* we used Allen and Meyer's (1990) affective commitment scale in its validated German version by Felfe, Six, Schmook, & Knorz (2004). The affective dimension of the German instrument (e.g. "This organization has a great deal of personal meaning for me") contains five items on a seven-point Likert-type scale ranging from strongly disagree (1) to strongly agree (7). Fit statistics for affective commitment were acceptable ($\chi^2/df = 2,589$; RMSEA = .089, CFI = .987, GFI = .977) and alpha was .90.

We measured *job satisfaction* with a global rating of employees' job satisfaction (Andrews & Withey, 1976), using two items ("I am very satisfied with my job" and "Taking all aspects together: I am very satisfied with my job overall") from a validated translated version (Zuma, 2000) with a seven-point Likert type response scale. The use of global ratings of job satisfaction (Spector, 1986) is common in this line of research as several researchers

argue them to be more accurate and valid than summation of job facets (Mayhew et al., 2007, Scarpello & Campbell, 1983). Cronbach's alpha for this measure was .82.

Finally, *turnover intentions* were assessed by three items compiled by Adams and Beehr (1998). These items were: "I am planning to leave my job for another in the near future", "I often think of quitting this job and finding another", and "I would like to quit this job and find another in the near future". All were rated on a seven-point Likert type scale ranging from "1=disagree strongly" to "7=agree strongly". The internal reliability was alpha of .91.

In order to minimize single-source bias, we had family business owner-managers independently provide an evaluation of employees' *in-role performance* and *OCB*. A 25-item scale was adapted from Staufenbiehl & Hartz's (2000) measure of Organ's (1988) in-role and extra-role behavior. Owner-managers assessed observed employee in-role performance (the scale ranged from 1 = never to 5 = always) on five items. A sample item is "The employee fully meets the expectations towards his/her position". CFA confirmed a good fit ($\chi^2/df = 2.057$; RMSEA = .073, CFI = .993, GFI = .984).

The scale for extra-role behavior (OCB) consisted of twenty items (e.g. "The employee helps orient new employees" and "The employee attends functions that help the group"). Although several authors propose a multi-dimensional structure for OCB (Podsakoff et al., 1990; Organ, 1988), the validation of the translated OCB scales has shown a dominant single factor and high intercorrelations between potential subdimensions (Staufenbiehl & Hartz, 2000). For the purpose of this study we decided to aggregate items in a one-factor model measuring extra-role behavior. Due to low factor loadings we removed two items. The one-factor model, allowing for error co-variances, yielded good fit statistics ($\chi^2/df = 1.775$; RMSEA = .062, CFI = .943, GFI = .905). The internal reliability coefficients for in-role and extra-role behavior were .90 each.

ANALYSIS

The present data feature a structure that requires special consideration. Since participants came from several different companies, they were nested in a second level, namely the organization they belonged to. A natural concern is to what degree organizational membership influences our analysis. Uncorrected tests of individual-level relationships may inadvertently contain unit-level effects, and thus distort results. Hence our analysis included the individual level as well as the organizational level in which employees were nested. In addition, because owner-managers assessed their employees' in-role and extra-role behavior, the ratings were potentially dependent on the owner-manager who rated the performance.

We recognized that there is the possibility of dependency in observations that could violate the assumption of independence in ordinary least squares estimation. To address this problem, we calculated the "cluster effect" or intraclass correlation coefficient ICC(1). This coefficient measures the proportion of variance in the outcome that can be attributed to group (i.e. organizational) membership (Bliese, 2000; Raudenbush & Bryk, 2002). ICC(1) provides estimates of the group-level properties of the data unbiased by either group size or number of groups in the sample (Bliese & Halverson, 1998). As the organizations in our sample had unequal group sizes, ranging from two to fourteen employees, we calculated the average group size as recommended by Bliese and Halverson (1998). We obtained moderate ICC(1) values (Bliese, 1998), ranging from .2 (organizational commitment) to .5 (OCB). This indicated that a proportion of the variance in the outcome variables can be attributed to the organizational level and the owner-manager who provided the assessment. ANOVA with organization as the independent variable confirmed this effect, as the F-values were significant ($p < .01$).

In light of these findings, we used hierarchical linear modeling (HLM, Raudenbush & Bryk, 2002) to test our hypotheses. This approach accounts not only for hierarchical levels

but also for potential dependencies in the Level-1 (individual-level) data. Following Hofmann and Gavin (1998), we applied a grand mean centering approach, which not only facilitates the interpretation of HLM results but also reduces potential problems associated with multicollinearity (Cronbach, 1987; Kreft, De Leeuw, & Aiken, 1995).

Harman's single factor test (1967) as suggested by Podsakoff and Organ (1986) provided initial evidence that common method bias was not a major problem, because no single factor accounted for the majority of the variance. Addressing the potential for multicollinearity, we centered the variables (Cronbach, 1987) and found that the Variance Inflation Factor was under 1.2, and the condition index did not exceed 11.67, indicating that multicollinearity is not a concern (Hair, Black, Babin, Anderson, & Tatham, 2006).

To investigate the proposed mediating effects, we followed the framework outlined by Baron and Kenny (1986). According to Baron and Kenny, four criteria for mediation must be met. First, there must be a significant relationship between the predictor variable (i.e. leadership style) and the mediator (i.e. psychological ownership). Second, the predictor variable has to be significantly related to the criterion variable. That is, leadership style needs to be related to employees' attitudes and behavior. Third, the mediator must be related to the criterion variable. Fourth, in the presence of the mediating variable, the relationship between predictor and criterion variable has to decrease. If it remains significant, this indicates partial mediation; if it becomes insignificant, full mediation has occurred. In addition, we tested the significance of these mediation effects with the Sobel test (McKinnon, Lockwood, Hoffman, West & Sheets, 2002; Sobel, 1983). For the mediation analyses, we examined unstandardized regression coefficients (see Tables 2-6).

In order to avoid type 1 error in the analysis, we considered the possibility that extraneous variables (confounding variables at both organizational and individual levels) might correlate with several variables in our model. In particular, at the individual level

(Level-1), gender, organizational tenure, working hours per week, and hours of direct contact with the supervisor might exert influence on both types of psychological ownership as well as the outcome variables. At the organizational level (Level-2) the organizational size, the number of employed family members, and current and past organizational performance are potential confounders. To test this possibility, we controlled for these variables separately. Results of these analyses, however, were only marginally different, so for simplicity we present results excluding the above control variables.

RESULTS

Descriptive statistics

Descriptive statistics and correlation coefficients among all variables are presented in Table 1. We applied casewise deletion of missing data. Transformational and transactional leadership exhibited a higher mean than passive leadership. The mean for psychological ownership of the job was higher than the mean for psychological ownership of the organization. Extra-role and in-role behavior showed relatively high means and low standard deviations.

Even though the overall correlations are not definitive because they do not take into account the hierarchical nature of the data, we found several statistically significant relationships between the ownership scales and the in-role and extra-role behavior scales which have not been established in all previous studies (Mayhew et al., 2007). Moreover, both types of psychological ownership were correlated with organizational commitment, job satisfaction, and turnover intention. Of the three leadership styles, extra-role behavior was significantly correlated only with transformational leadership. Furthermore, we did not find significant relationships between in-role behavior and any of the leadership styles.

Insert Table 1 here

Leadership style and psychological ownership

Hypotheses 1 and 2 predicted that transformational and transactional leadership styles would be positively related to employees' psychological ownership, while hypothesis 4 posited a negative relationship of ownership with passive leadership. We expected these relationships to be valid for psychological ownership of the organization and of the job. Taking the hierarchical structure into account, HLM results provide support for hypotheses 1 and 2. Transformational leadership was positively related to psychological ownership of the organization ($B=.75$, $p<.01$) and the job ($B=.42$, $p<.01$), as was transactional leadership ($B=.60$, $p<.01$, and $B=.33$, $p<.01$, respectively). Passive leadership showed a significant negative relationship with psychological ownership of the organization ($B=-.36$, $p<.01$), supporting hypothesis 4a, but not with psychological ownership of the job ($B=-.12$, $p>.05$), rejecting hypothesis 4b.

Hypothesis 3 predicted that the relationship of psychological ownership would be stronger with transformational than with transactional leadership. For this analysis, we standardized the regression coefficients (β ; Hox, 2002) and tested differences between them (Howell, 1997). Consistent with hypothesis 3a, we found that the standardized regression coefficient of transformational leadership to psychological ownership of the organization ($\beta=.38$) was significantly different to that between transactional leadership and psychological ownership ($\beta=.28$; $t=2.03$; $p<.05$). However, differences between the two leadership styles

were not significant when correlated with psychological ownership of the job ($\beta=.26/\beta=.19$; $t=1.39$; $p>.05$), rejecting hypothesis 3b.

Mediational role of psychological ownership

Hypotheses 5, 6, and 7 explored the role of psychological ownership as a link between leadership style and several organizationally relevant outcomes, namely employees' in-role and extra-role behavior, organizational commitment, job satisfaction, and turnover intention. Specifically, we expected to find that psychological ownership would mediate the relationship between leadership styles and favorable organizational behaviors and attitudes. As in-role performance did not show a significant relationship with any of the three leadership scales, we excluded this variable from further mediation analysis.

Hypothesis 5 centered on transformational leadership. HLM results suggested that the link between transformational leadership and organizational commitment, job satisfaction, and turnover intention was partially mediated by psychological ownership of the organization (see Table 2) and likewise by psychological ownership of the job (see Table 3). In addition, we found full mediation effects between both types of psychological ownership and extra-role behavior. Sobel tests indicated that all these mediations were statistically significant except that for psychological ownership of the job and extra-role behavior.

Insert Tables 2 and 3 here

Hypothesis 6 related to transactional leadership. Although HLM showed that psychological ownership (both job- and organization-based) was correlated with extra-role behavior, transactional leadership did not show a significant relationship with extra-role behavior. Therefore, Baron and Kenny's (1986) second requirement was not fulfilled and our results did not support the proposed mediation effect of psychological ownership on extra-role behavior. On the other hand, psychological ownership (of the job and of the organization) was a partial mediator between transactional leadership and organizational commitment, job satisfaction, as well as turnover intention (see Tables 4 and 5).

Insert Tables 4 and 5 here

Table 6 shows the mediation results between passive leadership and the outcome variables. Psychological ownership of the organization partially mediated the relationship between this leadership type and organizational commitment, job satisfaction, and turnover intention. Furthermore, even though the initial correlation results (see Table 1) showed insignificance between extra-role behavior and passive leadership, this relationship proved to be significant when taking the hierarchical structure of the data into account ($\beta = -.08$; $p < .05$). However, the mediational role of psychological ownership of the organization was not supported, due to an insignificant Sobel test. Likewise, due to the insignificance of the relationship between psychological ownership of the job and passive leadership, Baron and Kenny's (1986) first requirement was not fulfilled. Therefore, we did not find support for any mediation effects of psychological ownership of the job in the relationship between passive leadership and the attitudinal and behavioral variables.

Insert Table 6 here

DISCUSSION

The purpose of this study was to examine two main research questions. First, we asked whether leadership style of the family business owner-manager has a significant relationship with nonfamily employees' feelings of psychological ownership. Our findings suggest that transformational and transactional leadership styles have a significant positive relationship with psychological ownership of both the organization and the job. Employees who experienced transformational behaviors by their leader, such as providing a vision, being a role-model, and developing followers, were likely to develop strong ownership feelings for the organization and their job. Similarly, employees who described the owner-manager as a transactional leader (setting goals, controlling them, and providing rewards) also achieved high levels of psychological ownership of the organization and the job. On the other hand, passive leadership, represented by owner-managers described as reluctant leaders and waiting for problems to arise before addressing them, appeared to have a negative relationship with psychological ownership of the organization, but was not significantly associated with psychological ownership of the job. One possible explanation is that in the absence of the leader's guidance employees fail to connect with the organization. This lack of connection might apply less to ownership feelings for the job since even in the absence of active leadership there are different channels to strengthen the routes toward psychological ownership of the job. For instance, gaining knowledge of one's job is possible through

additional training, years of hands-on experience or helpful colleagues. In contrast, it may be more difficult to access information about the organization as a whole without the guidance of the owner-manager.

In sum, our findings support the view of leadership style being an important contextual factor for the development of psychological ownership. In addition, we found that the relationship of psychological ownership of the organization with transformational leadership was stronger than with transactional leadership. This could underpin the idea that in order to promote greater ownership feelings for the family business, owner-managers should display transformational leadership styles. However, we could not confirm a significant superiority of transformational leadership in relation to psychological ownership of the job. Apparently, active transformational leadership can better exert its positive influence on psychological ownership of the organization than of the job. Again, the opportunity for employees to exert control over and obtain information about the organization may be heavily reliant on the behavior of the the owner-manager, whereas getting to know one's job can happen independently of leadership.

Our second research question asked whether psychological ownership can play a mediating role in the creation of desirable organizational outcomes. Our results support this view for several outcomes. All relationships between the three leadership styles and organizational commitment, job satisfaction, and turnover intention were partially mediated by psychological ownership of the organization and the job. Therefore, our results indicate that psychological ownership can be a significant mechanism by which leadership style exerts an influence on employees' attitudes.

When examining employees' behaviors we found support for psychological ownership of the organization as a full mediator of the relationship between transformational leadership and extra-role behavior. This finding suggests that nonfamily employees under

transformational owner-managers experience ownership feelings for the family business. Employees with such feelings are likely to experience responsibility and stewardship for the organization. This in turn appears to be an essential mechanism to motivate them to make personal sacrifices for the organization and to engage in citizenship behaviors.

However, our results did not support other proposed relationships with in-role and extra-role behavior. Although our study is in several ways unique and different to earlier studies of psychological ownership, this reflects the mixed results obtained by other researchers. For instance, Wagner et al. (2003) found a strong relationship between ownership beliefs and ownership behaviors, and Van Dyne and Pierce (2004) reported that psychological ownership showed significant correlations with OCB and individual performance, but only when they did not account for demographic controls. Mayhew et al. (2007), however, failed to replicate these results and did not find any correlation of psychological ownership with in-role performance or two forms of extra-role behavior.

We expected to obtain clearer results when examining the relationship between psychological ownership and employees' performance in a family business setting. The intimate and close environment of small family businesses should reinforce ownership feelings and make resulting behaviors easily observable to owner-managers. In addition, applying HLM would help making assessments more comparable across owner-managers and reducing rater's effects. Nevertheless, in-role performance was not significantly correlated with all other variables. Although we discovered an initial significant correlation with psychological ownership of the job, this relationship vanished when we controlled for the hierarchical structure of the data. Similarly, extra-role behavior did not correlate as expected with transactional and passive leadership. One potential reason for this is that the assessments of in-role performance and extra-role behaviors had a relatively high mean value and relatively low variance (i.e. a low standard deviation). It appears that the majority of small

business owners in our sample were very satisfied with their employees' performance. This raises the question whether employees in small family businesses indeed perform better than employees in other types of organizations, or whether the small business owner-managers were displaying a "leniency bias" in their evaluations. Personal relationships with long-standing employees, or even friendship, may have prevented owner-managers from providing unfavorable evaluations of poor performers. Therefore, as an alternative explanation for the high scores on the performance scales, we also have to consider social desirability and selection bias.

Future studies should take these shortcomings into account and consider different ways to measure employees' in-role performance and extra-role behavior. This may be easier in more formal environments where performance records can be accessed. Small business owners refrain in most cases from keeping such records. A more qualitative approach using personal interviews on employees' performance also may not elicit more reflective evaluations from owner-managers. Therefore, an alternative approach could be the measurement of in-role and extra-role performance by peers, as noted by Van Dyne and LePine (1998).

Theoretical and practical implications

Understanding ownership as a psychological phenomenon in organizational settings has gained speed in recent years and the concept of psychological ownership has been the focus of recent research (Avey et al., 2009; Brown, Lawrence, & Robinsons 2005; Pierce & Jussila, in press; Pierce et al., 2009). However, only a few studies have empirically examined the environmental and organizational factors that foster ownership beliefs and their potential outcomes. Our findings advance psychological ownership theory as we are the first to

systematically explore leadership style as a contextual factor to help further understand the mechanisms through which ownership feelings evolve. Our findings show how different types of leaders can augment or limit employees' psychological ownership. This adds to our knowledge of how leadership needs to be shaped in order to facilitate employees' positive attitudes and behaviors towards the organization and their jobs.

Furthermore, our findings contribute to leadership research by implicating psychological ownership as an additional intervening process through which leadership generates certain outcomes. Most previous research has concentrated on conditions in which a particular leadership style is more or less likely to emerge and to which outcomes it leads. For instance, there have been many studies of the antecedents and beneficial effects of transformational leadership. However, research has only recently started to examine the processes through which transformational leadership exerts its influence on outcomes (e.g. Avolio et al., 2004; Bono & Judge, 2003; Walumbwa, Avolio, & Zhu, 2008). The present findings are the first to establish links between the three leadership styles and outcome variables via psychological ownership. Thus, this study extends prior research by identifying the mediating role of psychological ownership.

Another important contribution is the consideration of psychological ownership within a family business setting. Although in public perception and media coverage large companies dominate, the large majority of enterprises worldwide are family owned and managed (Gersick, Davis, Hampton, & Lansberg, 1997; Klein, 2000). In spite of their importance to most economies, little research has been undertaken to understand employees' situation in these businesses. In this research, we focused specifically on nonfamily employees' psychological ownership within the small family business environment. Supporting this focus, several authors have argued that in such an environment, due to the proximity between management and individual employees, psychological bonds are

particularly strong (Dirks et al., 1996). Thus, it is especially interesting to examine ownership feelings of employees who are not part of the family circle and whose chances to obtain formal ownership are usually limited. Our findings illustrate that family business owners have the opportunity to enhance their employees' feelings of ownership for the job and the organization, which in turn would increase their integration within the family business.

Extending this logic, a follow-up question worth further exploration is under which circumstances nonfamily employees feel like family members. Perceived group membership with the owning family could bridge the gap between insiders (family members) and outsiders (nonfamily employees), reduce feelings of intra-family favourism and perceived nepotism, and further strengthen ties to the business (Sieger, Bernhard, & Frey, 2010). Consequently, we would expect higher levels of pro-organizational attitudes and behaviors. Recent research (Pierce & Jussila, in press) on the creation of a collective feeling of ownership suggests a similar theme. Understanding how collective ownership feelings for the business evolve among owners (i.e. family members) and non-owners (i.e. nonfamily members) can be a fruitful direction for future research.

Limitations

As with any research, this study has strengths and weaknesses. Our research provides insight on the contextual factors for psychological ownership. Empirically, our study stands out as the sample included a comparatively large number of different small family businesses, a group which is generally difficult to acquire for studies, but believed to be particularly appropriate for research on psychological ownership (Dirks et al., 1996; Ikävalko et al., 2006). In addition, we accounted for the hierarchical levels and influences by the raters

that most previous research in the field has ignored. Previous research on psychological ownership has not incorporated multi-level analysis.

One of the main weaknesses, however, is the cross-sectional data, which preempt judgments of causality. Thus, we were unable to test whether leadership style causes psychological ownership, nor could we test whether psychological ownership causes any of the other behavioral and attitudinal constructs. Therefore, based on our data it is impossible to rule out the possibility of reverse causality, that is that the outcome variables may lead to psychological ownership and leaders adapt their leadership style accordingly. Longitudinal study designs could therefore provide additional insight into the causal effect chain.

Another limitation is the possibility of common method variance due to use of self-reports for several variables. We reduced this possibility by procedural techniques suggested by Podsakoff, MacKenzie, Lee, and Podsakoff (2003). For instance, we collected owner-managers' judgments on in-role performance and extra-role behavior. We protected respondent anonymity and thus reduced evaluation apprehension. The fact that we obtained differential relationships (e.g. passive leadership was strongly correlated with psychological ownership of the organization, but not with psychological ownership of the job) indicates that our findings cannot be fully explained by common method variance.

A final limitation concerns the validity of owner-managers' assessment of employees' performance. There is a possibility that owner-managers' responses were biased when providing overly positive assessments of their employees' in-role performance and extra-role behavior. However, we addressed this problem in our analysis by using HLM to take into account differences between owner-managers' ratings. Potential for additional bias applies to the selection of owner-managers who decided to participate in our research. It is possible that owner-managers who decided to participate perceived their followers' performance as superior. To avoid selection bias, the sample collection needs to encompass

large, random sample of respondents. This is a major challenge, given the fact that many small family business owners are very cautious when providing information on the business, which is reflected by low response rates (Aldrich & Baker, 1997; Paxson, Dillman, & Tarnai, 1995). We countered this challenge by personally contacting owner-managers, explaining the purpose and aim of the study on site, and promising feedback on results. However, in order to strengthen credibility of small family business research by obtaining higher response rates, future research needs to find efficient ways to motivate owner's willingness to participate in such studies (e.g. Dennis, 2003).

Conclusion

Changing leadership behavior is a difficult challenge, especially for small family business leaders who have effectively guided their business for many years. However, as our findings suggest, the effort to learn aspects of transformational leadership styles (Kirkbride, 2006) can make sense, as it has the potential to enhance the favorable effects of perceived ownership on the part of employees who are not family members, leading in turn to more positive attitudes and behaviors concerning their work and the organization.

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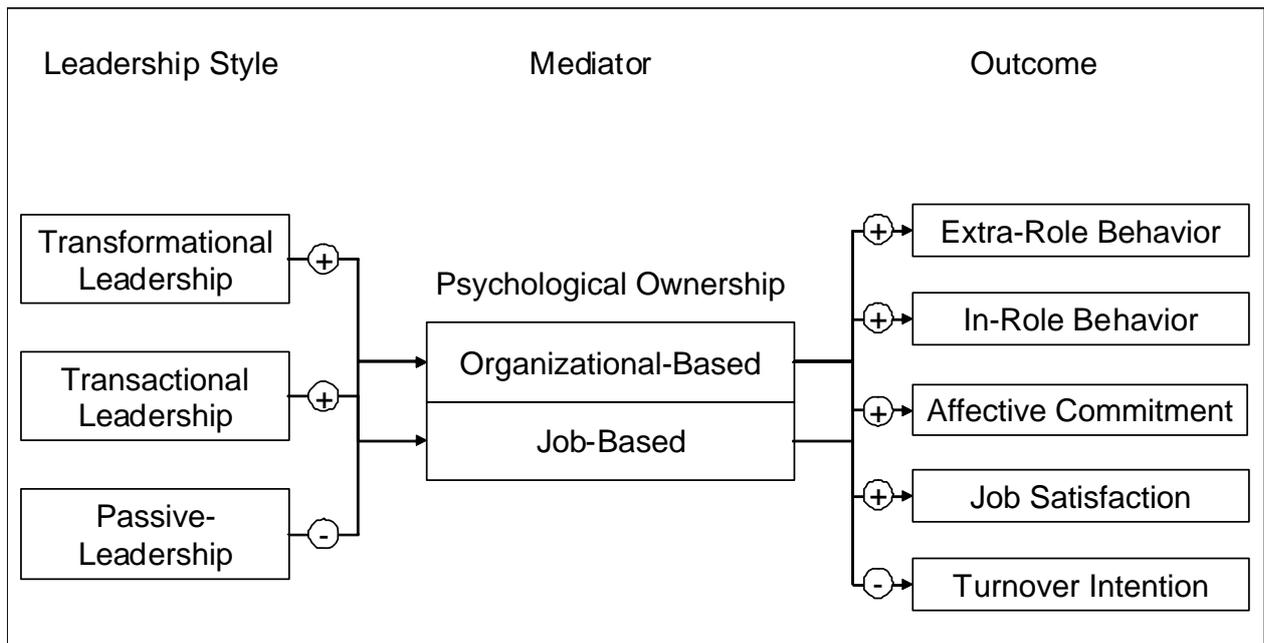


Figure 1. The mediating role of psychological ownership on the relationship between leadership style and employees' attitudes and behaviors.

TABLE 1: Descriptive Statistics and Correlations

	n	M	SD	1	2	3	4	5	6	7	8	9	10
1. Transformational leadership	225	3.44	.77	(.96)									
2. Transactional leadership	225	3.32	.71	.72**	(.76)								
3. Passive leadership	225	2.38	.83	-.68**	-.64**	(.85)							
4. Organizational-based PO	224	3.65	1.51	.41**	.30**	-.21**	(.91)						
5. Job-based PO	224	5.24	1.23	.28**	.21**	-.11	.50**	(.88)					
6. Extra-role behavior	261	4.18	.56	.17*	.12	.08	.23**	.25**	(.92)				
7. In-role behavior	256	4.52	.60	.12	.00	.09	.07	.20**	.75**	(.90)			
8. Affective commitment	225	5.37	1.20	.60**	.35**	-.37**	.52**	.56**	-.33**	-.30**	(.90)		
9. Job satisfaction	224	5.56	1.13	.55**	.37**	-.35**	.38**	.47**	-.31**	-.33**	.76**	(.82)	
10. Turnover intention	224	2.03	1.26	-.38**	-.21**	.30**	-.39**	-.40**	.26**	.30**	-.69**	-.63**	(.91)

Correlations based upon two-tailed tests.

** p < .01; * p < .05.

Internal consistency reliabilities (Cronbach's α s) are shown in parentheses on the diagonal.

TABLE 2:

Organizational-Based Psychological Ownership as a Mediator of the Relationship between
Transformational Leadership and Extra-Role Behavior, Affective Commitment, Job Satisfaction, and
Turnover Intention

Step	Criterion	Predictor	B	t-ratio	Mediation
Equation 1 (Extra-Role Behavior)					
1	PO-Org	Transform-L	.75	5.78**	
2	Extra-Role	Transform-L	.12	2.39*	
3	Extra-Role	Transform-L	.08	1.56	
		PO-Org	.05	2.10	
			Sobel test z = 1.97, p <.05		(full)
Equation 2 (Affective Organizational Commitment)					
1	PO-Org	Transform-L	.75	5.78**	
2	Aff-Com	Transform-L	.96	10.56**	
3	Aff-Com	Transform-L	.76	8.44**	
		PO-Org	.26	5.98**	
			Sobel test z = 4.16, p <.01		(partial)
Equation 3 (Job Satisfaction)					
1	PO-Org	Transform-L	.75	5.78**	
2	Job-Sat	Transform-L	.82	9.42**	
3	Job-Sat	Transform-L	.72	7.78**	
		PO-Org	.14	3.02**	
			Sobel test z = 2.68, p <.01		(partial)
Equation 4 (Turnover Intention)					
1	PO-Org	Transform-L	.75	5.78**	
2	Turnover	Transform-L	-.62	-5.67**	

3	Turnover	Transform-L	-0.45	-3.93**	
		PO-Org	-0.23	-4.15**	
			Sobel test $z = 3.37, p < .01$		(partial)

Note: PO-Org = Organizational-Based Psychological Ownership; Extra-Role = Extra-Role Behavior; Transform-L = Transformational Leadership; Aff-Com = Affective Organizational Commitment; Job-Sat = Job Satisfaction; Turnover = Turnover Intention.

* $p < .05$. ** $p < .01$.

TABLE 3:

Job-Based Psychological Ownership as a Mediator of the Relationship between Transformational Leadership and Extra-Role Behavior, Affective Commitment, Job Satisfaction, and Turnover Intention

Step	Criterion	Predictor	B	t-ratio	Mediation
Equation 1 (Extra-Role Behavior)					
1	PO-Job	Transform-L	.42	3.73**	
2	Extra-Role	Transform-L	.12	2.39*	
3	Extra-Role	Transform-L	.11	2.21	
		PO-Job	.02	.85	
			Sobel test z = 0.83 (non sign.)		(none)
Equation 2 (Affective Organizational Commitment)					
1	PO-Job	Transform-L	.42	3.73**	
2	Aff-Com	Transform-L	.96	10.56**	
3	Aff-Com	Transform-L	.77	9.63**	
		PO-Job	.41	8.61**	
			Sobel test z = 3.42, p <.01		(partial)
Equation 3 (Job Satisfaction)					
1	PO-Job	Transform-L	.42	3.73**	
2	Job-Sat	Transform-L	.82	9.42**	
3	Job-Sat	Transform-L	.67	8.24**	
		PO-Job	.31	6.30**	
			Sobel test z = 3.20, p <.01		(partial)
Equation 4 (Turnover Intention)					
1	PO-Job	Transform-L	.42	3.73**	
2	Turnover	Transform-L	-.62	-5.67**	

3	Turnover	Transform-L	-.47	-4.53**
		PO-Job	-.29	-4.69**
			Sobel test z = 2.92, p <.01	(partial)

Note: PO-Job = Job-Based Psychological Ownership; Extra-Role = Extra-Role Behavior; Transform-L = Transformational Leadership; Aff-Com = Affective Organizational Commitment; Job-Sat = Job Satisfaction; Turnover = Turnover Intention.

* p < .05. ** p < .01.

TABLE 4:

Organizational-Based Psychological Ownership as a Mediator of the Relationship between
Transactional Leadership and Affective Commitment, Job Satisfaction, and Turnover Intention

Step	Criterion	Predictor	B	t-ratio	Mediation
Equation 1 (Affective Organizational Commitment)					
1	PO-Org	Transact-L	.60	4.21**	
2	Aff-Com	Transact-L	.61	5.43**	
3	Aff-Com	Transact-L	.40	3.81**	
		PO-Org	.35	7.32**	
			Sobel test z = 3.65, p <.01		(partial)
Equation 2 (Job Satisfaction)					
1	PO-Org	Transact-L	.60	4.21**	
2	Job-Sat	Transact-L	.59	5.63**	
3	Job-Sat	Transact-L	.47	4.47**	
		PO-Org	.21	4.36**	
			Sobel test z = 3.03, p <.01		(partial)
Equation 3 (Turnover Intention)					
1	PO-Org	Transact-L	.60	4.21**	
2	Turnover	Transact-L	-.37	-2.99**	
3	Turnover	Transact-L	-.20	-1.61**	
		PO-Org	-.29	-5.15**	
			Sobel test z = 3.26, p <.01		(partial)

Note: PO-Org = Organizational-Based Psychological Ownership; Transact-L = Transactional Leadership; Aff-Com = Affective Organizational Commitment; Job-Sat = Job Satisfaction; Turnover = Turnover Intention.

* $p < .05$. ** $p < .01$.

TABLE 5 :

Job-Based Psychological Ownership as a Mediator of the Relationship between Transactional Leadership and Affective Commitment, Job Satisfaction, and Turnover Intention

Step	Criterion	Predictor	B	t-ratio	Mediation
Equation 1 (Affective Organizational Commitment)					
1	PO-Job	Transact-L	.33	2.72**	
2	Aff-Com	Transact-L	.61	5.43**	
3	Aff-Com	Transact-L	.47	4.89**	
		PO-Job	.47	8.88**	(partial)
			Sobel test z = 2.60, p <.01		
Equation 2 (Job Satisfaction)					
1	PO-Job	Transact-L	.33	2.72**	
2	Job-Sat	Transact-L	.59	5.63**	
3	Job-Sat	Transact-L	.48	5.07**	
		PO-Job	.36	6.76**	
			Sobel test z = 2.52, p <.05		
					(partial)
Equation 3 (Turnover Intention)					
1	PO-Job	Transact-L	.33	2.72**	
2	Turnover	Transact-L	-.37	-2.99**	
3	Turnover	Transact-L	-.28	-2.47**	
		PO-Job	-.33	-5.14**	
			Sobel test z = 2.40, p <.05		
					(partial)

Note: PO-Job = Job-Based Psychological Ownership; Transact-L = Transactional Leadership; Aff-Com = Affective Organizational Commitment; Job-Sat = Job Satisfaction; Turnover = Turnover Intention.

* p < .05. ** p < .01.

TABLE 6:

Organizational-Based Psychological Ownership as a Mediator of the Relationship between Passive Leadership and Extra-Role Behavior, Affective Commitment, Job Satisfaction, and Turnover Intention

Step	Criterion	Predictor	B	t-ratio	Mediation
Equation 1 (Extra-Role Behavior)					
1	PO-Org	Passive-L	-.36	-2.80**	
2	Extra-Role	Passive-L	-.10	-2.11*	
3	Extra-Role	Passive-L	-.08	-1.60	
		PO-Org	.06	2.40*	
			Sobel test z = 1.82 (non sign.)		(none)
Equation 2 (Affective Organizational Commitment)					
1	PO-Org	Passive-L	-.36	-2.80**	
2	Aff-Com	Passive-L	-.61	-6.18**	
3	Aff-Com	Passive-L	-.46	-5.30**	
		PO-Org	.35	7.75**	
			Sobel test z = 2.63, p <.01		(partial)
Equation 3 (Job Satisfaction)					
1	PO-Org	Passive-L	-.36	-2.80**	
2	Job-Sat	Passive-L	-.49	-5.32**	
3	Job-Sat	Passive-L	-.41	-4.59**	
		PO-Org	.23	4.89**	
			Sobel test z = 2.43, p <.05		(partial)
Equation 4 (Turnover Intention)					
1	PO-Org	Passive-L	-.36	-2.80**	
2	Turnover	Passive-L	.52	4.91**	

3	Turnover	Passive-L	.41	4.09**
		PO-Org	-.27	-5.09**
			Sobel test z = 2.45, p <.05	(partial)

Note: PO-Org = Organizational-Based Psychological Ownership; Passive-L = Passive-Leadership; Extra-Role = Extra-Role Behavior; Aff-Com = Affective Organizational Commitment; Job-Sat = Job Satisfaction; Turnover = Turnover Intention.

* p < .05. ** p < .01.