

Later published in The Journal of Social Psychology (2007) 147(5)

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## **A Study of the Antecedents and Consequences of Psychological Ownership in Organizational Settings**

### **Abstract**

Psychological ownership is a feeling of possession in the absence of any formal or legal claims of ownership. The aim of our research was to extend previous empirical testing psychological ownership in work settings to encompass both job-based and organization-based psychological ownership, related work attitudes and behavioral outcomes. Questionnaire data from 68 employees and their managers revealed both job-based and organization-based psychological ownership as distinct work attitudes, distinguishable from job satisfaction and organizational commitment. Psychological ownership also predicted job satisfaction and organizational commitment, and mediated the relationship between autonomy and these work attitudes. There was no support for a relationship between psychological ownership and behavioral outcomes. We conclude with a discussion of the limitations of our research and the implications of psychological ownership.

Key words: attitudes, psychological ownership, role behaviors

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Recent attention has been given to ownership as a psychological phenomenon embodied by the concept of psychological ownership (e.g., Pierce, Kostova, & Dirks, 2001; Pierce, Kostova, & Dirks, 2003; Pierce, O'Driscoll, & Coghlan, 2004; Pierce & Rodgers, 2004; Van Dyne & Pierce, 2004). This interest is warranted considering the effect of feelings of possession in influencing the individual's self-concept, attitudes and values, and demonstrable behavior. In the present research we attempt to further apply and empirically extend the notion of psychological ownership to organizational settings and draw inferences regarding its affects in this context.

Feelings of ownership can develop towards both material and immaterial objects, and serve to shape identity (Belk, 1988; Dittmar, 1992) and affect behavior (Isaacs, 1933; O'Toole, 1979). Such feelings can exist in the absence of any formal or legal claim of ownership. Instead, mere association has been considered ample to produce feelings of ownership (Beggan & Brown, 1994). It is these essential characteristics of possession that are encapsulated in the concept of psychological ownership. Pierce et al. (2001: 229) define psychological ownership as a "state in which individuals feel as though the target of ownership (material or immaterial in nature) or a piece of it is 'theirs' (i.e., 'it is MINE!').".

Managerial practitioners (e.g., Brown, 1989; Peters, 1989; Stayer, 1990) and scholars (e.g., Pierce et al., 2001) have postulated an organizational manifestation of psychological ownership. Considering the ubiquitous nature of feelings of possession and ownership, it can be expected that psychological ownership may develop towards any number of different organizational targets, for example, the organization, the job, the work tasks, the work space, work tools or equipment, ideas or suggestions, team members, and so on (Rudmin & Berry, 1987; Van Dyne & Pierce, 2004). Our intention in the present research is to focus on individuals' feelings of ownership towards both their organization and their job.

It is necessary first, however, to further define these two types of psychological ownership that have been identified in the literature. First, *organization-based psychological ownership* is concerned with individual members' feelings of possession and psychological connection to the organization as a whole. This state may be influenced by any number of different characteristics, including, perhaps, organizational culture and climate, attitudes of senior management, corporate goals and vision, reputation of the organization, and corporate policies and procedures. It is outside the scope of this paper, however, to investigate those specific factors that may influence organization-based psychological ownership. The second type, *job-based psychological ownership*, is related to an individual's feelings

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of possession towards his or her job exclusively. Both types of psychological ownership are considered attitudinal rather than an enduring trait of personality (Van Dyne & Pierce, 2004). Accordingly, psychological ownership is context-specific and is a reflection of the current position in regards to both the present organization and the existing job.

In the present research we focus on resolution of three central questions in relation to these two types of psychological ownership. First, is psychological ownership distinct yet related to the work attitudes of organizational commitment and job satisfaction? Second, what is the impact of job autonomy as an antecedent to psychological ownership? And third, what are the consequences of psychological ownership? Is it associated with positive benefits for the organization, namely increments in performance and extra-role behaviors? We discuss these questions by focusing on work attitudes (job satisfaction and commitment), job factors (autonomy), and work behaviors (in-role and extra-role behavior), and offer hypotheses to further test and validate the role of psychological ownership in organizations.

#### *Work attitudes*

According to Heider (1958), an individual's feelings of ownership "induces" liking of the object. Heider (1958) cites the conclusions drawn from studies conducted by Irwin and Gerbhard (1946: 651), whereby children consistently preferred objects given to them against objects given to others, to the extent that "ownership enhances the value of an object to the owner". That people evaluate a target more favorably when they own it, termed the 'mere ownership effect', has been consistently demonstrated and supported (Beggan, 1992; Nesselroade, Beggan, & Allison, 1999). Similarly, those possessions closely integrated with the self tend to be more positively valenced (Schultz, Klein, & Kernan, 1989). Given this rationale, employees will like, or be satisfied with their job when it is psychologically owned.

Vandewalle, Van Dyne, and Kostova (1995) and Van Dyne and Pierce (2004) found empirical support for a relationship between psychological ownership and job satisfaction. Similarly, job satisfaction has also been associated with formal ownership plans (Long, 1978), and this relationship is dependent upon organizational members developing a sense of psychological ownership (Pierce, Rubinfeld, & Morgan, 1991; Pierce & Furo, 1990). Previous research has focused on the influence of organization-based psychological ownership on job satisfaction, however, rather than job-based psychological ownership. Instead, given the distinction between the two ownership targets, we propose that job satisfaction will be associated not with organization-based, but job-based psychological

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ownership. Specifically, if job satisfaction is considered the extent to which people like their jobs (Spector, 1997), rather than their satisfaction with work-life or the organization in general, it follows that job-based psychological ownership, rather than organization-based psychological ownership, would be of interest. Therefore, we hypothesized that:

*Hypothesis 1: There will be a positive relationship between job-based psychological ownership and job satisfaction.*

Organizational commitment can be described as the desire to maintain an association with the organization (Meyer & Allen, 1991). When possessions are viewed as part of the extended self, it ensues that the loss of possessions equates to a “loss or lessening of the self” and is associated with detrimental consequences (Belk, 1988:142). Therefore, it can be deduced that those individuals who experience feelings of ownership would want to maintain their association with the organization because of unfavorable consequences if this connection is broken.

There has been both theoretical and empirical support for a relationship between psychological ownership and commitment. For example, Lawler (1992) suggests that employees must psychologically feel as if they own the organization in order to develop the organizational commitment characteristic of high-involvement organizations. Similarly, Florkowski (1987) and Pierce et al. (1991) propose that psychological ownership is an antecedent to organizational commitment. These propositions have been supported empirically. For example, Van Dyne and Pierce (2004) found that psychological ownership was a significant predictor of organizational commitment over a number of samples. Similarly, research conducted by Vandewalle et al. (1995) revealed a significant positive relationship between organization-based psychological ownership and organizational commitment. Indirect support for this relationship has also been obtained, whereby a reduction in team psychological ownership has been related to reduced levels of organizational commitment (Druskat & Pescosolido, 2002). Furthermore, formal employee ownership plans have been associated with increased loyalty and commitment of organizational members (Bakan, Suseno, Pinnington, & Money, 2004; Long, 1978; Rosen, 1990; Sands, 2002). Whilst many researchers have found this effect to be untrue (Pierce & Furo, 1990), ambiguous results can be explained by the presence of psychological ownership. Explicitly, positive outcomes of formal ownership systems are dependent upon members also developing a sense of psychological ownership (Pierce et al., 1991; Pierce & Furo, 1990). Considering this literature on the relationship between organizational commitment and psychological ownership, we hypothesized that:

*Hypothesis 2a: There will be a positive relationship between organization-based psychological ownership and organizational commitment.*

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It is necessary to specify further the type of commitment that is expected to be associated with psychological ownership. The prevailing conceptualization of organizational commitment is that of Allen and Meyer (1990), where commitment includes affective, normative, and continuance components. Affective commitment, refers to the “employee’s emotional attachment to, identification with, and involvement in, the organization” (1990:1). It would seem intuitive that affective commitment is of importance to psychological ownership, whereby employees remain with an organization because they want to (Allen & Meyer, 1990). Past literature supports this, with both Vandewalle et al. (1995) and Van Dyne and Pierce (2004) concluding that affective commitment is related to psychological ownership. Continuance and normative components of commitment, however, have not yet been examined in respect to psychological ownership.

Normative commitment is concerned with feelings of obligation to remain at the organization (Meyer & Allen, 1991). Wiener (1982) has suggested that normative commitment develops as a function of socialization experiences, for example, societal or familial. Angle and Lawson (1993) have suggested that normative commitment represents a personal value defining an individual’s propensity to commit and therefore, acts as an antecedent to commitment. Furthermore, the distinction between normative and affective components of commitment has not been empirically supported, and further research is necessary to gain construct clarity (Bergman, 2006). As psychological ownership is a function of contextual factors, rather than experience or dispositional factors, and given the current criticisms of the construct, normative commitment is not included in the present study.

In contrast, continuance commitment may be related to psychological ownership. Continuance commitment refers to the extent an individual wants to stay with the organization due to the costs associated with leaving (Allen & Meyer, 1990), for example, costs associated with the loss of job security or accrued vacation leave (Brown, 1996). In order to investigate the possibility of a relationship between these constructs, continuance commitment will be included in analyses. Because psychological ownership represents a feeling of possession, it can be expected to be more closely related to affective commitment. Specifically, the detrimental costs associated with departure are theorized to be more reminiscent of emotional costs, rather than those associated with financial loss. Considering this, we hypothesized that:

*Hypothesis 2b: The relationship between organization-based psychological ownership and affective commitment will be stronger than the relationship between organization-based psychological ownership and continuance commitment.*

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Despite support for relationships between psychological ownership and job satisfaction and commitment, it is a possibility that these relationships are a result of conceptual overlap. Previous research has supported the psychological ownership construct. For example, Van Dyne and Pierce (2004) found that organization-based psychological ownership was distinguishable from both affective commitment and job satisfaction. Further support for the distinctiveness of both job-based and organization-based types of psychological ownership, and the distinction between psychological ownership, and job satisfaction and commitment, however, is warranted. The present research, therefore, also aimed to offer further validation for the psychological ownership construct.

#### *Job factors*

Pierce et al. (2001; 2003) offer three routes or mechanisms through which psychological ownership emerges. The first of these relates to control, whereby control of an object produces feelings of ownership towards the object. Second, feelings of ownership develop with greater knowledge and familiarity of an object. Finally, it is suggested that ownership develops for an object when it is created or involves significant investment of the self.

In applying these to organizations, the antecedents of knowledge and investment of the self can largely be considered a function of occupation. For example, carpenters, engineers, or teachers would have greater opportunity to invest themselves in their work than accountants or receptionists. Similarly, intimate knowledge can be considered dependent on job position, whereby, for example, senior managers would have greater access to organizational information than employees in more junior positions. Considering this, these antecedents may depend on job-type, and may produce job-based psychological ownership, to the exclusion of organization-based psychological ownership. Given the scope of this research in investigating both job-based and organization-based psychological ownership, these antecedents are omitted from the present study.

In contrast, object control is considered a viable antecedent to ownership that can be applied to organizations. Rudmin and Berry (1987) concluded that a semantic component of possession and ownership was the ability to exercise influence and control. Congruent with the understanding that possessions shape identity, McClelland (1951) asserted that, when we are able to control external objects, they form part of the extended self. Conversely, a lack of control is associated with the “not-self” (McClelland, 1951: 539). Considering that possessions also form part of the extended self (Belk, 1988), it can be concluded that control determines the development of feelings of ownership, which in turn allows objects to be integrated with the self. Organizations provide members

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with opportunities to control facets of their employment, most notably through autonomy. Allowing employees the freedom and flexibility to plan and perform their workload bestows an element of control upon the employee.

According to Pierce et al. (2001), highly autonomous jobs imply a greater degree of control, and thus would be expected to increase the experience of psychological ownership. This suggestion has recently been investigated, revealing a significant relationship between psychological ownership and control and job design autonomy (Pierce et al., 2004). Based on the theoretical proposition of a relationship between psychological ownership and control, and to further validate recent findings, we hypothesized that:

*Hypothesis 3a: There will be a positive relationship between job design autonomy and job-based and organization-based psychological ownership.*

Research has long supported the relationship between job satisfaction and job characteristics, including autonomy (e.g., Ambrose & Kulik, 1999; Lawler & Hall, 1970; Oldham, 1996; Wall & Martin, 1987). A similar relationship has been demonstrated between autonomy and organizational commitment (e.g., Colarelli, Dean, & Konstans, 1987; DeCotiis & Summers, 1987; Steers, 1977). We argue that the relationship between autonomy and these work attitudes is mediated by psychological ownership. Through the mechanism of control, not only do employees experience organization-based psychological ownership, they are also more committed to the organization. In addition, greater autonomy provides employees with a sense that their job is their own, thereby increasing their liking and satisfaction with the job. We were interested in assessing the direct and indirect effects of autonomy and psychological ownership on commitment and job satisfaction, and hypothesized that:

*Hypothesis 3b: Organization-based psychological ownership will mediate the relationship between autonomy and organizational commitment.*

*Hypothesis 3c: Job-based psychological ownership will mediate the relationship between autonomy and job satisfaction.*

#### *Work behaviors*

When an object is owned, greater care, attention, and energy are bestowed upon the object (Belk, 1988). Furthermore, ownership is considered a prime motivator of human behavior (O'Toole, 1979). Therefore, it is proposed that psychological ownership may produce positive actions such as in-role and extra-role behaviors. Previous research has established a clear delineation between extra-role behavior and in-role behavior (e.g., Van Dyne, Cummings, & McLean Parks, 1995; Van Dyne & LePine, 1998). Specifically, extra-role behavior encompasses discretionary behavior, external to formal employment conditions, and is undertaken with the belief

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that such behavior will result in positive outcomes for the organization (Van Dyne et al., 1995). In contrast, in-role behavior is that required to gain organizational rewards and retain employment (Van Dyne & LePine, 1998).

We expected to find that psychological ownership would encourage employees to perform at high levels. Ownership instills a sense of pride within employees and acts as a motivator for greater performance (Berstein, 1976). Numerous scholars have advocated the organizational benefits of formal ownership plans on employee performance and profits (Sands, 2002). Considering that such success is dependent on organizational members developing a sense of psychological ownership, a relationship between both job-based and organization-based psychological ownership and in-role behavior can be anticipated. Psychological ownership researchers have elicited support for such a relationship. For example, Van Dyne and Pierce (2004) found a significant positive relationship between psychological ownership and employee performance. When demographic differences were taken into account, however, this relationship was not significant. Considering this, and to further investigate this relationship, we predicted that:

*Hypothesis 4: There will be a positive relationship between organization-based and job-based psychological ownership and in-role behavior.*

Extra-role behavior encompasses discretionary behavior, external to formal employment conditions, and rewards (Van Dyne et al., 1995). Although there has been an inconsistent use of the terminology to describe such behaviors, organizational citizenship behavior (Bateman & Organ, 1983; Smith, Organ, & Near, 1983) and extra-role behavior (Van Dyne et al., 1995) are the most accepted labels. Furthermore, LePine, Erez, and Johnson (2002) found that the varying terminology of these discretionary behaviors does not produce differences in predictive relationships. Therefore, literature on organizational citizenship behavior will also be applied to develop support for the hypotheses concerning extra-role behaviors.

There has been support for psychological ownership to produce increments in extra-role behaviors. Pierce et al. (1991) theorized that psychological ownership would be associated with extra-role behaviors. Vandewalle et al. (1995) found a significant positive relationship between extra-role behaviors and psychological ownership, and this relationship was stronger than the relationship between in-role behaviors and psychological ownership. Van Dyne and Pierce (2004) found a positive relationship between psychological ownership and organizational citizenship behavior. Previous research, however, has employed general measures of extra-role behavior, and thus the relationship between distinct dimensions of discretionary behavior and psychological ownership has not been ascertained.



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Based on Van Dyne et al.'s (1995) typology of extra-role behavior, two specific dimensions of extra-role behavior will be examined, rather than a single global measure. Because we were interested in the positive consequences of psychological ownership, we chose to investigate the two types of promotive behavior—helping and voice—rather than the prohibitive behaviors of stewardship and whistle-blowing. Helping extra-role behavior refers to promotive behavior that is cooperative and facilitates working relationships, while voice extra-role behavior includes constructive expression aimed at continuous organizational improvement (Van Dyne & LePine, 1998). It can be expected that when employees feel ownership in their organization and job, they are motivated to maintain harmonious relationships, and feel entitled to offer suggestions for change, in order to facilitate overall performance. Considering this, we predicted that:

*Hypothesis 5: Organization-based and job-based psychological ownership will be positively related to helping and voice extra-role behaviors.*

## Method

### *Participants*

Eighteen supervisors and 84 employees from two branches of an accounting firm were invited to participate in the research. In the end, 15 supervisors and 70 employees returned useable responses. Matching data were obtained from 67 manager-employee dyads (3 employee-only responses were also included in applicable analyses), yielding a total response rate of 80 percent. The majority of respondents were female (75.7%) with a mean age of 32 years (range = 18 to 57 years), and an average length of service in the organization of 3.6 years.

### *Procedure*

The research employed a cross-sectional survey research design, with managers and employees completing written complementary questionnaires. Specifically, employees reported on their organization- and job-based psychological ownership, organizational commitment, job satisfaction, perceived autonomy, and organization and job tenure. Managers or immediate supervisors completed questionnaires assessing the in-role and extra-role behaviors of each of their subordinates.

Questionnaires were coded to ensure confidentiality and were distributed to supervisors and employees in their work settings during normal working hours. Supervisors and employees were informed of the research by an e-mail distributed by a senior partner in each firm prior to the data collection day.

Respondents attended short meetings in their work groups on the day of distribution. These work groups comprised of one, two, or three supervisors and seven employees. All respondents were informed of the purpose of

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the research and were notified that supervisors would report on their performance. Participants were assured of the confidentiality of completed questionnaires and were informed that only the researcher would view their responses. In addition, individuals were guaranteed access to research feedback, both individually and across all respondents.

#### *Measures*

Psychological ownership was measured using a 7-item measure developed by Van Dyne and Pierce (2004). Respondents are required to rate the extent they agree or disagree with a series of statements as measured via a 7-point Likert-type scale (1 = strongly disagree; 7 = strongly agree). The measure tests individual employees' feelings of possession towards the organization (e.g., "This is MY organization") and was reworded to test feelings of possession towards an individual's job (e.g., "This is MY job"). The alpha coefficients for the scales were .95 for organization-based ownership and .84 for job-based ownership.

Organizational commitment was measured using the 8-item affective commitment scale and the 8-item measure of continuance commitment, both developed by Allen and Meyer (1990). The affective component refers to individual's emotional attachment to the organization (e.g. "This organization has a great deal of personal meaning for me") (Allen & Meyer, 1990). In contrast, continuance commitment is concerned with the costs of leaving the organization, and thus the desire to maintain an association with the organization (e.g. "I feel that I have too few options to consider leaving this organization") (Allen & Meyer, 1990). Respondents are required to indicate the extent to which they agree or disagree with a series of statements as measured via a 7-point Likert-type scale (1 = strongly disagree; 7 = strongly disagree). The alpha coefficients were .81 for affective commitment and .84 for continuance commitment.

Job satisfaction was measured with a single item question developed by Andrews and Withey (1976). Respondents are required to respond to the question "How do you feel about your job overall?" on a 7-point response scale (7 = delighted; 1 = terrible). The literature commonly encompasses the use of a single global rating of job satisfaction (Spector, 1986), which has been found to be more accurate and valid than summation scores of job facets (Scarpello & Campbell, 1983). Therefore, the use of a single-item measure was considered justified in the present study.

In-role behavior was measured using the four positively worded items from the In-Role Behavior Scale developed by Williams and Anderson (1991) and adapted by Van Dyne and LePine (1998). Respondents are required

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to rate the extent to which subordinates engage in behavior expected by their job position on a 7-point scale (7 = strongly agree; 1 = strongly disagree). The alpha coefficient was .92.

Extra-role behavior was measured using a 7-item measure of helping behavior and a 6-item measure of voice behaviors used and adapted by Van Dyne and LePine (1998). Helping behavior items were derived from existing scales developed by Organ and Konovsky (1989) and Smith et al. (1983) and were reworded to reflect supervisor assessment (e.g., “This particular subordinate helps others in this organization learn about the work”). Voice behavior items were based on previous items from Van Dyne et al. (1994) and Withey and Cooper (1989; e.g., “This particular subordinate keeps well informed about issues where his/her opinion might be useful to this organization). Supervisors are required to rate the extent to which each of their subordinates exhibited both helping and voice extra-role behaviors on a 7-point response scale (7 = strongly agree; 1 = strongly disagree). The alpha coefficient for helping behavior was .94, while the alpha for voice behavior was .95.

Autonomy was measured using the five items relating to perceived autonomy from the Job Characteristics Inventory, developed by Sims, Szilagyi, and Keller (1976). Respondents are required to indicate the degree to which a series of questions is indicative of their job on a 7-point response scale (1 = very little; 7 = very much), an extension of the original 5-point Likert scale. Alpha for this scale was .90.

Employee questionnaires also included seven questions regarding demographics. First, respondents were required to indicate their name to allow responses to be matched with supervisor reports of employee behavior. The second demographic question assessed employees' age in years. In addition, respondents indicated their nationality, namely, Australian, British, American, Islander-Pacific, European, Chinese, Asian (other), or other nationality. Finally, respondents indicated their job title, and job and organizational tenure.

## Results

### *Factor Analysis*

Factor analysis via principal components was conducted on the two measures of psychological ownership and the affective and continuance commitment measures to ensure that latent constructs were distinct ( $N = 70$ ). Measures of sampling adequacy for individual variables were sufficient ( $>.70$ ), yet revealed that two continuance commitment items were unacceptable, with values less than .5 (Hair, Anderson, Tatham, & Black, 1998): “It wouldn't be too costly for me to leave my organization now” and “I am not afraid of what might happen if I quit my job without having another one lined up”. Low sampling adequacy indicates that these two items were not

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sufficiently related to other items and, therefore, were not suitable for factor analysis (Hair et al., 1998). Initial inspection of the scree plot indicated either a three- or four-factor solution, and thus both solutions were examined. The three-factor solution was considered inappropriate given the high degree of split loadings. Thus, principal components analysis was used to extract a four-factor solution. Two job-based psychological ownership measures were further excluded due to low factor loadings: “I sense that this job is OUR job” and “This is OUR job”. In addition, split loadings across two or three factors warranted the exclusion of three affective commitment items: “I would be very happy to spend the rest of my career with this organization”, “I enjoy discussing my organization with people outside it”, and “I really feel as if this organization’s problems are my own”. In total, seven items were removed from the final factors analysis. On the basis of simple structure and theoretical considerations, the four-factor solution was selected as the most appropriate. The four factors accounted for 69.8% of the variance. Oblique (Oblimin) rotation was chosen due to a moderate correlation between the two psychological ownership factors ( $r = .38$ ) and between organization-based psychological ownership and affective commitment ( $r = .28$ ). The items and factor loadings for these four factors can be seen in Table 1.

Table 1.

*Factor analysis of psychological ownership and commitment items<sup>a</sup>*

Items	1 <sup>b</sup>	2 <sup>c</sup>	3 <sup>d</sup>	4 <sup>e</sup>
This is MY organization.	.93			
I sense that this organization is OUR company.	.88			
I feel a very high degree of personal ownership for this organization.	.89			
I sense that this is MY company.	.93			
This is OUR company.	.86			
Most people that work for this organization feel as though they own the company	.82			
It is hard for my to think about this organization as MINE. <sup>R</sup>	.60			
This is MY job.		.89		
I feel a very high degree of personal ownership for this job.		.80		
I sense that this is MY job.		.90		
Most people that work for this organization feel as though they own their job.		.55		
It is hard for me to think about this job as MINE. <sup>R</sup>		.69		
I think that I could easily become as attached to another organization as I am to this one. <sup>R</sup>			.60	
I do not feel like ‘part of the family’ at my organization. <sup>R</sup>			.79	
I do not feel ‘emotionally attached’ attached to this organization. <sup>R</sup>			.79	
This organization has a great deal of personal meaning for me.			.56	
I do not feel a strong sense of belonging to my organization. <sup>R</sup>			.89	
It would be very hard for me to leave my organization right now, even if I wanted to.				.79
Too much in my life would be disrupted if I decided I wanted to leave my organization now.				.79

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Right now, staying with my organization is a matter of necessity as much as desire.	.71
I feel that I have too few options to consider leaving this organization.	.80
One of the few serious consequences of leaving this organization would be the scarcity of available alternatives.	.74
One of the major reasons I continue to work for this organization is that my leaving would require considerable personal sacrifice – another organization may not match the overall benefits I have here.	.67

Notes <sup>a</sup> Loadings <± .3 are suppressed.

<sup>b</sup> Organization-Based Psychological Ownership factor.

<sup>c</sup> Job-Based Psychological Ownership factor.

<sup>d</sup> Affective Commitment factor.

<sup>e</sup> Continuance Commitment factor.

<sup>R</sup> Reverse score item.

Factor analysis via principal components was conducted to determine the number of underlying constructs in in-role behavior and extra-role behavior. Measures of sampling adequacy were high (overall MSA = .91) with individual items all greater than .80, indicating the appropriateness of factor analysis on the data (Hair et al., 1998). Scree plot inspection suggested a two- or three-factor solution, and thus both were examined. The two-factor solution did not discriminate between the three constructs and instead loaded on only one factor. Therefore, on the basis of simple structure, the three-factor solution was selected as the most appropriate. Due to split loadings across all three factors, one helping extra-role behavior item was excluded: “This particular subordinate volunteers to do things for this organization”. The final three-factor solution accounted for 83.9% of the variance. Items and factor loadings are shown in Table 2. Oblique (oblimin) rotation was selected due to a sizeable correlation between both types of extra-role behavior ( $r = .71$ ). Similarly, in-role behavior was highly correlated with helping extra-role behavior ( $r = .61$ ) and moderately correlated with voice extra-role behavior ( $r = .49$ ).

Table 2.

*Factor Analysis of In-Role Behavior and Extra-Role Behavior Items<sup>a</sup>*

Items	1 <sup>b</sup>	2 <sup>c</sup>	3 <sup>d</sup>
This particular subordinate fulfils the responsibilities specified in his/her job description.	.96		
This particular subordinate performs the tasks that are expected as part of the job.	.94		
This particular subordinate meets performance expectation.	.94		
This particular subordinate adequately completes responsibilities.	.91		
This particular subordinate helps orient new employees in this organization.		.65	
This particular subordinate attends functions that help the organization.		.69	
This particular subordinate assists others in this organization with their work for the benefit of the organization.		.96	
This particular subordinate gets involved to benefit this organization.		.68	
This particular subordinate helps others in this organization learn about the work.		.82	
This particular subordinate helps others in this organization with their work responsibilities.		.98	

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This particular subordinate develops and makes recommendations concerning issues that affect this organization.	.70
This particular subordinate speaks up and encourages others in this organization to get involved in issues that affect the organization.	.97
This particular subordinate communicates his/her opinions about work issues to others in this group even if his/her opinion is different and others in the organization disagree with him/her.	.93
This particular subordinate keeps well informed about issues where his/her opinion might be useful to this organization.	.74
This particular subordinate gets involved in issues that affect the quality of work life here in this organization.	.74
This particular subordinate speaks up in this organization with ideas for new projects or changes in procedures.	.84

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*Notes* <sup>a</sup> Loadings  $< \pm .3$  are suppressed.

<sup>b</sup> In-Role Behavior factor.

<sup>c</sup> Helping Extra-Role Behavior factor.

<sup>d</sup> Voice Extra-Role Behavior factor.

Factor analysis via principal components analysis was conducted to determine if all autonomy items loaded on a single factor (N=70). Measures of sampling adequacy were all high ( $< .7$ ), with the exception of one item: "To what extent do you receive information from your superior on your job performance?" A two-factor solution produced items that loaded on a single factor. The aforementioned item was subsequently excluded due to an absence of loading on any factor. The one factor solution accounted for 61.8% of the variance.

Based on factor analysis results, summated scores were produced for each of the factors by averaging the included items. The total sample size to 67 participants, with a pairwise approach adopted for missing data. Scale reliabilities, descriptive statistics, and correlations are shown in Table 3.

On the basis of these factor analysis and correlation results, there is support for the conceptual distinctiveness of psychological ownership. Principal component factor analysis yielded a four-factor solution and highlighted the distinctions amongst both types of psychological ownership and both types of commitment. Similarly, both job-based and organization-based psychological ownership appear to be distinct from job satisfaction on the basis of bivariate correlations. Specifically, evidence for discriminant validity highlights the distinction between job satisfaction and psychological ownership. For example, unlike either job- or organization-based psychological ownership, job satisfaction displayed a significant relationship with helping extra-role behavior ( $r = .29, p < .05$ ).

TABLE 3.

*Descriptive Statistics and Correlations between Variables*

	N	Mean	SD	1	2	3	4	5	6	7	8	9
1. Organization-Based Psychological Ownership	68	3.62	1.48	(.95)								
2. Job-Based Psychological Ownership	68	5.22	.89	.43**	(.84)							
3. Job Satisfaction	67	4.82	1.10	.51**	.52**							
4. Affective Commitment	68	4.19	.95	.43**	.27*	.59**	(.81)					
5. Continuance Commitment	68	3.51	1.13	.13	.05	.16	-.06	(.84)				
6. In-Role Behavior	65	4.98	.96	.07	-.01	.04	-.01	.11	(.92)			
7. Extra-Role Behavior (Helping)	65	4.58	1.01	.12	.06	.29*	.38*	-.12	.65**	(.94)		
8. Extra-Role Behavior (Voice)	65	4.24	1.08	.11	-.04	.21	.21	-.16	.56**	.79**	(.95)	
9. Autonomy	68	4.96	1.26	.31*	.37**	.65**	.40**	-.08	.27*	.49**	.37**	(.90)

Note: Alpha reliabilities are shown in parentheses on the diagonal.

\*  $p < .05$

\*\*  $p < .01$

*Tests of hypotheses*

The hypotheses were tested using hierarchical multiple regression. Results are shown in Table 4.

Table 4.

*Regression Resultss*

Predictors	Dependent Variables													
	JS	OC	IRB	H-ERB	V-ERB	PO-J	PO-O	JS	OC	JS	OC	JS	OC	
PO-J	.37**	.10	-.06	.01	-.11									
PO-O	.35**	.39**	.10	.11	.16									
<i>Model 1</i>														
Autonomy						.37**	.31*							
<i>Model 2</i>														
Autonomy								.65**	.40**					
<i>Model 3</i>														
Autonomy										.53**	.35**			
PO-J										.31**	.14			
<i>Model 3</i>														
Autonomy												.56**	.30*	
PO-O												.37**	.34**	
R <sup>2</sup>	.37	.19	.01	.01	.02	.14	.09	.43	.16	.51	.18	.53	.26	
Adj. R <sup>2</sup>	.35**	.17**	.02	.02	.01	.13**	.08*	.42**	.15**	.50**	.15**	.51**	.24**	

Notes. Standardized regression coefficients are shown; Models 1, 2, and 3 reflect Baron & Kenny's (1986) tests of mediation; JS Job Satisfaction, OC Affective organizational commitment, H-ERB Helping Extra-Role Behavior, V-ERB Voice Extra-Role Behavior, PO-J Job-based psychological ownership, PO-O Organization-based psychological ownership.

\*  $p < .05$

\*\*  $p < .01$

Job-based psychological ownership was significantly related to job satisfaction, thus supporting Hypothesis 1. Hypothesis 2b predicted the relationship between organization-based psychological ownership and affective commitment to be stronger than the relationship with continuance commitment. Tests of the difference between two independent correlation coefficients (Howell, 1997) revealed that this difference was significant ( $z = 1.74, p < .05$ ), therefore offering full support for Hypothesis 2b. Considering this, continuance commitment was omitted from regression estimates. Results revealed that organization-based psychological ownership was significantly related to affective organizational commitment, thus supporting Hypothesis 2a. Counter to predictions, however, organization-based psychological ownership was also related to job satisfaction.

In order to test hypothesized mediation effects of psychological ownership, the combined findings of relevant regression results from path analyses were examined as suggested by Baron and Kenny (1986). Mediation is supported when i) the independent variable significantly predicts the mediating variable, ii) the independent variable is significantly related to the dependent variable, and, iii) when in the presence of the mediating variable, the ability of the independent variable to predict the dependent variable is reduced (partial mediation) or removed completely (full mediation). We also tested the statistical significance of the mediation effects using Sobel tests (Preacher & Leonardelli, 2001).

As predicted in Hypothesis 3a, autonomy was significantly related to both organization-based and job-based psychological ownership, thereby satisfying the first condition of mediation. In assessing Hypothesis 3b, both autonomy and job-based psychological ownership were significantly related to job satisfaction, suggesting partial mediation. The addition of job-based psychological ownership increased the explained variance in job satisfaction by 4% above the effects of autonomy. Using Sobel's test, this mediation effect was found to be significant ( $z = 2.32, p < .05$ ). The results also supported Hypothesis 3c. Specifically, both autonomy and organization-based psychological ownership were significantly related to organizational commitment. The addition of organization-based psychological ownership increased the explained variance in organizational commitment by 9% above the effects of autonomy. Results from the Sobel test indicated that this indirect effect was significant ( $z = 1.97, p < .05$ ). Contrary to predictions, organization-based psychological ownership also partially mediated the relationship between autonomy and job satisfaction, increasing the explained variance by 5% above the effects of autonomy. This mediation was significant ( $z = 2.13, p < .05$ ).



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Hypotheses 4 and 5 were not supported. There was no significant relationship between organization-based psychological ownership and in-role behavior, helping, or voice extra-role behavior. Similarly, there was no significant relationship between job-based psychological ownership and in-role behavior, helping, or voice extra-role behavior.

#### Discussion

In this research we aimed to extend and offer further support to existing empirical research by Pierce et al. (2004), Vanderwalle et al., (1995), and Van Dyne and Pierce (2004) on psychological ownership in organizations by answering three questions. The first research question was concerned with the distinctiveness of psychological ownership and the extent to which ownership in organizations is dissimilar from related work attitudes, namely job satisfaction and organizational commitment. Our results suggest that organization-based and job-based psychological ownership are distinct work attitudes. These two ownership types are differentiable from each other, and are dissimilar from the related work attitudes of job satisfaction and organizational commitment. Moreover, job-based psychological ownership is related to job satisfaction, while organization-based psychological ownership is related to affective organizational commitment and job satisfaction. These results offer a resolution to the first research question, and provide further support for psychological ownership as a distinct construct with relationships with the work attitudes of job satisfaction and organizational commitment.

In our second research question, we aimed to investigate the consequences of psychological ownership on positive organizational outcomes, namely in-role and extra-role behaviors. Our results did not support a relationship between in-role behavior and job-based or organization-based psychological ownership. Previous empirical research has not examined the relationship between job-based psychological ownership and in-role behavior. Van Dyne and Pierce (2004) found a significant correlation between employee performance and organization-based psychological ownership, which, when accounting for demographics, was not significant. The results of this research suggest that psychological ownership is not associated with manager ratings of in-role behavior in this sample.

Similarly, we found no support for a relationship between job-based psychological ownership or organization-based psychological ownership and helping or voice extra-role behaviors. Although previous research has supported the relationship between organization-based psychological ownership and general extra-role behavior (Vandewalle et al., 1995) and organizational citizenship behavior (Van Dyne & Pierce, 2004), these effects were not consistent when examining the specific types of promotive discretionary behavior of helping and voice extra-role

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behavior. A more applicable test of the relationship between psychological ownership and extra-role behaviors may be achieved with peer-ratings of these behaviors, rather than manager-ratings. Van Dyne and LePine (1998) note that peers tend to interact more than employees and supervisors, and as a result, peers may be more aware of discretionary behavior.

The third research question concerned testing an antecedent of psychological ownership. Our results were consistent with the prediction that autonomy would be related to both job-based and organization-based psychological ownership. Autonomy had direct effects on psychological ownership and work attitudes, as well as indirect effects. Job-based psychological ownership partially mediated the relationship between autonomy and job satisfaction, while organization-based psychological ownership partially mediated the relationship between autonomy and organizational commitment. In addition, organization-based psychological ownership partially mediated the relationship between autonomy and job satisfaction, an unexpected effect. Consistent with the research of Pierce et al. (2004), it can be concluded that autonomy is a significant job factor in psychological ownership. In addition, research results emphasized the predictive ability of autonomy whereby all work behaviors and work attitudes were influenced by autonomy. The unique predictive ability of autonomy on job satisfaction, organizational commitment, in-role and extra-role behavior above any mediation effects, emphasizes the importance of autonomy in investigating employees in organizations.

Our research has offered further support for the emerging work attitude of psychological ownership. Whilst consultants have espoused the value of psychological ownership for many years (e.g., Brown, 1989; Peters, 1989; Stayer, 1990), academically this area has only recently begun to receive attention. The present research has contributed to the construct validation of psychological ownership by supporting concept distinctness. While Van Dyne and Pierce (2004) have supported the differentiation of organization-based psychological ownership from related work attitudes, our research also supports the distinct conceptualization of job-based and organization-based psychological ownership. In addition, the research has replicated some of the previous research findings in the area, as well as offering unique insights into the relationships between psychological ownership, work attitudes, work behaviors, and job factors, with the use of dyad reports. Together, these insights add to our understanding of psychological ownership and employee attitudes and behavior in organizations.

*Limitations*

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Like all research, this study has its limitations. The first limitation relates to the small sample size. While the present sample size of 67 satisfies less stringent size guidelines, the overall effect of this small sample size is a reduced power of statistical analyses and limited generalizability. Comparative research in psychological ownership has employed large sample sizes, ranging from 186 (Van Dyne & Pierce, 2004) to 797 participants (Vandewalle et al., 1995). Thus, the research was limited due to lowered sample size, which may have influenced results. Nonetheless, the quality of the data using both self-report and manager-reports is notable, and we were able to obtain clear and significant results in respect to many of our predictions, notwithstanding sample size restrictions.

A second limitation of the research is the use of a single-item measure of job satisfaction. Scarpello and Campbell (1983) advocate the use of a single global rating of job satisfaction rather than multi-item measures as the concept of job satisfaction is more complex than that represented in summation scores of job facets. In addition, a review of job satisfaction research conducted by Spector (1986) revealed that empirical investigation of the job satisfaction construct commonly employs single-item measures. The use of a single global rating of job satisfaction, however, precluded factor analyses as further evidence for the distinction between psychological ownership and job satisfaction, thereby limiting this support to discriminant validity. A multiple-item scale to assess job satisfaction would have enabled greater construct validity of psychological ownership.

Finally, we acknowledge that the use of a single questionnaire to collect data from each set of participants in our study introduces the specter of common methods variance (Williams & Brown, 1994). This was partially overcome in the instance of the measures of performance, which were assessed by managers or supervisors. Doty and Glick (1998), however, argue that the issue of common method may not be as serious as originally proposed, especially when the research is investigating complex relationships. In this present research, the lack of a relationship with continuance commitment suggests that common method variance may not have been an issue.

#### *Directions for Future Research*

There are a number of future directions for research investigating psychological ownership in organizations. In order to develop an integrative theory of psychological ownership, future research should address individual factors that may influence the development of psychological ownership. Although psychological ownership is not considered an enduring trait of personality and is context specific (Van Dyne & Pierce, 2004), it can be expected that individual factors may influence the prediction of psychological ownership. For example, the psychology of possession is concentrated in individuals of Western cultures (Dittmar, 1992), presumably because the collectivism

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inherent in Eastern cultures precludes the development of individual feelings of ownership. Therefore, individualism-collectivism may be an individual difference predictor of psychological ownership. For example, Moorman and Blakely (1995) found that individualism-collectivism produced individual differences in organizational citizenship behavior. Therefore, future research may investigate the contribution of individual differences to the prediction of psychological ownership.

In addition, research to validate the construct of psychological ownership should continue. This research has contributed to this validation by supporting the distinctiveness of psychological ownership from related work attitudes, yet this differentiation must persist. In particular, psychological ownership must be distinguished from identification. Rousseau (1998) defines identification as the perception and categorization of individuals into the larger organization. Pierce et al. (2001:305) claim that organizational identification answers the question of “Who am I?” Considering the role of possessions in shaping identity, it is clear that the constructs of psychological ownership and identification may overlap. In addition, one of the most significant consequences of identification, according to Ashforth and Mael (1989), is the development of feelings of loyalty and commitment to the organization, consequences akin to organization-based psychological ownership. Considering this similarity, it is important for future research to continue construct validation by ensuring that psychological ownership is distinct from identification, and to investigate the manner in which the two concepts interact to produce work attitudes.

Finally, an emerging area of application for psychological ownership in organizations is the notion of territoriality. According to Brown, Lawrence, and Robinson (2005), psychological ownership leads to a number of territorial behaviors, including control-oriented and identity-marking anticipatory and reactionary defending. Brown et al. (2005) propose that territoriality may lead to positive organizational outcomes, such as commitment and a reduction of process conflict, as well as negative outcomes, such as a reduction in in-role behaviors and performance. Future research into the effect of psychological ownership on territorial behaviors and their outcomes will provide greater understanding of the relationship between individuals and ownership targets in organizational contexts.

Later published in The Journal of Social Psychology (2007) 147(5)

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Table 1.

*Factor analysis of psychological ownership and commitment items<sup>a</sup>*

Items	1 <sup>b</sup>	2 <sup>c</sup>	3 <sup>d</sup>	4 <sup>e</sup>
This is MY organization.	.93			
I sense that this organization is OUR company.	.88			
I feel a very high degree of personal ownership for this organization.	.89			
I sense that this is MY company.	.93			
This is OUR company.	.86			
Most people that work for this organization feel as though they own the company	.82			
It is hard for my to think about this organization as MINE. <sup>R</sup>	.60			
This is MY job.		.89		
I feel a very high degree of personal ownership for this job.		.80		
I sense that this is MY job.		.90		
Most people that work for this organization feel as though they own their job.		.55		
It is hard for me to think about this job as MINE. <sup>R</sup>		.69		
I think that I could easily become as attached to another organization as I am to this one. <sup>R</sup>			.60	
I do not feel like 'part of the family' at my organization. <sup>R</sup>			.79	
I do not feel 'emotionally attached' attached to this organization. <sup>R</sup>			.79	
This organization has a great deal of personal meaning for me.			.56	
I do not feel a strong sense of belonging to my organization. <sup>R</sup>			.89	
It would be very hard for me to leave my organization right now, even if I wanted to.				.79
Too much in my life would be disrupted if I decided I wanted to leave my organization now.				.79
Right now, staying with my organization is a matter of necessity as much as desire.				.71
I feel that I have too few options to consider leaving this organization.				.80
One of the few serious consequences of leaving this organization would be the scarcity of available alternatives.				.74
One of the major reasons I continue to work for this organization is that my leaving would require considerable personal sacrifice – another organization may not match the overall benefits I have here.				.67

*Notes* <sup>a</sup> Loadings <± .3 are suppressed.

<sup>b</sup> Organization-Based Psychological Ownership factor.

<sup>c</sup> Job-Based Psychological Ownership factor.

<sup>d</sup> Affective Commitment factor.

<sup>e</sup> Continuance Commitment factor.

<sup>R</sup> Reverse score item.

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Table 2.

*Factor Analysis of In-Role Behavior and Extra-Role Behavior Items<sup>a</sup>*

Items	1 <sup>b</sup>	2 <sup>c</sup>	3 <sup>d</sup>
This particular subordinate fulfils the responsibilities specified in his/her job description.	.96		
This particular subordinate performs the tasks that are expected as part of the job.	.94		
This particular subordinate meets performance expectation.	.94		
This particular subordinate adequately completes responsibilities.	.91		
This particular subordinate helps orient new employees in this organization.		.65	
This particular subordinate attends functions that help the organization.		.69	
This particular subordinate assists others in this organization with their work for the benefit of the organization.		.96	
This particular subordinate gets involved to benefit this organization.		.68	
This particular subordinate helps others in this organization learn about the work.		.82	
This particular subordinate helps others in this organization with their work responsibilities.		.98	
This particular subordinate develops and makes recommendations concerning issues that affect this organization.			.70
This particular subordinate speaks up and encourages others in this organization to get involved in issues that affect the organization.			.97
This particular subordinate communicates his/her opinions about work issues to others in this group even if his/her opinion is different and others in the organization disagree with him/her.			.93
This particular subordinate keeps well informed about issues where his/her opinion might be useful to this organization.			.74
This particular subordinate gets involved in issues that affect the quality of work life here in this organization.			.74
This particular subordinate speaks up in this organization with ideas for new projects or changes in procedures.			.84

*Notes* <sup>a</sup> Loadings  $< \pm .3$  are suppressed.

<sup>b</sup> In-Role Behavior factor.

<sup>c</sup> Helping Extra-Role Behavior factor.

<sup>d</sup> Voice Extra-Role Behavior factor.

TABLE 3.

*Descriptive Statistics and Correlations between Variables*

	N	Mean	SD	1	2	3	4	5	6	7	8	9
10. Organization-Based Psychological Ownership	68	3.62	1.48	(.95)								
11. Job-Based Psychological Ownership	68	5.22	.89	.43**	(.84)							
12. Job Satisfaction	67	4.82	1.10	.51**	.52**							
13. Affective Commitment	68	4.19	.95	.43**	.27*	.59**	(.81)					
14. Continuance Commitment	68	3.51	1.13	.13	.05	.16	-.06	(.84)				
15. In-Role Behavior	65	4.98	.96	.07	-.01	.04	-.01	.11	(.92)			
16. Extra-Role Behavior (Helping)	65	4.58	1.01	.12	.06	.29*	.38*	-.12	.65**	(.94)		
17. Extra-Role Behavior (Voice)	65	4.24	1.08	.11	-.04	.21	.21	-.16	.56**	.79**	(.95)	
18. Autonomy	68	4.96	1.26	.31*	.37**	.65**	.40**	-.08	.27*	.49**	.37**	(.90)

Note: Alpha reliabilities are shown in parentheses on the diagonal.

\*  $p < .05$

\*\*  $p < .01$

Table 4.

*Regression Results*

<i>Predictors</i>	<i>Dependent Variables</i>													
	<i>JS</i>	<i>OC</i>	<i>IRB</i>	<i>H-ERB</i>	<i>V-ERB</i>	<i>PO-J</i>	<i>PO-O</i>	<i>JS</i>	<i>OC</i>	<i>JS</i>	<i>OC</i>	<i>JS</i>	<i>OC</i>	
PO-J	.37**	.10	-.06	.01	-.11									
PO-O	.35**	.39**	.10	.11	.16									
<i>Model 1</i>														
Autonomy						.37**	.31*							
<i>Model 2</i>														
Autonomy								.65**	.40**					
<i>Model 3</i>														
Autonomy										.53**	.35**			
PO-J										.31**	.14			
<i>Model 3</i>														
Autonomy													.56**	.30*
PO-O													.37**	.34**
R <sup>2</sup>	.37	.19	.01	.01	.02	.14	.09	.43	.16	.51	.18	.53	.26	
Adj. R <sup>2</sup>	.35**	.17**	.02	.02	.01	.13**	.08*	.42**	.15**	.50**	.15**	.51**	.24**	

*Notes.* Standardized regression coefficients are shown; Models 1, 2, and 3 reflect Baron & Kenny's (1986) tests of mediation; *JS* Job Satisfaction, *OC* Affective organizational commitment, *H-ERB* Helping Extra-Role Behavior, *V-ERB* Voice Extra-Role Behavior, *PO-J* Job-based psychological ownership, *PO-O* Organization-based psychological ownership.

\*  $p < .05$

\*\*  $p < .01$