



# Psychological ownership and knowledge behaviors during a pandemic: role of approach motivation

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## Abstract

The purpose of this article is to understand the relationship between psychological ownership, knowledge sharing, knowledge hiding and employee motivation in knowledge intensive organizations. We take employee motivation in terms of approach motivation and avoidance motivation and examine moderating role of the former in case of the psychological ownership – knowledge sharing relationship, and the latter in case of the psychological ownership – knowledge hiding relationship. We examine these relationships on data collected during a pandemic (i.e., COVID-19). Data are collected from 217 individuals working in knowledge intensive high-tech organizations and educational institutes. Hypotheses are tested using structural equation modelling (SEM). Results show that stronger feelings of psychological ownership lead to both positive work behavior (i.e., knowledge sharing) as well as negative work behavior (i.e., knowledge hiding). Furthermore, approach motivation positively moderates the positive relationship between psychological ownership and knowledge sharing. A moderating role of avoidance motivation, however, is not confirmed. Research has ignored the role of different types of employee motivation, particularly approach motivation vis-à-vis knowledge behaviors. Furthermore, by examining these relationships in the context of a Pandemic (i.e., COVID-19), we offer some interesting insights and offer implications for management practice. For example, managers may incorporate reward practices to motivate employees towards knowledge sharing, and nurture an organizational climate, which discourages knowledge hiding.

**Keywords** Psychological ownership · Knowledge management · Motivation · Knowledge intensive organizations · COVID-19

## Introduction

COVID-19 appeared to be one of the biggest crises in the history of mankind changing the working landscape of organizations and resulting in high degrees of restructuring, downsizing and shutdowns (Ozili & Arun, 2020). These circumstances also affected employee behaviors and attitudes (Budhwar & Cumming, 2020, Ozili). Unforeseeable crisis from such pandemic drastically influenced employees in terms of job insecurity, role conflict, unemployment and knowledge hiding (Godinić & Obrenovic, 2020; König et al., 2020). These factors hindered the productivity of the employees which eventually impacted the organizational performance. Changes in the organizational settings in order to combat the pandemic and protect workforce (Pradies et al., 2021) led to decreased motivation and significant alteration in the employee work attitudes. Organizations in such a turbulent environment faced complexities in workforce management leading to downsizing.

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Employees are considered a key source of competitive advantage in today's knowledge economy especially the knowledge workers who utilize, share and create new knowledge to enhance the organizational performance. The knowledge of employees i.e. tacit knowledge, is thus widely considered as a core factor to endure competitive advantage (Pan et al., 2018) and is a core component of the knowledge based theory of the firm (Grant, 1996). Research suggests that the COVID-19 pandemic resulted in downsizing, job insecurity and organizational performance dilemma, causing employees to hide knowledge at workplace (Nguyen et al., 2022).

Psychological ownership plays an important role in this regard particularly for knowledge exchanges among professionals (Pirkkalainen et al., 2018) as it indirectly influences knowledge hiding behaviors of knowledge workers (Bhattacharya & Sharma, 2019). Psychological ownership is based on self-extended theory and the possession literature, and is referred to as a state of mind in which an individual considers that the target of ownership belongs to them (Pierce et al., 2003). When it comes to psychological ownership impact on knowledge behaviors, research show different findings. That is, at one end, job-based psychological ownership encourages employees to enhance ownership bond towards job and be more proactive, whereas on the other end, employees with ownership feelings tend to be more possessive resulting in negative work behaviors such as knowledge hiding (Wang et al., 2019; Peng & Pierce, 2015) opine that, employees hide knowledge when they feel the ownership of the knowledge they hold. Stronger the feelings of ownership, lesser the employee's willingness to share knowledge (Xinyan & Xin, 2006). Contrary to this, Pirkkalainen et al. (2018) argue that stronger feelings of psychological ownership encourage the employees to exchange knowledge, which then secures the competitive advantage and well-being of the organization. Thus, psychological ownership has a positive influence on users' knowledge-sharing behavior (Jiang et al., 2021) and a negative one with knowledge withholding. Knowledge withholding results in counterproductive behaviors (Peng & Pierce, 2015). Moreover, psychological ownership enhances information exchange and positively relates to knowledge sharing (Pittino et al., 2018). Hence, these contradictions suggest there are two different aspects of psychological ownership, and there are contingencies attached to the psychological ownership and knowledge (hiding, sharing) behaviors.

The decision to share or hide knowledge is highly influenced by one's motivation (Gagné et al., 2019; Peng & Pierce, 2015; Singh, 2019). Gagné et al. (2019) study both the constructs of knowledge hiding, and knowledge sharing simultaneously, and find that it is the motivation which influences individuals to adopt any of the knowledge behavior. For example, employees with stronger

feelings of psychological ownership hide knowledge from their co-workers specifically when avoidance motivation is high (Wang et al., 2019). This negative work behavior is strengthened when employees adopt avoidance motivation. Škerlavaj et al. (2018) find that individuals with low prosocial motivation tend to hide knowledge. This negative knowledge behavior is developed when employees feel threatened during an organizational crisis and develop fear of being replaced or removed (Nguyen et al., 2022).

Though researchers have paid noticeable attention (both empirical and theoretical) to employee's responses toward knowledge sharing and knowledge hiding (Gagné et al., 2019; Pan et al., 2018), what motivates knowledge sharing resulting from psychological ownership is unexplored. Furthermore, what motivates knowledge sharing and/or demotivate knowledge hiding in turbulent organizational environments (Gagné et al., 2019) such as COVID-19 in relation to psychological ownership is still an underexplored phenomena. This study extends the limited work carried out on motivations of knowledge behaviors (Connelly et al., 2019; Gagné et al., 2019; Wang et al., 2019). Specifically, this research work builds on Gagne et al. (2019) on how motivational characteristics influence one's motivation to share or hide knowledge when organizations are confronted with a pandemic.

To this end, we draw on survey data collected from 217 individuals working in knowledge intensive high-tech organizations and educational institutes. Hypotheses are tested using structural equation modelling (SEM). Results show that stronger feelings of psychological ownership lead to both positive work behaviors (i.e., knowledge sharing) as well as negative work behaviors (i.e., knowledge hiding). Furthermore, approach motivation positively moderates the positive relationship between psychological ownership and knowledge sharing. However, in contrast to Wang et al. (2019), a moderating role of avoidance motivation, is not confirmed.

## Theory and hypotheses development

### Psychological ownership and knowledge hiding

Psychological ownership is a concept drawn mainly from the theory of possession (Dittmar, 1992). Since its inception, the concept has gained wide popularity in the areas of human resource management (Bernhard & O'Driscoll, 2011, Broekaert et al., 2018, Rantanen & Jussila, 2011) and organizational behavior (Avey et al., 2009; Li et al., 2015). The term "psychological ownership" was coined by Pierce in 2001 and is defined as a state of mind in which an individual starts thinking that certain targeted object or a piece of it belongs to me or is "MINE". That object

could be material or immaterial in nature. Psychological ownership can be observed at individual and collective level. Most of the literature is focused on individual psychological ownership. Pierce (2010) introduced a theory of collective psychological ownership exemplifying “this organization is ours” for “this organization is mine” (Individual sense of possession). Collective feelings of ownership can be described as individual feelings of shared ownership toward an object (Pierce & Jussila, 2010; Pierce et al., 2018). It has its roots in social identity motive which explains that individuals who look for social identity seek ways to be recognized as members of particular teams not only by themselves but also by their social circle (Pierce & Jussila, 2010). Such ownership results in positive work consequences in-role performance, organizational citizenship behavior and negative behavior for knowledge hiding and unethical behavior (Wang et al., 2019).

Knowledge hiding is considered as a thoughtful act of withholding or concealment of information when requested (Connelly et al., 2012). Playing dumb, rationally hiding, evasive hiding are the different tactics adopted by knowledge hidiers. Such acts by employees lead to provision of false or deceptive data, showing inability to answer questions, and offering explanations for hiding knowledge (Connelly et al., 2012). Knowledge hiding sparks negative work behavior in organizations and results in reduced creativity and innovative capability of employees (Bogilović et al., 2017) with inclined turnover intentions (Serenko & Bontis, 2016). Antecedents of knowledge hiding include time pressure with low prosocial spur (Škerlavaj et al., 2018), psychological entitlement (Khalid et al., 2020), territoriality (Singh, 2019) and job based psychological ownership (Wang et al., 2019).

Feeling of psychological ownership emerges when employees can: (i) control the job, (ii) intimately identify their job; and, (iii) spend their time, energy, and effort into the job (Pierce & Jussila, 2010; Pierce & Peck, 2018). Employees having a control on their job, knowing more than others and investing their time, energy and effort into the job feel that their job purely belongs to them (Brown et al., 2014; Peng & Pierce, 2015). These feelings of possession urge employees to hide knowledge from their coworkers. Employees with high psychological ownership keep the knowledge to themselves thinking that the knowledge being requested is part of their extended self and identity (Pierce et al., 2003). Wang et al. (2019) show that sales representatives experiencing high psychological ownership hide sales skills, product and customer information from their colleagues. Knowledge hiding by employees is an effort to satisfy sense of security and distinctiveness. Employees working in teams are expected to share knowledge with coworkers but employees with high feelings of possession toward job find different ways to hide knowledge.

Based on psychological ownership theory, research suggests that individuals with high ownership feelings seek to retain their control on target of ownership and refuse to exchange knowledge about target with others (Huo et al., 2016; Brown et al., 2014). This is so because what enables psychological ownership is an investment of time, energy and effort into target of ownership, and employees who invest their resources in the job become more possessive toward job and are hence less likely to disclose their knowledge to others (Peng, 2013). Based on above discussion it is hypothesized that:

H1: Collective psychological ownership positively relates to knowledge hiding behaviors.

### Psychological ownership and knowledge sharing

Knowledge sharing involves making the knowledge available to others within the organization. Research suggests contrasting findings regarding knowledge sharing and psychological ownership. Xinyan and Xin (2006) suggest that personal feeling of possession to some particular knowledge, could impede knowledge sharing and spreading. Contrastingly, other studies indicate that psychological ownership augments knowledge sharing (Pittino et al., 2018). Psychological possession of information is related with knowledge sharing intents (Pirkkalainen et al., 2018). Knowledge sharing adds to the formation and use of knowledge and ownership produces organizational commitment which helps in contributing towards knowledge-sharing (Han et al., 2014).

Avey et al. (2009) introduced an independent form of psychological ownership; promotive psychological ownership which is related to satisfying the individual’s hopes and ambitions. Dawkins et al. (2017) argued that employees with promotive psychological ownership are more prospective to exchange knowledge they own with fellows of other departments in the firm. While in general, organizations discourage knowledge hiding and encourage knowledge sharing behaviors (Khelladi et al., 2022; Škerlavaj et al., 2018), employees share knowledge when their beliefs are aligned with a strong organizational culture that encourages knowledge exchanges to achieve organizational objectives (Gagné et al., 2019). Employees with high psychological ownership are normally self-motivated toward positive work behaviors. Psychological ownership encourages learning from each other, working together to resolve concerns, wholeheartedly embracing and promulgating organizational morals and ideas and also promotes knowledge sharing among individuals (Gupta et al., 2021; Singh, 2019). Hameed et al. (2019) suggest that individuals with high level of psychological ownership show humane spirit and promote knowledge sharing among employees. Literature suggests that employees experiencing stronger feelings of ownership are more willing to exchange

knowledge (Ford & Staples, 2010). Based on these, it can be hypothesized that:

H2: Psychological ownership positively associates with knowledge sharing behavior of employees.

### Moderating roles of avoidance and approach motivation

According to extended-self theoretical perspective, the varying effects of psychological ownership largely depend on personal characteristics which impact individuals' concerns to warrant self-object bond or escape self-object bond (Dirks et al., 1996). There are extrinsic and intrinsic motivating factors that determine if employees will exchange or conceal knowledge. Decision to share knowledge or hide knowledge depends on individual differences (Škerlavaj et al., 2018), interpersonal factors (i.e. interpersonal distrust) (Černe et al., 2014) as well as situational issues and individual variances (Peng & Pierce, 2015; Škerlavaj et al., 2018). These individual differences include varying personality characteristics and different motivations of concerned employees entangled with the environment in which they work. For example, during crisis such as covid-19, the circumstances combined with the personality traits of employees impacted the motivation of employees to engage in knowledge sharing or knowledge hiding.

Motivation has a significant part to play in varying behaviors of employees when it comes to knowledge exchanges. Knowledge exchange by employees is an intentional and humane behavior (Kelloway & Barling, 2000) and one's decision to hide knowledge and/or share knowledge depends on motivation and personal characteristics. Motivation is linked to the direction of behavior towards a stimulus and this behavior could be with an approach perspective (approach motivation) or an avoidance perspective (avoidance motivation) towards the desired stimulus. In other words, approach motivation is associated with emotions and actions to achieve a desirable result whereas avoidance motivation is linked to emotions and actions to avoid an unintended or undesirable situation. Based on this, some employees are more likely to exchange knowledge with their fellow workers as compared to their colleagues who might indulge in knowledge hiding (Wang et al., 2014).

Motivation theory (Steers et al., 2004) stresses on motivations which push the individuals to exchange knowledge and broadly determine knowledge behaviors (Tang et al., 2016). That is, even employees with high psychological ownership may hesitate to exchange knowledge when requested. However, it is also found that high psychological ownership may not necessarily result in knowledge hiding - group members may also develop a thinking that job collectively belongs to them, and so less likely to hide knowledge. Thus, it can

be argued that hiding or sharing knowledge depends on not only one's level of possessions toward target of ownership but also on motivation. Intrinsic motivation becomes unavoidably important when the motive is to share knowledge (Osterloh & Frey, 2000).

Wang et al. (2019) found employees experiencing high job-based psychological ownership with high avoidance motivation, involve in negative work behaviors. Reason of negative work behaviors is that employees with high avoidance motivation try to avoid losses and hide knowledge from coworkers. Thus, in the light of prior literature on trait motivations and individual differences it can be assumed that avoidance motivation strengthens negative work behaviors, that is knowledge hiding. On the other hand, employees experiencing high collective psychological ownership will share knowledge with coworkers if their approach motivation is high. The approach motivated employees seek new opportunities for demonstrating success and improve their work thus improving their circumstances during crisis as well. Thus, approach motivation amplifies positive influence of psychological ownership on knowledge sharing. Based on this, it is hypothesized that:

H3: Avoidance motivation moderates the positive effect of collective psychological ownership on knowledge hiding such that the influence is stronger when avoidance motivation is high.

H4: Approach motivation moderates the positive Influence of collective psychological ownership on knowledge sharing such that the effect is stronger when approach motivation is high.

Figure 1 presents the conceptual model of the study

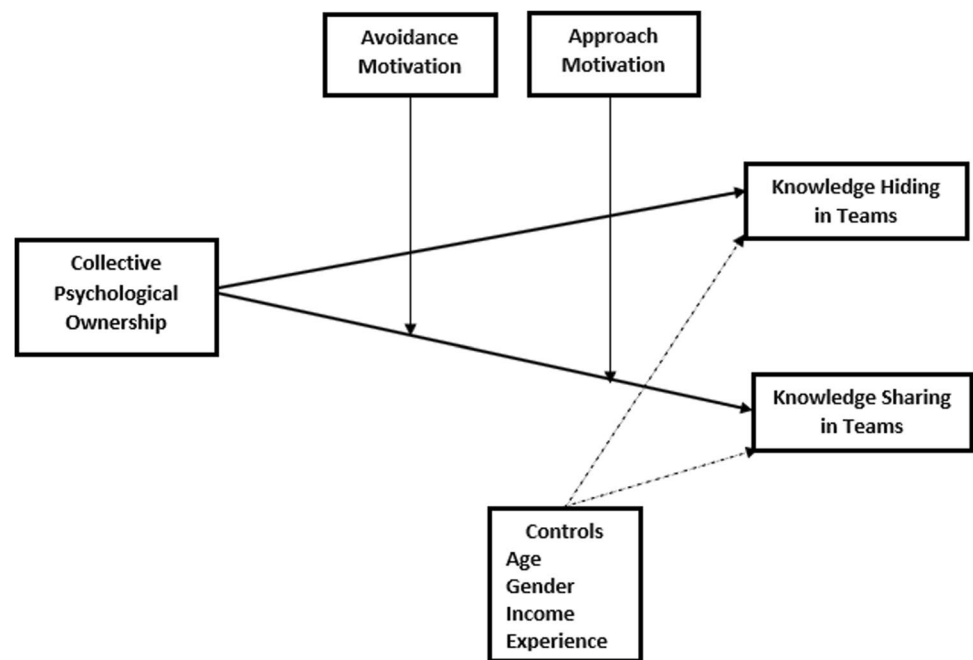
## Method

### Sample and procedures

Data collection for this study took place from June 2020 to July 2020 when COVID-19 first wave was at its peak. At that time, there was tremendous fear and uncertainty all over the world – little was known – and there were no vaccines developed. Organizations were hit by pandemic and forced to follow SOPs's set by Government and health institutions. While this hit all over the world, the fear was greater in developing countries with high population such as Pakistan.

We targeted population of knowledge workers working in high-tech organizations and educational institutes in Pakistan. High-tech companies are generally comprised of knowledge workers (Bhattacharya & Sharma, 2019). Knowledge management in these kind of organizations is usually considered as the most substantial element for the

**Fig. 1** Psychological ownership, knowledge behaviors, avoidance and approach motivation



firm’s sustainability and growth (Xia et al., 2019). Moreover, knowledge and expertise may vary among team members in these kind of organizations (Fong et al., 2018; Semerci, 2019). Those tech organizations were selected that had undergone pandemic related changes, and whose individuals were remotely working, with 50% attendance, or the firms were either downsizing or were merged.

As far as educational institutes are concerned, being exposed to the rising competitive pressure and focused on research and innovation, these are considered as knowledge-intensive entities too. We selected universities operating in the Rawalpindi and Islamabad city region as these universities have: (i) well developed infrastructure with a significant student and teacher strength, (ii) focus on research and innovation, and (iii) are significantly impacted by COVID-19 and have gone through transformation from face to face to online and work from home activities. Moreover, a recent study in the context of educational institutes suggests that academics conceal more implicit than obvious knowledge (Hernaus et al., 2019).

Sample was selected from different departments of the targeted firms including research, design, marketing, sales, manufacturing, and business schools of the universities. To get responses, managers of the organizations were contacted through email. A link was sent to managers inviting employees to provide responses. All of the data were collected using online surveys. Respondents were given a time of two weeks to complete and return back the survey questionnaire. A total of 384 questionnaires were distributed in order to get back a reasonable number of responses.

217 complete responses were received, with 80% of them were comprising males and 20% females. In terms of age, majority of the participants fell in the category of 30–40 years (64%), 13% were from age group of 40 to 50 years and 22% were from 20 to 30 years category.

## Measures

Concepts were measured on a 7-point Likert scale with options Strongly Disagree (1) to Strongly Agree (7). To measure psychological ownership an instrument with four items, which was developed and validated by Pierce (2018) was used. To assess knowledge hiding behavior, measures were adopted from Connelly et al. (2012). Knowledge hiding included its dimensions such as rationalized hiding, playing dumb and evasive hiding and sample items included: “agreed to help him/her but never really intended to”; “pretended that I did not know the information”; and “explained that I would like to tell him/her, but was not supposed to”. For knowledge sharing, three items were adopted from Bartol and Srivastava (2002) and Becerra-Fernandez and Sabherwal (2001). Sample items included: “I usually help my colleagues solve work related problems”. Approach and avoidance motivations were measured using 11 items by Carver and White (1994). A sample item of approach motivation is “when I see an opportunity for something I like, I get excited right away” - a sample item for avoidance motivation is: “I worry about making mistakes”.



## Control variables

Prior studies have found that respondent's demographic variables including gender and age may impact worker's knowledge hiding behaviors (Zhao et al., 2016). Some other studies also show that age (Marcus & Schuler, 2004), gender (Hershcovis et al., 2007) and organizational experience (Gruys & Sackett, 2003) may influence organizational behaviors (Deprez & Raeymaeckers, 2012). Thus, it is deemed important and significant to recognize heterogeneity of the responses and control for these factors as they may have the potential to influence the relationships. In this study, gender, age, income, and organizational experience were included as control variables.

## Analytical intent

The overall measurement model for constructs was assessed by analyzing descriptive statistics and correlation among studied variables using SPSS 3 (see Table 1). To test reliability, construct reliability, convergent validity, and discriminant validity measurement model was used using Smart PLS 3 (Henseler et al., 2016). To test all hypothesized relationships, structural model was tested in Smart PLS 3 which explained the path coefficients.

**Table 1** Descriptive statistics

Variable	S.D	Mean
1. Collective Psychological Empowerment	0.954	5.531
2. Knowledge sharing	0.726	4.127
3. Knowledge Hiding	0.631	2.753
4. Approach Motivation	0.739	3.060
5. Avoidance Motivation	0.691	3.838

Note: \* $p < .05$ . \*\* $p < .01$

**Table 2** Correlation matrix

Variables	1	2	3	4	5	6	7	8	9
1 Gender	1								
2 Age	-0.185*	1							
3 Income	-0.154	0.640**	1						
4 Experience	-0.301**	0.695**	0.547**	1					
5 Collective Psychological Ownership	0.047	0.056	0.023	0.154	1				
6 Knowledge Hiding	0.009	-0.043	-0.173	0.057	0.436**	1			
7 Avoidance Motivation	-0.010	-0.039	-0.151	0.030	-0.076	0.167	1		
8 Knowledge Sharing	0.046	0.092	0.042	0.118	0.783**	0.370**	0.049	1	
9 Approach Motivation	0.096	-0.097	-0.221*	-0.081	0.399**	0.340**	0.109	0.473**	1

\*. Correlation is significant at the 0.05 level. (2-tailed); \*\*. Correlation is significant at the 0.01 level (2-tailed)

## Results

Common method variance issue arises in self-completed surveys where respondents understand the survey questions preordained and there are chances of biasness (Chu et al., 2019). To check for common method variance, Harman's single factor test (Harman, 1967) was used, and results indicated that data were not affected. Though the constructs being used were already established, however, to be confident, we used exploratory factor analysis. The loadings for the factors were adequate enough to form factors meeting both assumptions of KMO (0.59) and Bartlett test (sig.) by using varimax rotation because of low correlation between factors. Table 2 shows the correlation matrix including demographic variables. With regard to demographics, results show that approach motivation is negatively associated with income which suggests that individuals with lower income are more likely to possess approach motivation. However, consistent with other studies such as Islam et al. (2022), gender, and experience as well as age seem to have little to no influence here.

## Measurement model

Measurement model tests if item constructs are feasible for examining the underlying construct. To check constructs suitability, we estimated internal consistency, discriminant validity, and convergent validity. Cronbach's alpha being widely accepted measure of reliability of scale was used for reliability check. Measurement model results (Table 3) showed that lowest reliability values were 0.79 and the highest 0.87. Consistent with the predefined standards our data reinforced the convergent and discriminant validity of scales. Results showed that composite reliability scores for each construct were above the threshold of 0.70, and the AVE values higher than the threshold value of 0.50. Discriminant

**Table 3** Measurement model

Latent variables	Cronbach's alpha	Composite reliability	AVE
Avoidance Motivation	0.860	0.858	0.509
Approach Motivation	0.875	0.900	0.565
Knowledge Hiding	0.877	0.899	0.529
Knowledge sharing	0.817	0.868	0.692
Psychological Ownership	0.793	0.866	0.622

validity analysis (Table 4) shows that the square root of the AVE of each construct is higher than the constructs' intercorrelations.

**Structural model**

The bootstrapping procedure in SmartPLS was used to test significance of path coefficients of our hypothesized

relationships. Table 5 shows results for hypothesized direct impact of the independent variable on the dependent variables. The results show that collective psychological ownership considerably boosts knowledge hiding (H1:  $\beta=0.724$ ;  $t=5.958$ ,  $p<.000$ ), and knowledge sharing (H2:  $\beta=-0.580$ ;  $t=9.535$ ,  $p<.000$ ). Moderating effect of avoidance motivation is insignificant, whereas approach motivation significantly moderates the relationship of psychological ownership and knowledge sharing (H4:  $\beta=0.11$ ;  $t=2.023$ ,  $p<.044$ ).

**Discussion**

The aim of this study was to examine relationships among psychological ownership, knowledge sharing, and knowledge hiding. Furthermore, the study examined the moderating role of approach and avoidance motivation toward sharing/hiding knowledge at the workplace. The empirical

**Table 4** Discriminant validity

	Avoidance motivation	Approach motivation	Knowledge hiding	Knowledge sharing	Collective psychological ownership
Avoidance Motivation	<b>0.714</b>				
Approach Motivation	0.082	<b>0.751</b>			
Knowledge Hiding	0.299	-0.028	<b>0.727</b>		
Knowledge Sharing	0.040	0.300	-0.403	<b>0.832</b>	
Collective Psychological Ownership	-0.042	0.124	-0.077	0.218	<b>0.789</b>

AVE square root in bold

**Table 5** Hypothesis testing

Path relationship	Original Sample	t-Statistics	p-value	Decision
PO → KH	0.724	5.958	0.000	(H1) Confirmed
PO → KS	0.580	9.535	0.000	(H2) Confirmed
Moderating effect AM	-0.094	0.701	0.484	(H3) Not Confirmed
Moderating effect APM	0.110	2.023	0.044	(H4) Confirmed
Demographics (Dependent Variable: Knowledge Hiding)				
Gender	-0.0047	-0.0315	0.9749	
Age	0.0028	0.0218	0.9827	
Income	<b>-0.0987</b>	<b>-2.1151</b>	<b>0.0365</b>	
Experience	0.0526	0.9421	0.3480	
Demographics (Dependent Variable: Knowledge Sharing)				
Gender	-0.0059	-0.0359	0.9715	
Age	0.1341	0.9326	0.3529	
Income	0.0362	0.7022	0.4840	
Experience	-0.0431	0.7135	0.4769	

Bold italics entries indicates that income demographic variable is significantly associated with knowledge hiding

KH=Knowledge hiding, KS=Knowledge Sharing, PO=Psychological ownership, AM+ Avoidance Motivation, APM = Approach Motivation

examination was undertaken on data that was collected during the COVID-19 outbreak. Our study demonstrates that psychological ownership positively associates with both knowledge hiding and knowledge sharing behaviors, and these two contrasting behaviors are linked with an individual's motivation. It was hypothesized that the employees with high psychological ownership are likely to hide knowledge considering knowledge as their target of ownership which belongs to them (hypothesis 1), and this relationship is strengthened in the existence of high avoidance motivation (hypothesis 3). Stronger feelings of ownership toward knowledge urges employees to hide knowledge from co-workers as they believe that the knowledge, they hold belongs to them. Resultantly, these knowledge ownership feelings stimulate knowledge hiding in employees. Similarly, employees with high psychological ownership share knowledge with their coworkers in order to enhance performance (hypothesis 2) and this depends on their level of approach motivation (hypothesis 4).

Employees investing their self into the job, resulting in high psychological ownership perform positive work behaviors to advance their extended-self irrespective of what their motivation is (Wang et al., 2019). However, one contradicting finding is that we do not find support for high avoidance motivation interacting role in the relationship of psychological ownership and knowledge hiding, whereas Wang et al. (2019) find that avoidance motivation moderates the effect of job-based psychological ownership on knowledge hiding such that the relationship is stronger when avoidance motivation is high. A possible explanation for these contradicting results could be contextual differences as the study was conducted in a developing country, while most of the studies conducted so far are in developed nations. Collectivist and individualistic cultural difference is a strong reason of this variation (Belk, 1988). Pakistan being a collectivist country where group identities are of major importance have differences from individualistic countries where employees emphasize more on personal and individual development to groom their extended self. Secondly our study was conducted during the Covid-19 pandemic and these environmental aspects could have influence on this relationship. Nonetheless, this leaves researchers for further investigation on the phenomena.

### Theoretical implications

This study makes several theoretical contributions. First, it provides sound reasoning of when and why employees with psychological ownership may hide or share knowledge. Though, a vast amount of literature is available examining the impact of psychological ownership on knowledge behaviors, there remains inconsistency in the findings (Nguyen et al., 2022). Whether psychological ownership promotes

knowledge sharing or hidings remains a conundrum (Pirkkalainen et al., 2018; Peng, 2013). Our study makes clarity that whether employee with psychological ownership share knowledge or hide knowledge depends on one's motivation. Secondly, this study contributes to psychological ownership literature by including both positive and negative work behaviors simultaneously. It demonstrates that psychological ownership can result in both positive and negative work behaviors at the same time.

Furthermore, this study adds to the existing literature on knowledge management at team level by demonstrating psychological ownership direct positive impact on knowledge sharing and knowledge hiding. This study, thus, responds to the call of Connelly et al. (2019) to study different antecedents and motivations of knowledge behaviors. Thirdly, we demonstrated the moderating role of approach motivation on the relationship of psychological ownership and knowledge sharing. To the best of our knowledge, there are a few studies (e.g., Wang et al., 2019) addressing the gap of how approach motivation influences positive work behavior, specifically, knowledge sharing. To fill this gap, our study contributes to the literature by showing that employees with high approach motivation facilitate positive work behaviors. Fourth, we contribute to the theory of extended self and psychological ownership by demonstrating the impact of proactive work behaviors and positive work behavior at team level. There is good amount of literature on individual psychological ownership, however, collective psychological ownership and its impact on work behaviors is scant (Pierce et al., 2018).

### Practical implications

The results of this study have several implications for practitioners. First, this study suggests that psychological ownership can result in negative work outcomes like knowledge hiding. Employees, for example, working on same project but hiding knowledge from their co-workers would lead to reduced team performance and lack of creativity among employees. Managers need to incorporate reward practices to motivate employees to encourage positive work behaviors. Second, not only positive work behaviors are important to be encouraged but it is also important to understand all possible negative work behaviors arising from high avoidance motivation including knowledge hiding.

Secondly, employees with high psychological ownership and avoidance motivation can put organization in detrimental situations. Because such employees have high desire to avoid losses while keeping their control on their possession and are most likely to involve in workplace related unethical behaviors. In such situations, managers should take precautionary steps, policies and procedures to handle such employees and keep organizational environment safe from detrimental effects. Third, managers should know



that knowledge sharing is a sensitive process and to promote knowledge sharing climate, employee voices should be given value along with properly defined promotion channels for adopting such behaviors. As it is highly unjust to expect employees to involve in knowledge exchange without any rewards (Bock et al., 2005).

Additionally, as it can be witnessed that high psychological ownership can result in both knowledge sharing and knowledge hiding simultaneously depending on motivation, it is advisable that organizations should specially focus on training programs, counseling, and introduce incentives to adjust motivation level as these motivational traits are malleable and can be controlled (Heslin & Keating, 2016). These practices will surely stimulate positive outcomes while mitigating negative consequences of psychological ownership.

### Limitations and future research

The study has some limitations as well which can be catered in future research. First, the finding that avoidance motivation moderates the direct relationship of psychological ownership and knowledge hiding came contrary to previous literature. The reason can be contextual differences from the previous literature findings. It could be the Covid 19 pandemic. Another possible reason can be differences in “individualistic” and “collectivist” societies and their cultural differences. Pakistan have a collectivist society and according to the (Belk, 1988), these two different societies have a varied impact on extended self. Hence, it paves way for future researchers in the context of individualistic societies and draw comparisons of these societies. Also, while there is also sufficient literature on psychological ownership and knowledge behaviors, however, future studies should be undertaken to consider different forms of psychological ownership and their impact on work behaviors. For example, there can be different targets of ownership. It could be towards job, organization and individual and/or collective level. Employees experiencing high job-based psychological ownership may have lesser or no ownership feelings when it comes to the organization. So, it is recommended to differentiate different forms of psychological ownership and how it leaves impact on knowledge behaviors. Another limitation of the study is single source/cross sectional data collected through surveys. Future studies may try longitudinal and quasi-experimental methods using multisource data. Future studies may also take into account the situation of preordained knowledge sharing climate and how employee hide knowledge in such environments. For example, while organizations promote a healthy environment of knowledge exchange, but employees may still hide knowledge.

### Conclusions

This study demonstrates the double-edged effects of psychological ownership on knowledge behaviors. Based on theory of psychological ownership, our hypothesized model revealed that stronger feelings of possession lead to positive work behavior (i.e., knowledge sharing) as well as the negative work behavior (i.e., knowledge hiding) simultaneously. Consistent with previous literature, this study reveals that employee’s intentions to share knowledge or hide knowledge while experiencing psychological ownership depend on their inner self and motivation. However, we contribute by showing that individuals share knowledge with their coworkers to flourish their target of ownership, but our study does not confirm the idea that employees who prioritize to avoid losses choose to hide knowledge. We expect that our study, which drew on data during a pandemic, will inspire researchers to further discover the phenomena and explore outcomes of different forms of psychological ownership in broader context, recognizing other possible moderators that can have varying effects.

**Data availability** Data used in the analysis are available on reasonable request from the authors.

### Declarations

**Conflicts of interest** There are no conflicts of interests (financial or non-financial).

**Informed consent** All responses are anonymized, and respondents were informed about the research prior to data collection. The study was hence deemed low risk and did not require an ethical approval.

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