Pakistan Journal of Applied Social Sciences
Vol. 14(2), 2023, pp.107-131, ISSN: 2409-0077(Print), ISSN: 2663-8894(Online)

Role of Organizational Culture in Improving Employee Psychological Ownership

Abdul Razaque Larik
Department of Political Science,
Government College University
Hyderabad, Sindh, Pakistan
razaq.larik@gcuh.edu.pk

Syed Gulzar Ali Shah Bukhari
Department of Science and Technical Education,
Faculty of Education, University of Sindh,
Elsa Kazi Campus,
Hyderabad, Sindh, Pakistan
gasb@usindh.edu.pk

Saleem Raza Qureshi
Shaaf Institute of Medical and Modern Sciences
Larkana, Sindh, Pakistan
saleemrazaqureshi@gmail.com
*Corresponding Author: gasb@usindh.edu.pk

Abstract

The current investigation aimed to examine the impact of organizational culture (OC) on the psychological ownership of healthcare employees. The case of the health sector in Pakistan was chosen. This study employed the dimensional Denison (2000) model of OC possessing the characteristics of involvement, consistency, adaptability, and mission, while the construct of psychological ownership is drawn from the work of Pierce, Kostova, and Dirks (2003). The primary data were collected through a questionnaire from 324 doctors and nurses, male and female, belonging to both public and private hospitals. Data were analyzed through SPSS version 22.0, and the correlation and multiple regression techniques were adopted. Findings show that involvement, consistency, adaptability, and mission explained 73% of healthcare employees' psychological ownership variance. All four dimensions of OC variables, including involvement, consistency, adaptability, and mission, were found to possess strong statistically significant relationships and moderate effects on employee psychological ownership.

Keywords: Organizational Culture, Psychological Ownership, Denison Model, Health Sector

Introduction

A specific workplace environment denotes that organization's culture (Szydło & Grześ-Bukłaho, 2020). The current body of knowledge on organizational behavior has unanimously submitted that for organizations to perform better and

This work is Licensed under a Creative Commons Attribution-Non Commercial 4.0 International License

achieve their respective objectives, human resource management (HRM) plays a pivotal role (Mujeeb, Masood, & Ahmad, 2011). To a great extent, the employees' performance, optimal or mediocre, depends on the organizational culture (OC) of those workplaces (Dawkins, Tian, Newman, & Martin, 2017). The OC at a workplace also shifts the responsibility of performance to other possible constructs. Psychological ownership is the central concept within the domain of responsibility (Aslan & Atesoglu, 2021). "The feelings of ownership are part of the human condition; these feelings can be directed toward a variety of objects, and they have important consequences for the individual" (Pierce et al., 2003, p. 88).

The recent decades have witnessed scholarly attention to the linkage of psychological ownership with other constructs, such as employees' attitudes and behavior (Dawkins et al., 2017). The research in the organizational behavior domain has specifically focused on identifying how an employee can psychologically attach to their organization (Aslan & Atesoglu, 2021). Scholars have identified several loopholes in HRM practices and organizational outcomes. Szydło and Grześ-Bukłaho (2020) pointed out the tension between the managerial and subordinate personnel as the core problem. Psychological ownership is the central construct that addresses these problems (Aslan & Atesoglu, 2021).

The healthcare industry in each country has an essential impact on the socio-economic framework of that country (M. I. Abdullah, Huang, Sarfraz, Ivascu, & Riaz, 2021). Several organizational culture factors cause physical and psychological disturbance among doctors and nurses, diminishing healthcare quality and organizational excellence (Schirle, McCabe, & Mitrani, 2019). The Pakistani healthcare sector has been primarily blamed for underperformance due to various causes. Studies have pointed out poor management as the principal issue in the Pakistani public health sector (Saeed & Ibrahim, 2005). Some scholars have called for improving management practices to develop the quality of service and organizational outcomes in Pakistan (M. I. Abdullah et al., 2021).

OC has been studied to positively correlate with error reporting practices among nursing personnel in Pakistan (Jafree, Zakar, Zakar, & Fischer, 2015). Dawkins et al. (2017) have suggested that future research on psychological ownership may be linked to other variables, such as OC. Moreover, the linkage between OC and psychological ownership in Pakistan has not been studied with specific reference to the health sector. Therefore, the current study aims to examine the effects of OC on psychological ownership using the case of Pakistani healthcare sector.

Rationale of the study

The case of the Pakistani health sector was chosen in the light of specific reasons. First, at the global level, healthcare organizational problems keep arising where doctors and nurses are indispensable to addressing these issues and improving the current quality of the healthcare sector (Schirle et al., 2019). This sector plays a significant part in providing premium healthcare services to the people (M. I. Abdullah et al., 2021). Second, the variable of OC was selected due to its fundamental value in organizations. Studies have shown that OC can influence work performance in the Pakistani context (Muhammad Aslam Khan & Afzal, 2011; Shahzad, 2014). OC has been explored to influence organizations' entrepreneurial orientation and performance (Bhatti, Rehman, & Rumman, 2020).

Moreover, the dependent variable of psychological ownership was selected owing to its relevance to organizational outcome. Scholars have suggested that employee psychological ownership can positively impact organizational resilience (He, Oláh, & Hasan, 2022). Lastly, no study has specifically aimed to link OC with psychological ownership using the case of the Pakistani health sector.

Literature Review

The main concepts of this paper, i.e., OC and psychological ownership, have been studied extensively by scholars of various regions. A suitable review of relevant literature is presented below.

Organizational Culture (OC)

OC is defined as a set of values, beliefs, and behaviors pursued by the personnel working in an organization that portrays the actual image of that organization (Denison, 2000). OC is a significant factor in formulating the behavior of employees, which is influenced and recognized by co-workers in organizations (Avey, Wernsing, & Palanski, 2012). The organizational structure is a prominent feature of OC as it can affect the competency and style of managerial supervision (Liu, Tsui, & Kianto, 2021). Hence, Metz, Ilieș, and Nistor (2020) submit that managers must acknowledge the real power of OC to understand the organizational environment and address the pitfalls existing in their respective organizations.

OC has acted as a favorite topic of interest around the globe. In the context of Pakistan, Mujeeb et al. (2011) aimed to discover the association between various features of OC and performance management practices in a higher education institute. OC has been studied along with transformational leadership, OC, and innovation propensity within business organizations (Tipu, Ryan, & Fantasy, 2012). Another Pakistani study identified the role of leadership styles and OC on organizational citizen behaviors in higher education (Muhammad Asad Khan,

Ismail, Hussain, & Alghazali, 2020). Memon, Qureshi, and Jokhio (2020) study discovered whether OC could benefit or hamper corporate knowledge creation, sharing, and transfer in the Pakistani banking sector.

Since OC is one of the most researched topics, scholars have created multiple models. Among those, the Denison Model (Denison, 2000) is one of the most respected. The model offers guidelines by establishing a linkage between OC and structural quality and is endowed with the vast power of explanation (Ahmady, Nikooravesh, & Mehrpour, 2016). It underscores behavior and mode of thinking and establishes dual associations among the employees of an organization and between the organization and society (Wahyuningsih, Sudiro, Troena, & Irawanto, 2019).

Shahzad, Xiu, and Shahbaz (2017) examined the relationship between organizational innovation performance and OC in the Pakistani IT sector. Asif and Sajjad (2018) explored the connection of OC with performance in Pakistani SMEs. Jafree et al. (2015) investigated the relationship of OC with error reporting using the case of Pakistani nurses. Umrani, Memon, Samo, and Shah (2016) explored the link between corporate entrepreneurship, OC and business performance using the case of Pakistan. Bhatti et al. (2020) determined the association of organizational capabilities, OC, entrepreneurial orientation, and organizational performance in Pakistani (SMEs).

The current study aims to discover the effect of OC on psychological ownership employing the Denison model. The Denison model has been employed in several studies in Pakistan (Ahmady et al., 2016; Mujeeb et al., 2011; Wahyuningsih et al., 2019). The Denison model comprises the features of mission, adaptability, involvement, and consistency.

The Denison model suggests that involvement constitutes the fundamental characteristic of OC. The characteristic of participation signifies a "strong sense of psychological ownership and commitment to the organization and its goals." In contrast, consistency implies "the degree of normative integration where leaders and followers have the common mindset and high degree of conformity" (N. H. Abdullah, Shamsuddin, Wahab, & Hamid, 2014, p. 142). Adaptability relates to the capability of organizations to make internal modifications in the face of external circumstances (Mujeeb et al., 2011). Mission denotes "long-term vision including components such as strategic direction and intent, goals and objectives and vision" (N. H. Abdullah et al., 2014, p. 142).

Psychological Ownership

Psychological ownership is one of the most liked domains among researchers throughout the globe (Pierce & Peck, 2018). Employee psychological ownership implies a feeling of ownership by personnel working in an organization based on their intangible considerations beyond physical or legal possessions (Ainsworth, 2020). Social and legal institutions recognize legal ownership; however, it is all about the personnel performing their respective responsibilities to exhibit psychological ownership if they feel attached to their workplace (Degbey, Rodgers, Kromah, & Weber, 2021). Psychological ownership enables employees to induce in themselves to demonstrate superior responsibility for the growth of their organization (Leyer, Hirzel, & Moormann, 2021). Degbey et al. (2021) define psychological ownership as the phenomenon of emotional experience where personnel nurtures sentiments of possession towards their organization. It reflects "A state in which individuals feel as though the target of ownership (e.g., job or organization) is theirs" (Dawkins et al., 2017, p. 163). Most researchers agree on the association between possessive feelings and ownership and describe psychological ownership as a condition where people have possessive sentiments towards something (Ainsworth, 2020; Jing & Yan, 2022; Pierce & Peck, 2018).

Dawkins et al. (2017) have suggested the dual nature of psychological ownership construct into organization-based psychological ownership, which is related to the feeling of possession towards the organization. In contrast, job-based psychological ownership is associated with the emotional association of employees to their particular work roles, with most studies focusing on organization-based psychological ownership.

Psychological ownership comprises biological and social human needs, expectations and motives that must be satisfied at the workplace (Mustafa, Mansilla, & Gibson, 2021). In the organizational setting, employee motivation and psychological ownership can only be ensured when the managers know the needs of the employees (Jing & Yan, 2022). This indicates the central role of OC, the independent variable of the current study.

According to the precepts of Pierce et al. (2003), psychological ownership has three core motives: efficacy, self-identity, and having a place. "Psychological ownership is grounded in the motivation to be productive about one's environment. Due to the innate need for feelings of efficacy and competence, individuals are propelled to explore and manipulate their environment" (Pierce et al., 2003, p. 95). Concerning self-identity they maintain that by "an interactive, cyclical, and reinforcing process, individuals…find pleasure, comfort, and self-understanding in their relationship with certain objects….possessions are brought into the realm of the extended self as the individual interacts with them in search of self-knowledge and meaning" (Pierce et al., 2003, p. 96). Regarding having a place they claim, one

of the fundamental motives "for psychological ownership is grounded in having a home, a place of one's own….These motives…are among the reasons for experiencing feelings of ownership. Each motive facilitates the development of psychological ownership" (Pierce et al., 2003, pp. 98-99). Avey, Avolio, Crossley, and Luthans (2009) have recommended preventative and promotive aspects of psychological ownership. The study of Morewedge (2021) explored the implicit and explicit elements of psychological ownership.

Scholars worldwide have extensively studied psychological ownership (Jing & Yan, 2022). Atatsi, Azila-Gbettor, and Mensah (2021) discovered the association of psychological ownership of nurses with innovative work behavior and task performance. Chai, Song, and You (2020) examined the impact of psychological ownership on engagement, knowledge creation, and openness to change in public-sector Korean organizations. He et al. (2022) discovered the association between psychological ownership and organizational resilience. Jing and Yan (2022) explored the linkage between psychological ownership, perceived organizational support and turnover intention.

Hypotheses development and conceptual framework

The constructs of OC and psychological ownership have been investigated by many scholars, linking them to other variables employing versatile theoretical approaches in various settings. The most prominent studies related to psychological ownership and organizational work environment were carried out by Pierce, Kostova, and Dirks (2001). They determined that organizations providing greater autonomy to the employees have greater chances of increasing the sense of ownership of the profession. Several internal and external work-environmental factors, such as organizational commitment, mission, goals, objectives, job involvement, sharing authority, personal control, technology, autonomy, employees' empowerment and participation in decision-making at the workplace, significantly contribute toward the employees' motivation, attitudes, behaviors, and psychological ownership (Pierce, O'driscoll, & Coghlan, 2004). Therefore, if the organization provides assistance and means to their personnel, they feel optimistic about their organization, positively impacting the employees' psychological ownership (Jing & Yan, 2022). When the employees perceive OC as supportive and helpful, they develop better peer attachment within the organization, which leads them to strengthen the sense of psychological ownership and reduce turnover intention (Pierce et al., 2004).

Similarly, You, Hu, Li, Wang, and Xu (2022) concluded that in an innovative working culture, employees always feel respected and creditable, which creates a sense of responsibility and belonging towards the organization. As a result, they are more engaged in day-to-day activities and perform better.

Additionally, innovative and positive OC significantly improves psychological ownership among employees (You et al., 2022).

Several studies have been carried out in various contexts around the world. For instance, Mustafa et al. (2021) explored the possible association between psychological ownership and employee commitment and job satisfaction. The inquiry by Metz et al. (2020) focused on the effect of OC on employees' performance in the Singaporean telecom industry. The investigation by Jing and Yan (2022) studied the impact of psychological ownership, perceived organizational support, and turnover intention using the Chinese case. Another research project investigated the possible link between OC and employee performance (HA, 2020). The study determined that OC was an essential factor in the enhancement of work output, which, in turn, generates dedication among employees, leads the organization on the path to prosperity and growth, and inspires the organization's goals with the utmost optimism. Jiang, Wang, and Li (2019) aimed to discover how psychological ownership might mediate between leadership and organizational citizenship behavior toward the environment. Liu et al. (2021) studied the linkage of knowledge-friendly OC with employee performance. An exciting inquiry was conducted by Potdar, Guthrie, Gnoth, and Garry (2018), assessing the role of OC in preventing theft.

Many studies have attempted to correlate OC with organizational commitment. Mohammadi, Salehi, and Jabbari (2020) surveyed to probe the connection of cultural studies with OC and organizational commitment to benefit the general population. The study's conclusions highlighted the importance of OC and organizational commitment towards the services offered to the general populace. Another study investigated an association between OC, leadership behavior and employee satisfaction among Nigerian nurses (Alao & Aina, 2020). The authors concluded that leaders' symbolic gestures of offering assistance in favor of other employees can augment ties between leaders and co-workers and create a healthy environment, which ultimately improves job efficiency and, in turn, employee satisfaction. Olckers and Van Zyl (2016) explored the linkage between psychological ownership, organizational trust and turnover in a South African setting.

The topic of sentiments of employees' psychological ownership has also been researched, associating it with the perception of employees in a case study of the UK (McConville, Arnold, & Smith, 2016). The findings suggest an insignificant effect of employee share ownership scheme on employees' psychological ownership; consequently, psychological ownership is affected meagerly. The study by Rau, Werner, and Schell (2019) investigated if psychological ownership was a decisive element in innovation among the old family-run organizations in German firms. Their investigation established that if psychological ownership is passed on

to the subsequent generations, innovation comes to the domain of possibility. The inquiry by Atatsi et al. (2021) discovered the intervening role of psychological ownership in determining task performance using Ghanaian nurses' cases.

Based on the above-discussed review of the literature, this study endeavors to evaluate the effectiveness of Denison's (2000) model having four dimensions of OC (involvement, consistency, adaptability, and mission) and to examine the effects of these four dimensions on employees' psychological ownership in the context of the health sector of Pakistan. To achieve this, the following four hypotheses are developed, and the hypothetical conceptual framework based on the Denison (2000) OC model and the theory of psychological ownership developed by Pierce et al. (2003) is presented in Figure 1.

1. There is a positive statistically significant influence of the involvement dimension of OC on employees' psychological ownership.

2. There is a positive statistically significant influence of the consistency dimension of OC on employees' psychological ownership.

3. There is a positive statistically significant influence of the adaptability dimension of OC on employees' psychological ownership.

4. There is a positive statistically significant influence of the mission dimension of OC on employees' psychological ownership.

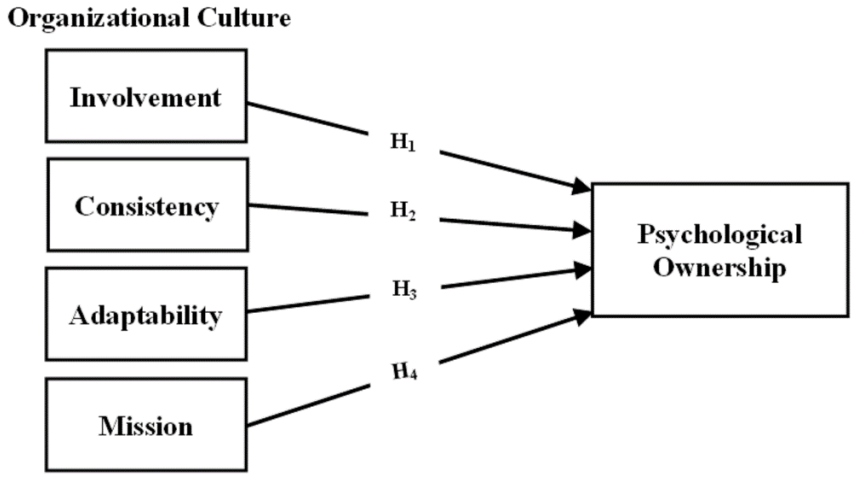


Figure 1: Hypothetical Conceptual Framework based on (Denison, 2000) Model of OC and the theory of psychological ownership (Pierce et al., 2003).

Research Methodology

This study employed a correlational research design within quantitative research. Correlational research reflects two characteristics: examining the cause and effect and assessing the relationship between the variables (Creswell, 2007). For this study, a cross-sectional survey was conducted to collect the required primary data through a questionnaire.

Sample techniques

The sample for this study was chosen by using a convenience sampling method. In convenience sampling, the investigator chooses the sample from those to whom they have easy access (Cohen, Manion, & Morrison, 2007). This method was preferred because it is a simple method that saves the time, money and energy of the scholars as well as causes the minimum interruption to the participants and also permits the researchers to collect the data within the shortest period (Cohen et al., 2007; Hair, Black, Babin, & Anderson, 2010). According to Reynolds, Simintiras, and Diamantopoulos (2003), using the convenience sampling method is more suitable and acceptable when the researcher intends to test the theory and to offer a confirmation in supporting or not supporting the hypothesis being tested.

Research instrument

The variable OC was measured through the instrument designed by Denison (2000), which comprised 60 statements. This questionnaire has four broader dimensions: involvement, consistency, adaptability, and mission. Moreover, each dimension is divided into three sub-dimensions comprising five statements or items. The three sub-dimensions of involvement are team orientation, capability development, and empowerment. Consistency includes coordination and integration, core values, and agreement. Adaptability covers the factors of organizational learning, creating change, and customer focus. The final mission dimension includes goals and objectives, strategic direction and intent, and vision. The variable employees' psychological ownership was measured through the instrument designed by Avey et al. (2009). This questionnaire comprises sixteen statements and five dimensions, including four items for territoriality and three for four other dimensions, including belongingness, self-identity, self-efficacy, and accountability. Both parts of the questionnaire were rated on a 5-point Likert-type scale with extreme ranges of 'strongly disagree' and 'strongly agree.'

Procedures for data collection

The data for the current research were collected from male and female employees of all age groups who possess various qualifications and work as doctors and nurses, either as permanent or contract staff in both public and private health sectors located in Hyderabad, Sindh. Before proceeding with the data collection, ethical considerations were followed correctly in obtaining permission from the

higher authorities of the hospitals. After that, the respondents were contacted face-to-face by visiting the hospitals. Cohen et al. (2007) suggested that researchers must consider ethics during the entire research process. Following their suggestions, all the respondents were informed about the study's objectives along with their rights, such as confidentiality, anonymity, and voluntary participation in the survey, and all the respondents were free to withdraw and refuse to participate at any time. A total of 388 questionnaires were distributed, and 369 filled out were received back, of which 324 samples completed from all aspects were retained for further analysis. Accordingly, the response rate was 95 percent.

Statistical Techniques

The data were analyzed using descriptive and inferential statistical techniques in SPSS version 22. Descriptive statistics report what was discovered and do not make any inferences or predictions (Cohen et al., 2007). Descriptive statistics were used in various ways: frequencies, percentages, mean and standard deviation. In contrast, inferential statistics always make inferences and predictions (Cohen et al., 2007). Consequently, the Pearson correlation coefficient and multiple linear regression were used to test the hypotheses. Pearson correlation is a "statistic to measure the degree of association between two interval or ratio variables" (Cohen et al., 2007, p. 591). At the same time, multiple regression calculates "the effects….to predict and weight the relationship between two or more explanatory – independent – variables and an explained – dependent variable" (Cohen et al., 2007, p. 539). In this study, the key independent variables were OC, having four dimensions: adaptability, involvement, mission, and consistency, while the dependent variable was employees' psychological ownership, comprising five dimensions: accountability, territoriality, self-efficacy, self-identity, and belongingness.

Demographic Profile

Table 1 demonstrates the respondents' demographic profile. Concerning the gender dispersal of the respondents in the current study, females (170; 52%) were more significant in number than male respondents (145; 47.5%). The designation of the respondents working in the hospitals includes nurses (184; 56.8%) and doctors (140; 43.2%). Regarding the employment sector, the respondents were equal in number working in public hospitals (162; 50%) and private hospitals (162; 50%). The job nature of the respondents was divided into two categories: permanent and contract/ad hoc, in which the majority were working on permanent positions (234; 72.2%) and only 90 (27.8%) were on contract/ad hoc positions. In terms of age, the majority of the respondents were of the age of 26-35 years (127; 39.2%), followed by 25 years or less (119; 36.7%), 36-45 years (55; 17%), 46-55 years (19; 5.9%), and more than 55 years were (4; 1.2%). Concerning the qualification of the

respondent, the majority holds a degree of Bachelor (238; 73.5%), followed by Master's Degree holders (45, 13.9%), diploma (40; 12.3%), and a single respondent holds a Ph.D. degree (1, 0.3%).

Table 1: Respondents

Type	Category	Frequency	Percentage
Gender	Male	145	47.5
	Female	170	52.5
	Total	**324**	**100.0**
Designation	Doctors	140	43.2
	Nurses	184	56.8
	Total	**324**	**100.0**
Employment Sector	Public	162	50.0
	Private	162	50.0
	Total	**324**	**100.0**
Job Nature	Permanent	234	72.2
	Contract/Ad hoc	90	27.8
	Total	**324**	**100.0**
Age	25 years or less	119	36.7
	26-35 years	127	39.2
	36-45 years	55	17.0
	46-55 years	19	5.9
	More than 55 years	4	1.2
	Total	**324**	**100.0**
Qualification	Diploma	40	12.3
	Bachelor's	238	73.5
	Master's	45	13.9
	PhD	1	0.3
	Total	**324**	**100.0**

Data analysis

Reliability Statistics

Cronbach's Alpha coefficients were calculated to assess the reliability of the questionnaire. Reliability refers to "dependability, consistency, and replicability over time, over instruments and groups of respondents" (Cohen et al., 2007, p. 148). Cronbach's alpha, or alpha coefficient, provides inter-item correlations among each item (Cohen et al., 2007). The value of the alpha coefficient always ranges from 0 to 1. An alpha value of 0.50 is acceptable (Hair et al., 2010). The results shown in Table 2 indicate a 0.896 alpha value for sixteen items in the questionnaire related to employee psychological ownership. Similarly, the questionnaire associated with OC comprised four broader dimensions: the alpha value was 0.883 for involvement, 0.906 for consistency, 0.930 for adaptability and 0.919 for mission. All the values denote that both the parts of the questionnaire were highly reliable.

Table 2: Reliability Statistics

Variables	Cronbach's Alpha	No. of Items
Employee Psychosocial Ownership	.896	16
Involvement	.883	15
Consistency	.906	15
Adaptability	.930	15
Mission	.919	15

Pearson Correlation

Hypotheses were tested through the Pearson correlation coefficient and then regression to explore the relationship between *employee psychological ownership* and the four dimensions of *OC (mission, involvement, adaptability, and consistency)*. The values of the Pearson correlation coefficient are presented in Table 3, along with the mean and standard deviation values. The results revealed that there is a significant relationship of *employee psychological ownership* with dimensions of OC *involvement* ($r = 0.791$, $p = .000 < 0.05$), *consistency* ($r = 0.803$, $p = .000 < 0.05$), *adaptability* ($r = 0.776$, $p = .000 < 0.05$), and *mission* ($r = 0.760$, $p = .000 < 0.05$). The values of mean and standard deviation related to both psychological ownership and four dimensions of OC indicate that the majority of the respondents were inclined towards disagreement with the various statements included in the questionnaire. 3.0 is considered the scale's mid-point, while all the values indicated against each variable in Table 3 fall below the mid-point.

Table 3: Descriptive Statistics and Correlation Matrix (n = 324)

Variables	1	2	3	4	5	M	SD

1	Psychological Ownership	1					2.238	0.626
2	Involvement	.791***	1				2.167	0.474
3	Consistency	.803***	.817***	1			2.152	0.510
4	Adaptability	.776***	.751***	.800***	1		2.286	0.637
5	Mission	.760***	.766***	.785***	.773***	1	2.134	0.569

Note: *=p<0.05, **=p<0.01, ***=p<0.001, n.s=no significance (2-tailed)

Multiple Regression

Multiple linear regression analysis was carried out on the empirical data to examine the association and the effects of OC on employee psychological ownership. Multiple regression explains how much variance in dependent variables (DV) may be justified by the independent variables (IVs) and what the relative influence of every IV in the direction of the DV may be (Hair et al., 2010). In the regression model, employee psychological ownership was used as DV, whereas four dimensions of OC (*involvement*, *consistency*, *adaptability*, and *mission)* were added as IVs. Below is the multiple linear regression equation.

$$\boldsymbol{Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon_i}$$

Here, Y represents the DV, β_0 is population intercept, β_1, β_2, β_3 and β_4 are population slope coefficient, X_1, X_2, X_3 and X_4 represent the IVs and ε_i It is the random error term. Accordingly, the regression equation for the proposed model is as follows.

$$\textbf{Psychological Ownership} = \beta_0 + \beta_1 \textbf{Involvement} + \beta_2 \textbf{Consistency} + \beta_3 \textbf{Adaptability} + \beta_4 \textbf{Mission} + \varepsilon_i$$

Before applying the regression analysis, the assumption of multicollinearity was checked by applying the Pearson correlation coefficient, variance inflation factor (VIF) and tolerance. Multicollinearity assumes that the IVs incorporated in the proposed model are not highly correlated (Hair et al., 2010). They recommended that the values of Pearson correlation should not surpass the value of 0.90 while the values of VIF should not surpass the value of 10, and the tolerance should be higher than 0.10 (Hair et al., 2010). Accordingly, Table 4 displays that the value of Pearson coefficient for the IVs involvement was (r = .791), for consistency (r = .803), for adaptability (r = .776) and mission (r = .760), indicating that all values are under the acceptance range (r < 0.90).

The values of VIF for all four IVs were less than the recommended value of 10. In addition, the tolerance values were higher than the lower limit of 0.10. Hence, the proposed regression model applied in this study is accessible from the

multicollinearity phenomenon. Another essential assumption required for the multiple regression is the assumption of independent errors. This implies that the residuals are not correlated, or in other words, there is no autocorrelation among the variables (Hair et al., 2010). Accordingly, the Durbin-Watson test was applied. The threshold values of the Durbin-Watson test are more significant than one and less than 3. Table 4 also indicates that the value of Durbin-Watson was 2.050, indicating no autocorrelation.

Additionally, the linearity, which implies the presence of a linear association between the DV and IVs (Hair et al., 2010), was inspected using the scatter plots in which the residuals fluctuated around zero and no linearity assumption was violated. Another critical assumption of homoscedasticity assumes that the "variance of the error terms appears constant over a range of predictor variables, the data are said to be homoscedastic" (Hair et al., 2010, p. 34), was also examined by visual inspection of scatter plots. There were no uncommon patterns. Moreover, the assumption of normality as defined by Hair et al. (2010, p. 35) suggests the "degree to which the distribution of the sample data corresponds to a normal distribution" was checked by visual examination of normal probability plot and histogram in which residuals were found normally distributed. Consequently, all critical assumptions of multiple regression were fulfilled.

Table 4: Analysis of Multicollinearity and Independent Errors

IVs	Pearson Correlation			Collinearity		
	Zero-Order	Partial	Part	Tolerance	VIF	Durbin Watson
Involvement	.791	.276	.146	.283	3.532	2.050
Consistency	.803	.242	.129	.235	4.248	
Adaptability	.776	.236	.125	.297	3.372	
Mission	.760	.169	.089	.302	3.311	
a. DV: Psychological Ownership						

The adjusted R square was used to check the total variance and the prediction accuracy explicated by the IVs (adaptability, mission, involvement, and consistency) in DV (psychological ownership). The greater the R square, the better prediction accuracy is determined (Hair et al., 2010). Table 5 indicates the value adjusted R square, which was 0.730, indicating that 73% variation in employee psychological ownership was because of these four predictor variables, i.e., adaptability, mission, involvement, and consistency.

Table 5: Multiple Regression Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.857[a]	.734	.730	.32505

a. Predictors: (Constant), Mission, Consistency, Involvement, Adaptability
b. DV: Psychological Ownership

Hair et al. (2010) recommended checking the F statistics and Analysis of Variance (ANOVA) to check the proposed multiple regression model's overall significance. The results of F statistics, as demonstrated in Table 6 ($F(4, 319) = 219.804$, $p = .000<0.05$), do not support the null hypothesis. This indicates the fit of the proposed regression model in significantly predicting the employee psychological ownership illustrated by the four variables of OC, including adaptability, mission, involvement, and consistency.

Table 6: Summary of ANOVA in Regression Model

Model	Sum of Squares	Df	Mean Square	F	Sig.	Decision
Regression	92.895	4	23.224	219.804	.000[a]	Null (H_0) not supported
Residual	33.705	319	.106			
Total	126.600	323	-			

a. Predictors: (Constant), Mission, Consistency, Involvement, Adaptability
b. DV: Psychological Ownership

To decide which IVs incorporated in the proposed model influenced the DV more, the standardized beta (β) values were used. To check the weak or strong influence of the IVs, Cohen et al. (2007) mention that the values of beta starting from 0 to ± 0.10 is an indication for deciding weak effect, from ± 0.11 to ± 0.40 for determining moderate impact, and from ± 0.60 or more for determining as a solid effect. In addition, the t-test in the proposed multiple regression model deals with the significant relation of the variables. The results of the t-test in Table 7 are significant for all four predictor variables of involvement ($t = 5.121$, $p = 0.000 < 0.05$), consistency ($t = 4.460$, $p = 0.000 < 0.05$), adaptability ($t = 4.331$, $p = 0.000 < 0.05$), and mission ($t = 3.064$, $p = 0.000 < 0.05$). The results of standardized beta coefficients demonstrated in Table 7 and Figure 2 show that employee psychological ownership is significantly predicted by all four IVs, such as involvement ($\beta = 0.278$), consistency ($\beta = 0.266$), adaptability ($\beta = 0.230$), and mission ($\beta = 0.161$). This suggests that all four dimensions of OC moderately affected employees' psychological ownership. The most significant beta coefficient in the current study is 0.278 for involvement, followed by 0.266 for consistency. This indicates that these two variables made a moderate unique contribution towards explaining the DV (*psychological ownership)*. The remaining two

variables, i.e., *adaptability,* having a beta value of 0.230 and *mission,* with a beta value of 0.161, also contributed moderately to explaining the employee psychological ownership.

Table 7: Summary of Multiple Regression Coefficient

Variables	Unstandardized β	Std. Error	Standardized β	t-value	p-value
(Constant)	-.151	.086		-1.754	.080
Involvement	.367	.072	.278	5.121	.000
Consistency	.326	.073	.266	4.460	.000
Adaptability	.226	.052	.230	4.331	.000
Mission	.177	.058	.161	3.064	.002
a. DV: Psychological Ownership					

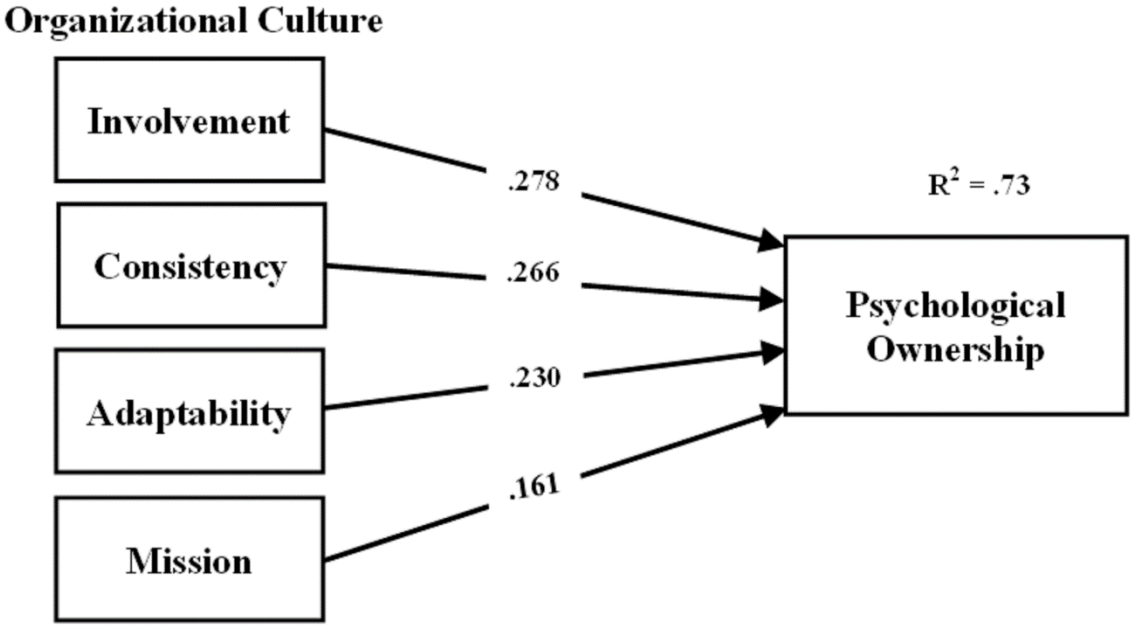


Figure 2: Multiple regression model demonstrating the significant standardized β coefficients and adjusted R square (*n*=324)

Discussion

The study examines the effects and the relationship between various dimensions of OC, such as involvement, consistency, adaptability, mission, and employee psychological ownership. In the model, it was hypothesized that 'Involvement, consistency, adaptability and mission have a positive effect on employees' psychological ownership.' The relationship was measured through

Pearson correlation coefficient analysis. The results reveal that all four dimensions of OC, including adaptability, mission, involvement, and consistency, are significantly associated with employee psychological ownership.

For determining the effect and predictive accuracy, the results reveal that 73% of the total variance in employee psychological ownership is explained by the four dimensions of OC: involvement, consistency, adaptability, and mission. However, it was noted that participation exerted the highest statistically significant effects on employees' psychological ownership, followed by consistency. At the same time, adaptability and mission contributed moderately statistically significantly to explaining employee psychological ownership.

The most crucial scholarship of Pierce et al. (2004) discovered that the OC dimensions, such as involvement in decision-making, workplace empowerment, information about the goals and mission of the organization and sharing authority among the employees, increase the sense of psychological ownership and motivation, which leads them to trigger certain work-related behaviors. As a result, the performance of the organization increased. Moreover, several other previous studies also discovered that consistency to be significantly connected with organizational commitment (Azadi, Farsani, Farsani, & Aroufzad, 2013; Firuzjaeyan, Firuzjaeyan, & Sadeghi, 2015; Hakim, 2015). Similarly, the recent study carried out by You et al. (2022) in the Chinese context determined that innovative OC positively impacts the employees' psychological ownership since when workers experience credibility and respect in an optimistic and innovative culture of an organization, they feel a higher level of responsibility and ownership sense towards their organizations, which motivates them to experience greater involvement and to exhibit higher job-related innovative skills. This study also reveals findings similar to those of You et al. (2022).

These findings are compatible with the conclusions drawn by Kassem, Ajmal, and Khan (2017) in UAE. They discovered a positively oriented relationship between OC and business excellence. The mission was found to be the most significant associated element. The study by Jing and Yan (2022) discovered that psychological ownership intervenes between perceived organizational support and turnover intentions. They also found that in the OC, where the employees are provided full support, they possess positive attitudes and feelings about the organization, and their psychological ownership will increase. The current study's findings align with the conclusions of Jing and Yan (2022). The conclusions drawn by Azadi et al. (2013) in the Iranian context suggested a positively oriented significant association between OC dimensions of involvement, consistency, adaptability, and mission.

Moreover, they discovered OC and commitment as the two critical factors for promoting an innovative work environment. Besides, this study's results align

with the findings of Nongo and Ikyanyon (2012) in the Nigerian context. Their results yielded adaptability carrying higher values followed by mission and involvement characteristics of OC. These findings match with this study.

Conclusion and recommendations

This study endeavored to discover the effect of OC on the psychological ownership of employees and to determine the theoretical and empirical association between different dimensions of OC (Involvement, adaptability, consistency, & mission) and psychological ownership of employees in public and private health sector located at Hyderabad, Sindh, Pakistan. The findings endorse that all four dimensions of OC were discovered to be most significant in predicting employees' psychological ownership.

The findings of this investigation suggest the conclusion based on collected data that the characteristic of involvement was discovered to be the most significant impact. Employees who engage entirely in various assigned roles and responsibilities feel more psychological ownership of their organization. The managerial staff must find appropriate, helpful, and proactive work-related tasks for the employees according to their experience, knowledge, and capability. These collaborative efforts of supervisors and subordinates are likely to induce the sentiment of involvement and consequently affect the organizational outcomes.

The results suggest consistency as OC's second most significant characteristic connected to psychological ownership and its linkage with established and cohesive organizational settings. It implies that the supervisory personnel should attend to the values, arrangements and procedures for creating improved advantage, which may generate higher psychological ownership, resulting in better organizational outcomes.

The third most crucial characteristic of OC was found to be adaptability. The greater level of adaptability to change by organizations can generate a higher degree of possession among employees. The latter is committed when organizations attend to their employees' needs and requirements. This, in turn, engenders sentiments of ownership in their organizations.

The last one of the key OC characteristics, mission, was discovered to impact psychological ownership moderately. This indicates that the workforce performing their responsibilities attaches importance to the organizational mission by associating themselves with the organizational mission, objectives and goals, thereby creating grounds for stimulating the sentiments of possession among them towards their organization.

Conclusion

The findings of this study suggest that the managerial authorities should align and engage the employees. The organizations should follow a transparent set of rules, regulations, and processes. Organizations should be adaptable to the external environment. The organizations should have a clear understanding of where they are heading.

Recommendations

Future research may employ more variables like innovation, burnout, retention, work ethics, etc. Moreover, this study sought data from the health sector; researchers may include other sectors, such as banking, telecom, education, mining etc. A longitudinal study may also be undertaken.

References

Abdullah, M. I., Huang, D., Sarfraz, M., Ivascu, L., & Riaz, A. (2021). Effects of internal service quality on nurses' job satisfaction, commitment and performance: Mediating role of employee well-being. *Nursing Open, 8*(2), 607-619.

Abdullah, N. H., Shamsuddin, A., Wahab, E., & Hamid, N. A. A. (2014). The relationship between organizational culture and product innovativeness. *Procedia-Social and Behavioral Sciences, 129*, 140-147.

Ahmady, G. A., Nikooravesh, A., & Mehrpour, M. (2016). Effect of organizational culture on knowledge management based on Denison model. *Procedia-Social and Behavioral Sciences, 230*, 387-395.

Ainsworth, J. (2020). Feelings of ownership and volunteering: Examining psychological ownership as a volunteering motivation for nonprofit service organizations. *Journal of Retailing and Consumer Services, 52*, 101931. doi:https://doi.org/10.1016/j.jretconser.2019.101931

Alao, T., & Aina, O. (2020). Organizational culture of construction companies in Lagos State, Nigeria. Organization, Technology and Management in Construction: *an International Journal*, 12(1), 2158-2169. doi:https://doi.org/10.2478/otmcj-2020-0012

Asif, M., & Sajjad, W. (2018). Organizational culture and performance: an empirical study of SMEs in Pakistan. *Journal of Management and Research*, 5(2), 1-26.

Aslan, M., & Atesoglu, H. (2021). The Effect of Innovation and Participation as Workplace Values on Job Satisfaction and the Mediating Effect of Psychological Ownership. *Sage Open*, 11(4), 21582440211061530. doi:10.1177/21582440211061530

Atatsi, E. A., Azila-Gbettor, E. M., & Mensah, C. (2021). Predicting task performance from psychological ownership and innovative work behavior: A cross-sectional study. *Cogent Business & Management*, 8(1), 1917483. doi:https://doi.org/10.1080/23311975.2021.1917483

Avey, J. B., Avolio, B. J., Crossley, C. D., & Luthans, F. (2009). Psychological ownership: Theoretical extensions, measurement and relation to work outcomes. Journal of Organizational Behavior: The International *Journal of Industrial, Occupational and Organizational Psychology and Behavior*, 30(2), 173-191. doi:https://digitalcommons.unl.edu /managementfacpub/18

Avey, J. B., Wernsing, T. S., & Palanski, M. E. (2012). Exploring the process of ethical leadership: The mediating role of employee voice and psychological ownership. *Journal of Business Ethics, 107*(1), 21-34. doi: https://doi.org/10.1007/s10551-012-1298-2

Azadi, A., Farsani, S. B., Farsani, M. E., & Aroufzad, S. (2013). Relationship between organizational culture and organizational commitment among women physical education teachers. *European Journal of Experimental Biology*, 3(1), 531-535. doi:https://www.primescholars.com/articles /relationship-between-organizational-culture-and-organizational-commitment-among-woman-physical-education-teachers-90793.html

Bhatti, A., Rehman, S. U., & Rumman, J. B. A. (2020). Organizational capabilities mediate between organizational culture, entrepreneurial orientation, and organizational performance of SMEs in Pakistan. *Entrepreneurial Business and Economics Review*, 8(4), 85-103.

Chai, D. S., Song, J. H., & You, Y. M. (2020). Psychological ownership and openness to change: The mediating effects of work engagement, and knowledge creation. *Performance Improvement Quarterly*, 33(3), 305-326.

Cohen, L., Manion, L., & Morrison, K. (2007). Strategies for data collection and researching: Questionnaire (6th ed.). Abingdon: *Routledge.*

Creswell, J. W. (2007). Qualitative Inquiry & Research Design. Thousand Oaks: *Sage*.

Dawkins, S., Tian, A. W., Newman, A., & Martin, A. (2017). Psychological ownership: A review and research agenda. *Journal of Organizational Behavior*, 38(2), 163-183.

Degbey, W. Y., Rodgers, P., Kromah, M. D., & Weber, Y. (2021). The impact of psychological ownership on employee retention in mergers and acquisitions. *Human Resource Management Review*, 31(3), 100745. doi:https://doi.org/10.1016/j.hrmr.2020.100745

Denison, D. R. (2000). Organizational culture: Can it be a key lever for driving organizational change? In C. Cooper, S. Cartwright, & P. Earley (Eds.), *The International Handbook of Organizational Culture and Climate* (Vol. 18, pp. 347-372).

Firuzjaeyan, A. A., Firuzjaeyan, M., & Sadeghi, B. (2015). A survey of the effect of organizational culture on organizational commitment based on the Allen and Meyer model (Case study: High school teachers of Bandpey region). *International Journal of Academic Research in Business and Social Sciences*, 5(1), 1-9. doi:https://doi.org/10.6007/IJARBSS/V5-I1/1394

HA, V. D. (2020). Impact of Organizational Culture on the accounting information system and operational performance of small and medium-sized enterprises in Ho Chi Minh City. *Journal of Asian Finance, Economics and Business*, 7(2), 301-308. doi:https://doi.org/10.13106/JAFEB.2020.VOL7.NO2.301

Hair, J., Black, W., Babin, B., & Anderson, R. (2010). Multivariate Data Analysis: A Global Perspective. Upper Saddle River, NJ: *Pearson Education Inc*.

Hakim, A. (2015). Effect of organizational culture, organizational commitment to performance: Study in hospital of district South Konawe of Southeast Sulawesi. The International *Journal Of Engineering And Science (IJES)*, 4(5), 33-41. doi:https://issuu.com/theijes/docs/g0452033041/1

He, K., Oláh, J., & Hasan, M. (2022). The influence of psychological ownership and social support on organizational resilience: the mediating role of organizational identity. *Journal of Business Economics and Management, 23*(3), 650–667-650–667.

Jafree, S. R., Zakar, R., Zakar, M. Z., & Fischer, F. (2015). Nurse perceptions of organizational culture and its association with the culture of error reporting: a case of public sector hospitals in Pakistan. *BMC Health Services Research, 16*(1), 1-13.

Jiang, M., Wang, H., & Li, M. (2019). Linking Empowering Leadership and Organizational Citizenship Behavior Toward Environment: The Role of Psychological Ownership and Future Time Perspective. *Frontiers in Psychology*, 10. doi:https://doi.org/10.3389/fpsyg.2019.02612

Jing, J., & Yan, J. (2022). Study on the Effect of Employees' Perceived Organizational Support, Psychological Ownership, and Turnover Intention: A Case of China's Employee. *International Journal of Environmental Research and Public Health*, 19(10), 6016. doi:https://doi.org/10.3390/ijerph19106016

Kassem, R., Ajmal, M. M., & Khan, M. (2017). The relationship between organizational culture and business excellence: A case study from the United Arab Emirates. *International Journal of Information Systems in the Service Sector*, 8(3), 732-751. doi:https://doi.org/10.4018/IJISSS.2016070102

Khan, M. A., & Afzal, H. (2011). A high level of education builds a strong relationship between organizational culture and organizational performance in Pakistan. *The International Journal of Human Resource Management*, 22(07), 1387-1400.

Khan, M. A., Ismail, F. B., Hussain, A., & Alghazali, B. (2020). The Interplay of Leadership Styles, Innovative Work Behavior, Organizational Culture, and Organizational Citizenship Behavior. *Sage Open*, 10(1), 2158244019898264. doi:10.1177/2158244019898264

Leyer, M., Hirzel, A.-K., & Moormann, J. (2021). It's Mine, I Decide What to Change: The Role of Psychological Ownership in Employees' Process Innovation Behaviour. *International Journal of Innovation Management*, 25(01), 2150013. doi:https://doi.org/10.1142/S1363919621500134

Liu, G., Tsui, E., & Kianto, A. (2021). Knowledge-friendly organizational culture and performance: A meta-analysis. *Journal of Business Research*, 134, 738-753. doi:https://doi.org/10.1016/j.jbusres.2021.05.048

McConville, D., Arnold, J., & Smith, A. (2016). A phenomenological analysis of employee share ownership, psychological ownership, and work attitudes and behaviors. *Journal of Occupational and Organizational Psychology*, 89(3), 634-655. doi: https://doi.org/10.1111/joop.12146

Memon, S. B., Qureshi, J. A., & Jokhio, I. A. (2020). The role of organizational culture in knowledge sharing and transfer in Pakistani banks: A qualitative study. *Global Business and Organizational Excellence*, 39(3), 45-54.

Metz, D., Ilieș, L., & Nistor, R. L. (2020). The impact of organizational culture on customer service effectiveness from a sustainability perspective. *Sustainability*, 12(15), 6240. doi:https://doi.org/10.3390/su12156240

Mohammadi, H., Salehi, M., & Jabbari, N. (2020). The Role of Organizational Culture on Faculty Members' Reformation. *Research in Medical Education*, 12(2), 21-30. doi:http://rme.gums.ac.ir/article-1-932-en.html

Morewedge, C. K. (2021). Psychological ownership: Implicit and explicit. *Current Opinion in Psychology*, 39, 125-132.

Mujeeb, E. M., Masood, M. M., & Ahmad, M. A. (2011). Relationship between organizational culture and performance management practices: a case of university in Pakistan. *Journal of Competitiveness*, 3(4).

Mustafa, M. J., Mansilla, O., & Gibson, M. T. (2021). Examining when hotel middle-managers psychological ownership influences their commitment and job satisfaction. *Journal of Human Resources in Hospitality & Tourism*, 20(2), 198-221. doi:https://doi.org/10.1080/15332845.2021.1872236

Nongo, E. S., & Ikyanyon, D. N. (2012). The influence of corporate culture on employee commitment to the organization. *International Journal of Business and Management*, 7(22), 21-28. doi:https://doi.org/10.5539/ijbm.v7n22p21

Olckers, C., & Van Zyl, L. (2016). The relationship between employment equity perceptions and psychological ownership in a South African mining house: The role of ethnicity. *Social Indicators Research*, 127(2), 887-901. doi:https://doi.org/10.1007/s11205-015-0972-z

Pierce, J. L., & Peck, J. (2018). The history of psychological ownership and its emergence in consumer psychology. In J. Peck & S. B. Shu (Eds.), Psychological ownership and consumer behavior (pp. 1-18): *Springer*.

Pierce, J. L., Kostova, T., & Dirks, K. T. (2001). Toward a theory of psychological ownership in organizations. Academy of Management Review, 26(2), 298-310. doi:https://doi.org/10.5465/amr.2001.4378028

Pierce, J. L., Kostova, T., & Dirks, K. T. (2003). The state of psychological ownership: Integrating and extending a century of research. Review of general psychology, 7(1), 84-107.

Pierce, J. L., Driscoll, M. P., & Coghlan, A.-M. (2004). Work environment structure and psychological ownership: The mediating effects of control. *The Journal of Social Psychology*, 144(5), 507-534. doi:https://doi.org/10.3200/SOCP.144.5.507-534

Potdar, B., Guthrie, J., Gnoth, J., & Garry, T. (2018). The role of psychological ownership in shoplifting prevention: An exploratory study. *Journal of Retailing and Consumer Services*, 44, 253-265. doi:https://doi.org /10.1016/j.jretconser.2018.07.015

Rau, S. B., Werner, A., & Schell, S. (2019). Psychological ownership as a driving factor of innovation in older family firms. *Journal of family business strategy*, 10(4), 100246. doi:https://doi.org/10.1016/j.jfbs.2018.03.001

Reynolds, N. L., Simintiras, A. C., & Diamantopoulos, A. (2003). Theoretical justification of sampling choices in international marketing research: Key issues and guidelines for researchers. *Journal of International Business Studies*, 34(1), 80-89.

Saeed, A., & Ibrahim, H. (2005). Reasons for the problems faced by patients in government hospitals: results of a survey in a government hospital in Karachi, Pakistan. JPMA. *The Journal of the Pakistan Medical Association*, 55(1), 45-47.

Schirle, L., McCabe, B. E., & Mitrani, V. (2019). The relationship between practice environment and psychological ownership in advanced practice nurses. *Western Journal of Nursing Research*, 41(1), 6-24.

Shahzad, F. (2014). Impact of organizational culture on employees' job performance: An empirical study of software houses in Pakistan. *International Journal of Commerce and Management*.

Shahzad, F., Xiu, G., & Shahbaz, M. (2017). Organizational culture and innovation performance in Pakistan's software industry. Technology in Society, 51, 66-73.

Szydło, J., & Grześ-Bukłaho, J. (2020). Relations between national and organizational culture—Case study. *Sustainability*, 12(4), 1522.

Tipu, S. A. A., Ryan, J. C., & Fantazy, K. A. (2012). Transformational leadership in Pakistan: Examining the relationship of transformational leadership to organizational culture and innovation propensity. *Journal of Management & Organization*, 18(4), 461-480.

Umrani, W. A., Memon, P. A., Samo, A. H., & Shah, S. M. M. (2016). Psychometric properties examination of organizational culture construct: Evidence from Pakistan. *International Journal of Academic Research in Business and Social Sciences*, 6(12), 685-699. doi:https://doi.org/10.6007/IJARBSS/v6-i12/2529

Wahyuningsih, S. H., Sudiro, A., Troena, E. A., & Irawanto, D. (2019). Analysis of organizational culture with Denison's model approach for international business competitiveness. Problems and perspectives in management(17, Iss. 1), 142-151.

You, Y., Hu, Z., Li, J., Wang, Y., & Xu, M. (2022). The Effect of Organizational Innovation Climate on Employee Innovative Behavior: The Role of Psychological Ownership and Task Interdependence. *Frontiers in Psychology*, 13. doi:https://doi.org/10.3389/fpsyg.2022.856407

Abdul Razaque Larik, affiliated with the Department of Political Science at Government College University in Hyderabad, Sindh, Pakistan, can be reached at razaq.larik@gcuh.edu.pk.

Syed Gulzar Ali Shah Bukhari is associated with the Department of Science and Technical Education in the Faculty of Education at the University of Sindh, Elsa Kazi Campus, Hyderabad, Sindh, Pakistan. He can be contacted at gasb@usindh.edu.pk.

Saleem Raza Qureshi is part of the Shaaf Institute of Medical and Modern Sciences in Larkana, Sindh, Pakistan. He can be contacted via email at saleemrazaqureshi@gmail.com. For correspondence, the email address is *Corresponding Author: gasb@usindh.edu.pk.