



Workplace conflicts and knowledge hiding: Mediating role of relational psychological contract breach

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ABSTRACT

This study explains workplace conflicts (interpersonal and task-related) as antecedents of knowledge-hiding behaviors. Moreover, a relational psychological contract breach is a mediator between workplace conflicts and knowledge-hiding behavior. For empirical evidence, data were collected from research and development institutions in Pakistan. The results confirm the significant association between conflicts and knowledge-hiding behaviors and the mediating role of relational psychological contract breach.

The objective of this study is to investigate the impact of workplace conflicts (interpersonal conflict and task-related conflict) on knowledge-hiding behaviors (evasive hiding, playing dumb, and rationalized hiding). Besides, a relational psychological contract breach is used as a mediator between workplace conflicts and knowledge-hiding behaviors. By using a simple random sampling technique and time lag strategy, the data were collected from 408 employees working in research and development institutions in Pakistan. For analyses, this study employed partial least squares structural equation modeling statistical technique by using SmartPLS-3 software. The results of the study confirm the significant relationship between workplace conflicts and knowledge-hiding behaviors. Relational psychological contract breach also significantly mediates the relationship between conflicts and knowledge-hiding behaviors. However, this study found an insignificant association between interpersonal conflict and evasive knowledge hiding.

1. Introduction

A healthy and friendly workplace environment improves employees' levels of satisfaction and performance. However, while working at the workplace, interpersonal clashes and conflicts can develop among workers. There are different causes of workplace conflicts such as shortage of resources, values (religion, social values, political references, etc.), misinterpreted facts and figures, and negative perceptions [1]. The conflicts in the workplace impact negatively the knowledge-sharing culture [2], innovation and creative activities, team performance, and trust among workers [3]. There are two basic types of conflict: interpersonal conflict and task-related conflict and both types have different consequences [2]. Interpersonal conflict refers to disagreements among individuals during tension, frustration, and hostility. Task-related conflict refers to incompatible notions, views, and opinions among individuals

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regarding the point and content of their decisions [3].

Competition among workers exists in the workplace positively/negatively. Employees utilize and sometimes hide their tacit and explicit resources to stay competitive in the workplace. In a workplace where conflicts (interpersonal/task-related) exist, teams are breakout, organization performance falls, and individuals start to hide/hold their personal resources to stay competitive. Drawing on a resources-based view [4], Knowledge sharing culture within an organization supports creative and innovative activities [5], team building, and increasing individual as well as firm performance [6]. Contrarily, workers' knowledge-hiding behaviors may discourage knowledge-sharing and innovation activities, team creativity [6], and firm performance [7].

[8] defined knowledge hiding as "an intentional attempt by an individual to withhold or conceal knowledge that has been requested by another person". Connelly also categorized knowledge hiding into three dimensions namely, evasive hiding, playing dumb, and rationalized hiding [8,9]. Employees hide their knowledge from peers to get a competitive advantage over them. Sometimes, workers hide their knowledge sources from co-workers due to their interpersonal clashes and rivalries [10]. However, it is not clear which type of conflict (interpersonal or task-related) will stimulate what dimension of knowledge hiding (i.e., evasive, playing dumb, or rationalized). For instance, interpersonal conflicts may develop more evasive knowledge hiding than rationalized knowledge hiding. Similarly, task-related conflicts may induce rationalized knowledge hiding more than playing dumb. Moreover, the intensity of conflict between individuals may also determine the adoption of knowledge-hiding behavior accordingly.

An intensity level of conflict may be low, medium, or high [11], and the trust level between workers may also decrease/increase with the change in the intensity level of conflict. In other words, a psychological contract between workers may breach with a change in the intensity of the conflict. A psychological contract refers to an "individual's beliefs about the terms of the exchange agreement between employee and employer" [12]. [13] presented the three types of psychological contract namely, transactional, relational, and balanced psychological contracts. A transactional psychological contract has a short period, materialistic, and does not have severe reactions in case of a breach. Contrary, a relational psychological contract has a comparatively long period, person-oriented, has emotional involvement, and has a severe reaction in case of breach [14]. Conflicts among workers at the workplace negatively impact their mutual relational psychological contract. Mutual clashes and disagreements create a trust deficit among employees and their relational psychological contract may become breached. Drawing on social exchange theory (SET), a relational psychological contract breach (RPCB) can promote knowledge-hiding behaviors among employees if they already have conflicts.

Conflicts at the workplace whether they are task-related or person-related create a distance between employees due to their mutual competition. To sustain competitive advantage, employees may hide their resources and assets (i.e., knowledge hiding) from their colleagues. When one colleague hides his/her knowledge from others, reciprocally, others also start hiding their knowledge and resources. These reactionary behaviors may create a deficit of trust and provide a foundation for RPCB. Hence, the objectives of this study are two folds. First, to investigate the impact of workplace conflicts (person-related and task-related) on different forms (evasive, playing dumb, and rationalized) of knowledge hiding. Second, to evaluate the mediating role of RPCB between different types of workplace conflicts and different forms of knowledge hiding. To achieve these objectives, this study has the following research questions. First, what is the impact of workplace conflicts on different forms of knowledge hiding? Second, how does RPCB mediate the relationship between workplace conflicts and forms of knowledge hiding?

For an empirical investigation to seek the answers to the above-mentioned study questions, the authors selected the employees of knowledge-based (i.e., research and development) research institutions located in different places in Pakistan. The rationale behind the selection of participants from knowledge-based research institutions is as follows. First, the employees of research institutions as a team work for long hours with hard work and stress to achieve their research targets. The time constraints and target-oriented research tasks create competition among team members to complete his/her task within time. Hence, every worker tries to complete tasks in his/her way which may create conflicts among employees. In a stressful environment, interpersonal and task-related conflicts may develop among colleagues and they may like to hide knowledge in different ways (evasive, playing dumb, rationalized) [15]. Second, in research institutions, every knowledge worker has his study background, knowledge sources, and techniques to deal with different research projects, and knowledge workers may disagree on a specific point/technique. Thus, the difference in opinion and approach to dealing with the research task may develop task-related and interpersonal conflicts among workers, and as a reaction, they will avoid sharing knowledge in the workplace.

2. Literature review and hypotheses development

2.1. Knowledge hiding and workplace conflicts

Knowledge hiding is a planned behavior of a person who purposefully conceals, holds, or misrepresents the knowledge requested by the other person [16]. Knowledge hidiers adopt different strategies to avoid knowledge sharing. For instance, a colleague requests a piece of knowledge and in response, the knowledge holder promise to provide it in the future although, at present, he has it (playing dumb). In another scenario, the knowledge holder shares the knowledge but is incomplete (selective revealing of knowledge) [17]. Sometimes, a knowledge holder has the right to share the knowledge up to some extent with the knowledge seeker, but the knowledge holder straightforwardly denied to share by saying that "I am not authorized to share" (rationalized hiding) [8].

[8] defined the types of knowledge-hiding behaviors as evasive hiding, playing dumb, and rationalized hiding. Playing dumb is straight denial (non-availability of knowledge) to the knowledge seeker. Whereas, when a knowledge seeker gets only future promises but not the required knowledge at present is called evasive knowledge hiding. On the other hand, when the knowledge holder presents some excuses to the knowledge seeker and avoids sharing knowledge is denoted as rationalized knowledge hiding [8,18]. [19] named evasive hiding and playing dumb as deceptive knowledge hiding. They further argued that deceptive knowledge hiding creates

psychological stress and it can cause interpersonal conflicts [19]. Avoiding to share knowledge and deceiving coworkers may create negative attitudes in the workplace and develop conflicts between workers. Rationalized hiding is a non-deception-based knowledge hiding [19]. In rationalized hiding, the knowledge holder provides the reason why the requested knowledge cannot be shared [20]. Therefore, scholars agree that rationalized knowledge hiding does not play a significant role in the development of negative behaviors and social interactions in the workplace [8,16]. Scholars are also accepted that rationalized knowledge hiding does not create mutual expectations, retaliation, and intentions [19,21].

In literature, different types of conflicts are explained. For instance, substantive conflict, affective conflict, cognitive conflict, social conflict, affective conflict, task conflict, and relationship conflict [2,22]. However, scholars categorized conflicts into two basic types i.e., task-related conflicts, and interpersonal conflicts [2,22,23]. Wang et al. (2019) confirmed the negative relationship between workplace conflicts and knowledge-sharing intentions. Though, psychological empowerment and interpersonal trust can stop the negative effects of workplace conflicts (interpersonal and task-related) on knowledge-sharing intentions and promote knowledge-sharing culture [23]. explained the negative consequences of workplace conflicts and perceived competence in the form of knowledge hiding. However [23], concluded that workers' individualistic or collectivistic values can moderate the negative effects of workplace conflicts.

2.2. Interpersonal conflict and knowledge hiding

Interpersonal conflict occurs between two or more individuals because of their personality clashes or some social issues. Conflicts occur between individuals on several grounds such as cultural differences, position at the workplace, personality attributes, and interpersonal clashes [23]. Interpersonal conflicts may also rise on the explanation of the mixed elements. The individuals who value and respect their point of view resist accepting others' opinions and hardly fit into a group. Such behaviors of individuals lead to interpersonal conflicts. Interpersonal conflicts are a dynamic process and depend upon the psychology of individuals who are mutually interdependent but have different values and beliefs [24]. Interpersonal conflicts are part of organizational life that occurs among individuals and promote counterproductive work behaviors i.e., KHBs [25]. [1,1] explained the three main causes (namely, scarcity of resources, different values, and intellectual consistency) of interpersonal conflicts at the workplace.

[26] explained that employees adopt KHBs (deceptive or rationalized) according to the nature of interpersonal conflicts at the workplace and the lack of employees' well-being strengthens this relationship [19]. discussed the transactional stress model and linked the deceptive knowledge hiding with interpersonal conflict. Employees who experience interpersonal conflict may adopt negative behavior such as KHBs as a coping strategy [19]. Interpersonal conflict/emotion-based fights at the workplace encourage individuals to hide knowledge from colleagues [27]. The employees who adopt KHBs because of interpersonal conflict are usually self-centered and consider others as competitors. Drawing on affective event theory [28], noted that KHBs are formed by relationship conflicts, trait competitiveness, and envy. The results of this study reported that a positive relationship between perceived intragroup relationship conflict and KHBs, and envy mediates the said relationship. Moreover, trait competitiveness moderates the relationship between perceived intragroup relationship conflict and KHBs [28]. Hence, this study hypothesized that.

- H1a.** Interpersonal conflict has a relationship with evasive hiding
- H1b.** Interpersonal conflict has a relationship with playing dumb
- H1c.** Interpersonal conflict has a relationship with rationalized hiding

2.3. Task-related conflict and knowledge hiding

Task-related conflict develops when individuals have different ideas to perform a task or to make a decision regarding any task [29]. For instance, how to allocate scarce resources or which human resources deploy at which place? An imbalance of workload between employees at the workplace also develops task conflict. However, conflicts based on ideological differences (religion) are not treated as task conflicts [30]. Task conflict is also a cause of arguments and frustration, which impact the employees' performance. Detailed discussion and exchange of thoughts are the bright sides of task conflict. Effectively managed talks on task conflict can provide some better and more innovative ideas [31]. The three components namely, affective, behavioral, and cognitive are the main sources of task conflicts. The variation in the degree of these components determines the seriousness of task conflicts.

Drawing on SET [23], conducted the two studies on the employees of software houses and banks respectively, and evaluated the impact of task conflict and relationship conflict on Knowledge hiding. Study 1 confirmed the relationship between task and relationship-related conflicts and knowledge hiding. In study 2, scholars calculated that individualistic or collectivistic values perform moderating role between task conflict and knowledge hiding. The results indicated that employees with individualistic personal values enhance the negative impact of task conflict on knowledge hiding [23,32]. [28] also investigated the relationship between perceived intergroup conflict and KHBs with mediating role of envy and moderating role of trait competitiveness. Drawing on affective event theory [33], the results confirmed the significant effect of the mediator (envy) and moderator (trait competitiveness) in the relationship between perceived intergroup conflicts and KHBs [28]. Drawing on SET, this study proposed that.

- H2a.** The task-related conflict has a relationship with evasive hiding
- H2b.** The task-related conflict has a positive relationship with playing dumb
- H2c.** The task-related conflict has a positive relationship with rationalized hiding

2.4. Relational psychological contract breach as underlying mechanism

The conflicts (whether personal or task-related) between employees create a trust deficit at the workplace especially, when colleagues have long-term relations and personal ties. A trust deficit between employees leads to RPCB [14], and an RPCB may develop KHBS. Hence, drawing on SET, this study proposed RPCB as a mediator between personal/task conflicts and KHBS. When individuals are emotionally involved and committed to their colleagues/organizations, it refers to a relational psychological contract. In a relational psychological contract, the individuals are more emotional than in a transactional psychological contract [14,34]. The individuals can go with extra mile to support his/her colleague when they develop relational psychological contracts. Similarly, the reaction of these individuals is also very severe if their expectations did not meet by others.

When workers believe reciprocal promises/expectations did not meet and their colleagues are intentionally creating problems/conflicts at the workplace, their relational psychological contract converts into RPCB [35]. The RPCB is an indication of a trust deficit between workers which motivates them to adopt different KHBS (evasive hiding, playing dumb, and rationalized hiding [36,37]. The intensity of reaction after RPCB can be different in case of personal conflict and task-related conflict. Similarly, RPCB can induce workers differently to adopt different KHBS [36,38]. [23] conducted a study on the relationship between abusive supervision and KHBS and used two mediators namely, psychological contract violation and supervisor-directed aggression. The results presented that psychological contract violation and supervisor-directed aggression both partially mediate the said relationship [39]. [39] evaluated the association between the dark triad of personality traits and KHBS within manufacturing companies. Besides, a transactional psychological contract is operationalized as a mediator. Scholars concluded that the dark triad has a positive relationship with different dimensions of KHBS and transactional psychological contract significantly mediates the said relationship [39,40]. By considering the above evidence from the literature, this study proposed the following hypotheses and Fig. 1 presents this study framework.

- H3a. RPCB mediates the relationship between interpersonal conflict and evasive hiding
- H3b. RPCB mediates the relationship between interpersonal conflict and playing dumb
- H3c. RPCB mediates the relationship between interpersonal conflict and rationalized hiding
- H4a. RPCB mediates the relationship between task-related conflict and evasive hiding
- H4b. RPCB mediates the relationship between task-related conflict and playing dumb
- H4c. RPCB mediates the relationship between task-related conflict and rationalized hiding

3. Methodology

3.1. Sample and procedure

To collect the empirical evidence on the proposed model, authors approached the employees of 73 knowledge-based (i.e., research and development) research institutes located in different places in Pakistan. However, only 34 institutions responded and agree to participate in this research survey. Before starting the research surveys, the authors explained the research objectives to the principal officer available at the location of each organization and asked for permission. The research output-sharing option is also offered by the

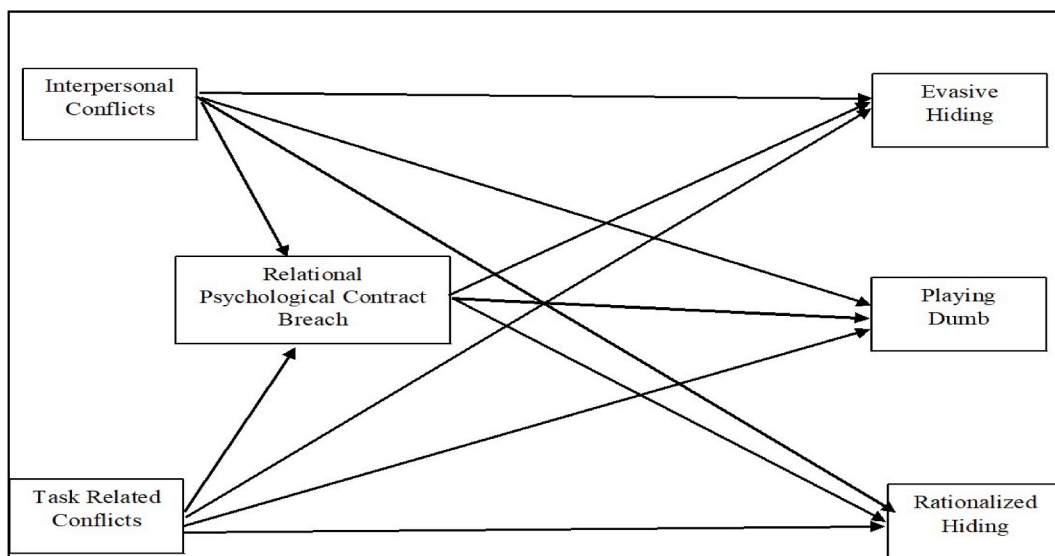


Fig. 1. Study framework.

authors as a token of consideration. After permission, the survey link (google document) was randomly shared with the respondents. The first page of the survey contains a free consent statement. It asked the respondents “*please read the free consent statement carefully and if you agree, you may proceed*”. It was also ensured to the participants that the data will be anonymous. The contact information (email ID and Cell number) of the principal investigator was also provided to the respondents for any clarification.

The time lag technique is used to avoid any biasness while collecting the data. At time 1, the authors collected information related to interpersonal conflict and task-related conflict from the employees and asked them to rate their true perceptions against the questions. At time 2 (25 days’ lag), the second portion of the survey form was shared with the employees, and questions related to KHBs (evasive hiding, playing dumb, and rationalized hiding) were asked. At time 3 (25 days’ lag), the third portion of the survey form was shared with the employees, and questions related to RPCB and employees’ demographics were asked. A unique code was assigned to each survey form to match the responses from lag 1 to lag 3. Consequently, a total of 408 complete survey forms were received by the authors. The details of respondents’ demographic information are provided in appendix 1 and their attrition rates are presented in Table 1.

The participants’ demographic information is as follows. *Education*: out of 408 respondents, 72 have a PhD. in their respective fields, 198 have a master degree, 123 have a bachelor degree, and 15 participants have less than bachelor’s degree. *Gender*: out of 408 participants, 327 are male and 81 are female. *Position and Professional Roll*: 78 participants are section/department managers and have strategic roles in their organizations, 135 are team leaders at the senior level and also have roles in day-to-day activities management. 111 are team supervisors and have operational roles, and 84 participants are in the entry stage. *Experience*: 141 participants have more than 10 years of experience, 199 participants have 6–10 years of experience, and 68 respondents have 1–5 years of experience.

4. Measurements

4.1. Interpersonal conflict

Interpersonal conflict at work is measured with four items scale developed by Ref. [41] which inquires about the number of situations involving interpersonal conflict at the workplace. However, one item is deleted due to a significantly lower outer loading value. The sample item is “*How often do other people yell at you at work*”? The study used 5 points rating scale (from 1 = “never” to 5 = “extremely often”) to measure the construct. Cronbach’s alpha of this construct is 0.783.

4.1.1. Task related conflict

Task-related conflict at work is measured with the four items sub-scale developed by Ref. [42] and practiced by Ref. [3]. One item from the final model is deleted due to a lower outer loading value. The sample item is “*how frequently are there conflicts about ideas in your workplace*”? The study applied 5 points Likert scale (from 1 = “never” to 5 = “extremely often”) to measure the task-related conflict. Cronbach’s alpha of this construct is 0.745.

4.1.2. Evasive hiding

Evasive hiding is measured with four items scale developed by Ref. [8]. A sample item is “*Offered him/her some other information instead of what he/she really wanted*”. The study used 5 points Likert scale (from 1 = “never” to 5 = “always”) to measure the task-related conflict. Cronbach’s alpha of this construct is 0.786.

4.1.3. Playing dumb

Playing dumb is measured with four items scale developed by Ref. [8]. The sample item is “*Pretended I did not know what s/he was talking about*”. The study used 5 points Likert scale (from 1 = “never” to 5 = “always”) to measure the task-related conflict. Cronbach’s alpha of this construct is 0.828.

4.1.4. Rationalized hiding

Playing dumb is measured with four items scale developed by Ref. [8]. The sample item is “*Explained that the information is confidential and only available to people on a particular project*”. The study used 5 points Likert scale (from 1 = “never” to 5 = “always”) to measure the task-related conflict. Cronbach’s alpha of this construct is 0.754.

4.1.5. Relational psychological contract breach

The RPCB is measured with the five-items scale developed by Ref. [43]. The items are measured on a five-point Likert scale ranging from 1 (from “strongly disagree” to 5 “strongly agree”). For instance, “*I have not received everything promised to me in exchange for my contributions*”. Cronbach’s alpha of this construct is 0.813.

Table 1
attrition rate.

Time Lags	Questionnaire Distributed	Questionnaire Returned	Questionnaire Lost	Attrition Rate (%)
T-1	675	565	110	16.29
T-2	565	439	126	22.30
T-3	439	408	31	7.06

4.2. Statistical technique

This study used the structural equation modeling (SEM) technique to analyze the data. There is multiple approaches and software like, AMOS, MPlus, HLM, and PLS are available and used to evaluate the causal models. This study used the partial least squares, structural equation modeling (PLS-SEM-reflective measurement) approach for statistical analysis. PLS-SEM (2nd generation) is a comprehensive approach that helps the researchers to assess the variables through their items [44]. There are two variance-based approaches namely, PLS and Covariance are available to measure the SEM. The covariance-based SEM facilitates accepting or rejecting the theory, however, PLS-SEM not only helps in theory rejection/acceptance but also theory development and extension [45, 46]. PLS-SEM is equally helpful in confirmatory and exploratory studies. Similarly, the PLS-SEM approach is very effective in the case of small data sets and complex models [44,46]. PLS-SEM analysis completes in two steps. First, model measurement (indicator reliability, convergent validity, composite reliability, and discriminant validity) and second, estimation of the structural model (path coefficients and the coefficient of determination). This study uses SmartPLS-3 for data analyses.

5. Results and analyses

5.1. Model basic measurement

This study model comprises six constructs and twenty-three items. Initially, measurement of the model is performed. Two techniques, Cronbach's alpha, and rho_A are used to measure the model reliability. As per the rule, Cronbach's alpha and rho_A values should be above 0.7 [47]. Table 2 presents that all values of Cronbach's alpha and rho_A are greater than 0.7. The convergent validity of the model is also measured through average variance extract (AVE), composite reliability (CR), and items' reliability [48]. As per experts' opinion, AVE, CR, and outer loadings of each item should be equal to or greater than 0.5, 0.7, and 0.7 respectively [48]. Table 2, values of CR, AVE, and outer loadings meeting the threshold. Hence, convergent validity and reliability of the model have been established.

Discriminant validity of the model is measured with two approaches namely Fornell–Larcker criterion and Heterotrait–Monotrait (HTMT) ratios analyses [44]. As per Fornell–Larcker criterion, post square root of the AVE value of each variable, the first top value of each column should be higher than the other values of the same column [49]. In Table 3, the first and top value of each column is the biggest one which confirms the discriminant validity of the model. As per experts' opinion, HTMT ratios value less than 0.85 is considered within the limit, and up to 0.90 is acceptable [44]. As presented in Table 3, all HTMT ratios are under 0.85 which confirms the discriminant validity of the model. The R² explains the degree of variance in the exogenous variables which contribute to the endogenous variable [50]. The R² value equal to 0.5 indicates a strong relationship between variables of the model, specifically in the case of primary data [50]. Fig. 2, R² values of endogenous variables are near 0.5. Thus, the model of this study has acceptable strength in the case of primary data. Similarly, Q₂ is another approach to confirm the model fit. The Q₂ values of dependent variables should not be zero/above zero. The results indicate that all Q₂ values are significantly above zero which confirms the model fitness [51]. The VIF (variance inflation factor) is also evaluated to check the collinearity issues in the data. As per experts' opinion, VIF values should be less

Table 2
model measurement.

Variables	Items	Outer Loading	CR	Cronbach's alpha	AVE
Interpersonal Conflict (IPC)	IPC1	0.804	0.871	0.775	0.605
	IPC2	0.822			
	IPC3	0.871			
Task-Related Conflict (TRC)	TRC1	0.721	0.849	0.750	0.567
	TRC2	0.849			
	TRC3	0.862			
Evasive Hiding (EH)	EKH1	0.751	0.857	0.778	0.578
	EKH2	0.800			
	EKH3	0.821			
	EKH4	0.757			
Playing Dumb (PD)	PD1	0.782	0.879	0.830	0.683
	PD2	0.833			
	PD3	0.789			
	PD4	0.836			
Rationalized Hiding (RH)	RH1	0.744	0.849	0.749	0.564
	RH2	0.743			
	RH3	0.841			
	RH4	0.721			
Relational Psychological Contract Breach (RPCB)	RPCB 1	0.721	0.868	0.821	0.679
	RPCB 2	0.785			
	RPCB 3	0.759			
	RPCB 4	0.779			
	RPCB 5	0.723			

Note Significant level $p < 0.050$ (2-tailed), Outer loadings ≥ 0.700 = all values are significant, Composite reliability (CR) ≥ 0.700 = all values are significant, average variance extract (AVE) ≥ 0.500 = all values are significant, Cronbach's alpha (α) ≥ 0.700 = all values are significant.

than 5 [46]. All VIF values are within the range of 1.435–2.521, which indicates no collinearity issues in the data. This study also measured the f^2 effect size to confirm the model fit. The results show the medium and large f^2 effect sizes which confirm the model fitness [46]. Fig. 2 presents the post data analyses results.

6. Hypotheses Evaluation (direct effect)

SmartPLS applies the bootstrapping technique to define the degree of significance of Process coefficients and projected path analyses [52]. Subsamples are developed with simple randomly chosen observations with replacement from the master data set and subsamples are used to evaluate the Process study model and path analyses. The bootstrapping technique is applied to 10,000 samples with replacements to measure the hypotheses and their validity [50]. Table 4 explains that interpersonal conflict has an insignificant relationship with evasive hiding ($\beta = 0.149, p > 0.05$). However, interpersonal conflict has a significant association with playing dumb ($\beta = 0.389, p < 0.05$) and rationalized hiding ($\beta = 0.421, p < 0.05$). Therefore, H1a is rejected and H1b and H1c are accepted. Similarly, the task-related conflict has a significant relationship with evasive hiding ($\beta = 0.249, p < 0.05$), playing dumb ($\beta = 0.178 p < 0.05$), and rationalized hiding ($\beta = 0.130 p < 0.05$) Thus, H2a, and H2b, H3c are accepted.

Hypotheses Evaluation (Indirect Effect/Mediation).

The results also provide the indirect effect/mediation role of RPCB between interpersonal conflict, task-related conflict, and dimensions of KHBs (evasive hiding, playing dumb, and rationalized hiding. In Table 5, specific indirect effects/mediation impacts are presented. RPCB significantly mediates the relationship between interpersonal conflict and evasive hiding ($\beta = 0.097 p < 0.05$), playing dumb ($\beta = 0.095 p < 0.05$), and rationalized hiding ($\beta = 0.108 p < 0.05$). Hence, H3a, H3b, and H3c are accepted. Similarly, RPCB significantly mediates the relationship between task-related conflict and evasive hiding ($\beta = 0.071 p < 0.05$), playing dumb ($\beta = 0.072 p < 0.05$), and rationalized hiding ($\beta = 0.081 p < 0.05$). Therefore, H4a, H4b, and H4c are accepted.

7. Discussion

The objective of this study was to understand the KHBs in the presence of interpersonal conflict and task-related conflict. How interpersonal conflict affects the different dimensions of KHBs (evasive hiding, playing dumb, and rationalized hiding). Similarly, if a task-related conflict develops at the workplace then how and which dimension of KHBs (evasive hiding, playing dumb, and rationalized hiding) develops in workers? Besides, another phenomenon RPCB is also evaluated as a mediator between workplace conflicts (interpersonal and task-related) and dimensions of KHBs. To confirm the claims of this study, the pieces of evidence are collected from the literature and empirical analyses. For analyses, the data are collected from individuals working in different research and development institutions in Pakistan. The results of this study are very interesting and helpful to organizations and managers as well.

The results of this study present that interpersonal conflict has a significant relationship with playing dumb and rationalized knowledge hiding but no significant association with evasive hiding (Table 4). On the other hand, task-related conflict has a significant relationship with all three dimensions of knowledge hiding (evasive hiding, playing dumb, and rationalized hiding). The results of previous studies also support the outcomes of this study [15,30,34]. The results of this study explain that in the presence of interpersonal and task-related conflicts, the trust deficit between employees develops which leads to RPCB. Once RPCB happens, KHBs can develop among employees. However, RPCB mediates the relationships between workplace conflicts (interpersonal and task-related) and KHBs ((evasive hiding, playing dumb, and rationalized hiding) at different levels of significance (Table 5).

In the direct relationship between interpersonal conflict and evasive knowledge hiding, this study found no significant relationship (Table 4). According to Ref. [8], evasive knowledge hiding involves deception and misleading because in this behavior knowledge holder provides incomplete or incorrect information to the knowledge acquirer. In other words, evasive knowledge-hiding is diplomatic behavior because the knowledge holder did not deny straightforwardly (as playing dumb). Instead, the knowledge holder provides knowledge (but incomplete) intending to secure his/her social relations at the workplace. But an interpersonal conflict between employees has already finished social relations. Therefore, there is no need to adopt evasive knowledge-hiding behavior to secure their social ties, and maybe this is the reason that this study results show insignificant relationships between interpersonal conflict and evasive knowledge-hiding.

Table 3
discriminant validity.

Variables	Fornell-Larcker- Criterion						Heterotrait-Monotrait Ratio (HTMT)				
	EH	IPC	PD	RH	RPCB	TRC	EH	IPC	PD	RH	RPCB
EH	0.782										
IPC	0.431	0.843					0.541				
PD	0.514	0.642	0.814				0.642	0.775			
RH	0.443	0.654	0.633	0.749			0.548	0.820	0.780		
RPCB	0.469	0.473	0.548	0.574	0.760		0.581	0.574	0.665	0.740	
TRC	0.463	0.574	0.532	0.511	0.435	0.811	0.589	0.751	0.659	0.659	0.552

Notes: Significant level $p < 0.050$ (2-tailed), Interpersonal conflict (IPC), Playing dumb (PD), Evasive hiding (EH), Rationalized hiding (RH), Relational psychological contract Breach (RPCB), Task-related conflict (TRC), Fornell-Larcker- Criterion = top value of each column should be highest = bold values are highest one, HTMT ratio ≤ 0.85 = all values are significant.

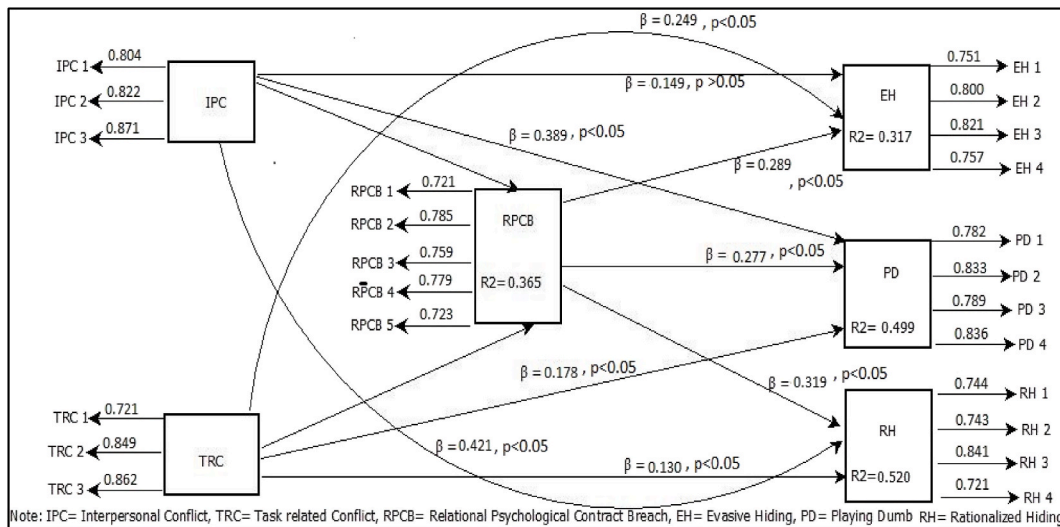


Fig. 2. Structural model.

Table 4 model evaluation (direct effect).

Variables	Direct effect β Value (t- value)	Confidence Interval 95 (%)	(P-value) 5%	Results
IPC → EH	0.149 (1.77)	(-0.019- 0.310)	0.074**	H1a, Not Supported
IPC → PD	0.389 (6.49)	(0.258–0.511)	0.000*	H1b, Supported
IPC → RH	0.421 (7.51)	(0.300–0.514)	0.00*	H1c, Supported
TRC → EH	0.249 (3.20)	(0.097–0.398)	0.002*	H2a, Supported
TRC → PD	0.178 (3.49)	(0.079–0.277)	0.001*	H2b, Supported
TRC → RH	0.130 (2.29)	(0.029–0.254)	0.003*	H2c, Supported

Notes: *Significant level $p < 0.05$ (2-tailed), ** Significant level $p < 0.10$ (2-tailed), Interpersonal conflict (IPC), Playing dump (PD), Evasive hiding (EH), Rationalized hiding (RH), Relational psychological contract Breach (RPCB), Task-related conflict (TRC).

Table 5 mediation analysis (indirect effect).

Variables	Specific Indirect Effects	T-Statistics	p-Values	Result
IPC → RPCB → EH	0.094	3.698	0.001*	H3a, Accepted
IPC → RPCB → PD	0.101	3.650	0.001*	H3b, Accepted
IPC → RPCB → RH	0.110	3.949	0.000*	H3c, Accepted
TRC → RPCB → EH	0.073	2.800	0.005*	H4a, Accepted
TRC → RPCB → PD	0.069	2.889	0.003*	H4b, Accepted
TRC → RPCB → RH	0.078	2.790	0.004*	H4c, Accepted

Notes: *Significant level $p < 0.050$ (2-tailed), $|t| \geq 1.96$, Interpersonal conflict (IPC), Playing dump (PD), Evasive hiding (EH), Rationalized hiding (RH), Relational psychological contract Breach (RPCB), Task-related conflict (TRC).

On the other hand, in the presence of RPCB as a mediator, the association between interpersonal conflict and evasive knowledge hiding becomes significant. This scenario indicates that RPCB changes the behavior of the individuals. It is also indicating that interpersonal/task-related conflicts have a different impact on individuals' KHBs than RPCB. RPCB develops the trust deficit among workers at the workplace and in a distrusted workplace environment, employees can adopt any type of KHBs (evasive, playing dumb, and rationalized hiding). Therefore, workplace conflicts are more dangerous when employees lose their mutual trust and personal relations. The supervisors must resolve the conflicts at the workplace before the conflicts impact to relational psychological contract negatively. It is also necessary to consider the context on which the results of this are based. The data were collected from individuals working in research-oriented institutions in Pakistan. Differences of opinion and personality clashes among knowledge workers are normal behaviors. However, breaches of trust and psychological contracts between workers can affect organizational culture badly. Thus, organizations should adopt strategies to control KHBs at the workplace such as open workplace stations, open communication systems, effective incentive policies, and job interdependence policy [53].

8. Study recommendations and contributions

This study has recommendations for managers and leaders as well. First, conflicts at the workplace are not unusual activities. Knowledge workers usually have a difference of opinion regarding any task at the workplace or interpersonal disliking while job sharing. Hence, it is the responsibility of the supervisors to deal with such conflicts by taking proactive measures. For instance, training should be provided to the employees on patience and respect for others' opinions. Second, supervisors should explain to the workers (knowledge hiders) about the loss of KHBs to the individuals as well as the organization. Application of any dimension of KHBs (evasive, playing dumb, and rationalized) with bad intentions can destroy organizational culture and the innovative capabilities of the organization [6]. Third, managers/leaders should find out the causes/issues behind conflicts (interpersonal/task-related) at the workplace, define SOPs and develop strategies to deal with these issues. Fourth, the organization should adopt strategies (*i.e.*, a small chain of command, developing informal interaction, effective incentive policy, easy performance appraisal, higher interdependency, and open space workstations) [53] to control KHBs and promote knowledge-sharing culture. Fifth, RPCB is another serious issue that promotes KHBs. Supervisors should maintain relational psychological contract at the workplace by practicing best management strategies such as relational signals, coping behavior, open communication systems, etc.

This paper focuses on the significance of interdisciplinary research and it contributes to the body of knowledge in other fields of study such as psychology while studying the antecedents of KHBs. Knowledge management is an emerging discipline of management sciences and it requires different theories, concepts, and investigation approaches from relevant well-developed fields of study [54,55]. Knowledge management is emerging and psychology is one of the mature fields of study which impacts several disciplines of social sciences [56,57]. Hence, knowledge management researchers quoted around one percent of work in journals related to psychology [54]. Second, several studies have concluded that individuals adopt knowledge holding and KHBs to secure their resources and achieve personal goals at the cost of the firm's goals [57,58]. It may be an assumption based on pragmatic behavior and negative outcomes. Contrarily, personality disorders, or personality clashes are causes of workplace conflicts leading to KHBs rather than the personal objectives of the knowledge holder. The colleagues may be oblivious regarding this side of personality. On the other side, knowledge holders may also be unaware of the impacts of his/her KHBs [57]. Hence, scholars should consider this paradigm shift and confirm whether the individuals adopt KHBs purposely or for some other reason. Third, this study also concluded that conflicts at the workplace whether they are interpersonal/task related induce individuals to hide their resources *i.e.*, knowledge hiding [59]. Aptitude, behavioral tests and fair selection criteria may also help in decreasing workplace conflicts.

9. Limitations and future directions

Like other causal relationship-based studies, this study also has some limitations and future research directions. First, this study model used two types of workplace conflicts (interpersonal and task-related). However, value conflict is a third type of workplace conflict. Value conflict develops from basic differences in personalities and values such as differences in religion, norms, politics, and ethics. Thus, value conflict can be added as 3rd dimension of workplace conflict and its impact on KHBs. Second, this study operationalized RPCB as an underlying mechanism. RPCB is one dimension of a psychological contract. The psychological contract also includes a transactional psychological contract and a balanced psychological contract. In future studies, other types of psychological contract can also be used as a mediator in the present study model. Third, this study model evaluated the constructs (workplace conflicts, KHBs, and RPCB) which have a negative impact on organizational performance. Therefore, in future research, some moderating variables (*i.e.*, task interdependence, knowledge sharing-based performance appraisal, need-based training, and proactive supervisory role) can be introduced to control such negative antecedents and consequences. Fourth, this study used a time lag approach for data collection. Although, it is more effective than the cross-sectional data collection method, however, a longitudinal study can be conducted to get more effective results and their generalizability as well. Fifth, the authors collected data from the employees working in research and development institutions in Pakistan. In the future, the same study model can also be verified in other organizations, cultures, and countries.

10. Conclusion

This study investigates the impact of workplace conflicts (interpersonal and task-related) on KHBs (Evasive hiding, playing dumb, and rationalized hiding). Besides, PPCB is used as an underlying mechanism between workplace conflicts and KHBs. For empirical investigation, data were collected from the employees working in research and development institutions located in different places in Pakistan. SmartPls-3 software and the PLS-SEM approach are used for data analyses. The results of the study present that interpersonal conflict has a significant relationship with playing dumb and rationalized hiding but not with evasive hiding. On the other side, the task-related conflict has significant associations with all types (evasive hiding, playing dumb, and rationalized hiding) of knowledge hiding. RPCB significantly mediates the relationship between conflicts and KHBs. This study recommended that scholars should revisit the assumption that "employees adopt KHBs due to their personal interests". However, it is quite possible that the adoption of KHBs is not a personal goal of employees but issues related to personality disorders, or personality clashes. Training should be provided to the employees on patience and respect for others' opinions to control workplace conflicts.

Author contribution statement

Xiaolong Qiao: Conceived and designed the experiment; Wrote the paper.

Faiq Mahmood: Analyzed and interpreted the data.

Bashir Ahmad: Analyzed and interpreted the data; Contributed analysis tools.

Mohsin Bashir: Performed the experiments; Wrote the paper.

Muhammad Waseem Bari: Conceived and designed the Model; Wrote the paper.

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Data availability statement

Data will be made available on request.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.heliyon.2023.e17683>.

Appendix 1 Respondent's Demographic Information N = 408

Groups	Subgroups	Numbers	Percentage
Gender	Male	260	63.72
	Female	148	36.28
Age	20–30 years	81	19.85
	31–40 year	124	30.40
	41–50 years	94	23.03
	51 or above	109	26.72
Education	Bachelors	141	34.56
	Masters	222	54.41
	PhD	30	7.35
	Others	15	3.68
Experience	Less than 1 year	47	11.52
	1–5 Years	113	27.70
	6–10 Years	136	33.33
	More than 10 years	112	27.45

References

- [1] C.K.W. De Dreu, M.J. Gelfand, *Conflict in the Workplace: Sources, Functions, and Dynamics across Multiple Levels of Analysis*, Taylor & Francis Group/Lawrence Erlbaum Associates, 2008.
- [2] W.T. Wang, Y.S. Wang, W.T. Chang, Investigating the effects of psychological empowerment and interpersonal conflicts on employees' knowledge sharing intentions, *J. Knowl. Manag.* 23 (6) (2019) 1039–1076, <https://doi.org/10.1108/JKM-07-2018-0423>.
- [3] G. Han, P.D. Harms, Team identification, trust and conflict: a mediation model, *Int. J. Conflict Manag.* 21 (1) (2010) 20–43, <https://doi.org/10.1108/10444061011016614>.
- [4] Q. Ding, M.E.M. Akoorie, K. Pavlovich, A critical review of three theoretical approaches on knowledge transfer in cooperative alliances, *Int. J. Bus. Manag.* 4 (1) (2009) 47–55.
- [5] K.Z. Zhou, C.B. Li, How knowledge affects radical innovation: knowledge base, market knowledge acquisition, and internal knowledge sharing, *Strat. Manag. J.* 33 (9) (2012) 1090–1102, <https://doi.org/10.1002/smj.1959>.
- [6] P.S.W. Fong, C. Men, J. Luo, R. Jia, Knowledge hiding and team creativity: the contingent role of task interdependence, *Manag. Decis.* 56 (2) (2018) 329–343, <https://doi.org/10.1108/MD-11-2016-0778>.
- [7] M. Xiao, F.L. Cooke, Why and when knowledge hiding in the workplace is harmful: a review of the literature and directions for future research in the Chinese context, *Asia Pacific J. Hum. Resour* 57 (4) (2018) 470–502, <https://doi.org/10.1111/1744-7941.12198>.
- [8] C.E. Connelly, D. Zweig, J. Webster, J.P. Trougakos, Knowledge hiding in organizations, *J. Organ. Behav.* 33 (1) (2012) 64–88, <https://doi.org/10.1002/job.1044>.
- [9] C.E. Connelly, M. Cerne, A. Dysvik, M. Škerlavaj, Understanding knowledge hiding in organizations, *J. Organ. Behav.* 40 (7) (2019) 779–782, <https://doi.org/10.1002/job.2407>.
- [10] Y. Sofyan, D. De Clercq, Y. Shang, Does intraorganizational competition prompt or hinder performance? The risks for proactive employees who hide knowledge, *Pers. Rev* (2022) 1–20, <https://doi.org/10.1108/PR-04-2021-0294> [Online]. Available:.
- [11] E.M. Woodin, A two-dimensional approach to relationship conflict: meta-analytic findings, *J. Fam. Psychol.* 25 (3) (2011) 325.
- [12] D.M. Rousseau, Psychological and implied contracts in organizations, *Empl. Responsib. Rights J.* 2 (2) (1989) 121–139, <https://doi.org/10.1007/BF01384942>.

- [13] D.M. Rousseau, *Psychological Contract Inventory*, Technical report, 2000.
- [14] C. Hui, C. Lee, D.M. Rousseau, Psychological contract and organizational citizenship behavior in China: investigating generalizability and instrumentality, *J. Appl. Psychol.* 89 (2) (2004) 311–321, <https://doi.org/10.1037/0021-9010.89.2.311>.
- [15] H.M.S.V. Silva, R.M.I.D. Ranasinghe, The impact of job stress on deviant workplace behaviour: a study of operational level employees of comfort apparel solutions company in Sri Lanka, *Int. J. Hum. Resour. Stud.* 7 (1) (2017) 74–85, <https://doi.org/10.5296/ijhrs.v7i1.10901>.
- [16] C.E. Connolly, D. Zweig, How perpetrators and targets construe knowledge hiding in organizations, *Eur. J. Work. Organ. Psychol.* 24 (3) (2015) 479–489, <https://doi.org/10.1080/1359432X.2014.931325>.
- [17] O. Alexy, G. George, A.J. Salter, Cui bono? The selective revealing of knowledge and its implications for innovative activity, *Acad. Manag. Rev.* 38 (2) (2013) 270–291.
- [18] T. Hernaus, M. Cerne, C. Connolly, P.N. Vokic, ŠkerlavajM, Evasive knowledge hiding in academia : when competitive individuals are asked to collaborate, *J. Knowl. Manag.* 23 (4) (2018) 597–618, <https://doi.org/10.1108/JKM-11-2017-0531>.
- [19] L. Venz, H. Neshor Shoshan, Be smart, play dumb? A transactional perspective on day-specific knowledge hiding, interpersonal conflict, and psychological strain, *Hum. Relat.* 75 (1) (2022) 113–138, <https://doi.org/10.1177/0018726721990438>.
- [20] N. Demirkasimoglu, Knowledge hiding in academia: is personality a key factor? *Int. J. High. Educ.* 5 (1) (2016) 128–140, <https://doi.org/10.5430/ijhe.v5n1p128>.
- [21] T. Hernaus, M. Cerne, C. Connolly, N.P. Vokic, M. Škerlavaj, Evasive knowledge hiding in academia : when competitive individuals are asked to collaborate, *J. Knowl. Manag.* 23 (4) (2019) 597–618, <https://doi.org/10.1108/JKM-11-2017-0531>.
- [22] K.A. Jehn, C. Bendersky, Intragroup conflict in organizations: a contingency perspective on the conflict-outcome relationship, *Res. Organ. Behav.* 25 (1) (2003) 187–242.
- [23] A. Boz Semerci, Examination of knowledge hiding with conflict, competition and personal values, *Int. J. Conflict Manag.* 30 (1) (2019) 111–131, <https://doi.org/10.1108/IJCMSA-03-2018-0044>.
- [24] S. Schieman, S. Reid, Job authority and interpersonal conflict in the workplace, *Work Occup.* 35 (3) (2008) 296–326.
- [25] H. Ongori, J.E. Agolla, Occupational stress in organizations and its effects on organizational performance, *J. Manag. Res.* 8 (3) (2008) 123–135.
- [26] M. Losada-Otalora, N. Pena-García, I.D. Sanchez, Interpersonal conflict at work and knowledge hiding in service organizations: the mediator role of employee well-being, *Int. J. Qual. Serv. Sci.* 13 (1) (2020) 63–91.
- [27] D. De Clercq, T. Fatima, S. Jahanzeb, Organizational injustice and knowledge hiding: the roles of organizational dis-identification and benevolence, *Manag. Decis.* 59 (2) (2021) 446–462, <https://doi.org/10.1108/MD-05-2019-0581>.
- [28] H. Peng, C. Bell, Y. Li, How and when intragroup relationship conflict leads to knowledge hiding: the roles of envy and trait competitiveness, *Int. J. Conflict Manag.* 31 (1) (2020) 111–131.
- [29] P. Petrou, A.B. Bakker, K. Bezemer, Creativity under task conflict: the role of proactively increasing job resources, *J. Occup. Organ. Psychol.* 92 (2) (2018) 305–329, <https://doi.org/10.1111/joop.12250>.
- [30] A.L. Strauss, L. Schatzman, R. Buckner, E. Danuta, S. Melvin, *Psychiatric Ideologies and Institutions*, Routledge, 2017.
- [31] N. Hu, Z. Chen, J. Gu, S. Huang, H. Liu, Conflict and creativity in inter-organizational teams: the moderating role of shared leadership, *Int. J. Conflict Manag.* 28 (1) (2017) 72–102.
- [32] D. De Clercq, T. Fatima, S. Jahanzeb, The link between interpersonal conflict and knowledge hiding: mediated by relatedness need frustration, moderated by narcissistic rivalry, *Int. J. Conflict Manag.* 33 (3) (2022) 494–518.
- [33] H.M. Weiss, R. Cropanzano, Affective events theory, *Res. Organ. Behav.* 18 (1) (1996) 1–74.
- [34] M.W. Bari, G. Misbah, A. Bashir, Knowledge-hiding behaviors and employees' silence: mediating role of psychological contract breach, *J. Knowl. Manag.* 24 (9) (2020) 2171–2194, <https://doi.org/10.1108/JKM-02-2020-0149>.
- [35] T.W.H. Ng, D.C. Feldman, M.M. Butts, Psychological contract breaches and employee voice behaviour: the moderating effects of changes in social relationships, *Eur. J. Work. Organ. Psychol.* 23 (4) (2014) 537–553, <https://doi.org/10.1080/1359432X.2013.766394>.
- [36] M.W. Bari, Q. Khan, A. Waqas, Person related workplace bullying and knowledge hiding behaviors: relational psychological contract breach as an underlying mechanism, *J. Knowl. Manag.* 27 (3) (2022) 1–20, <https://doi.org/10.1108/JKM-10-2021-0766>.
- [37] D. Rousseau, *Psychological Contracts in Organizations: Understanding Written and Unwritten Agreements*, Sage publications, 1995.
- [38] S. Pradhan, A. Srivastava, D.K. Mishra, Abusive supervision and knowledge hiding: the mediating role of psychological contract violation and supervisor directed aggression, *J. Knowl. Manag.* 24 (2) (2019) 216–234.
- [39] W. Pan, Q. Zhang, T.S.H. Teo, V.K.G. Lim, The dark triad and knowledge hiding, *Int. J. Inf. Manag.* 42 (2) (2018) 36–48, <https://doi.org/10.1016/j.jinfomgt.2018.05.008>.
- [40] E. Aykan, Effects of perceived psychological contract breach on turnover intention: intermediary role of loneliness perception of employees, *Procedia - Soc. Behav. Sci.* 150 (2014) 413–419, <https://doi.org/10.1016/j.sbspro.2014.09.040>.
- [41] P.E. Spector, S.M. Jex, Development of four self-report measures of job stressors and strain: interpersonal conflict at work scale, organizational constraints scale, quantitative workload inventory, and physical symptoms inventory, *J. Occup. Health Psychol.* 3 (4) (1998) 356.
- [42] K.A. Jehn, A multimethod examination of the benefits and detriments of intragroup conflict, *Adm. Sci. Q.* 40 (2) (1995) 256, <https://doi.org/10.2307/2393638>.
- [43] S.L. Robinson, E. Wolfe Morrison, The development of psychological contract breach and violation: a longitudinal study, *J. Organ. Behav.* 21 (5) (2000) 525–546.
- [44] H. Jr J. F., G.T.M. Hult, C. Ringle, M. Sarstedt, *A Primer on Partial Least Squares Structural Equation Modeling, PLS-SEM*, 2016.
- [45] M.W. Bari, M. Ghaffar, B. Ahmad, Knowledge-hiding behaviors and employees' silence: mediating role of psychological contract breach, *J. Knowl. Manag.* 1 (1) (2020) 1–37, <https://doi.org/10.1108/JKM-02-2020-0149>.
- [46] J.F. Hair, M. Sarstedt, C.M. Ringle, Rethinking some of the rethinking of partial least squares, *Eur. J. Market.* 53 (4) (2019) 566–584, <https://doi.org/10.1108/EJM-10-2018-0665>.
- [47] J. Henseler, C.M. Ringle, M. Sarstedt, A new criterion for assessing discriminant validity in variance-based structural equation modeling, *J. Acad. Mark. Sci.* 43 (1) (2015) 115–135.
- [48] J.F. Hair Jr., M. Sarstedt, L. Hopkins, V.G. Kuppelwieser, Partial least squares structural equation modeling (PLS-SEM). An emerging tool in business research, *Eur. Bus. Rev.* 26 (2) (2014) 106–121.
- [49] C. Fornell, D.F. Larcker, Evaluating structural equation models with unobservable variables and measurement error, *J. Mark. Res.* 18 (1) (1981) 39–50.
- [50] J.F. Hair Jr., G.T.M. Hult, C. Ringle, M. Sarstedt, *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*, second ed., Sage Publications, California, 2016.
- [51] M. Sarstedt, C.M. Ringle, D. Smith, R. Reams, J.F. Hair, Partial least squares structural equation modeling (PLS-SEM): a useful tool for family business researchers, *J. Fam. Bus. Strateg.* 5 (1) (2014) 105–115.
- [52] J.F. Hair, M. Sarstedt, L. Hopkins, V.G. Kuppelwieser, Partial least squares structural equation modeling (PLS-SEM): an emerging tool in business research, *Eur. Bus. Rev.* 26 (2) (2014) 106–121, <https://doi.org/10.1108/EBR-10-2013-0128>.
- [53] A.S. Butt, A.B. Ahmad, Strategies to mitigate knowledge hiding behavior: building theories from multiple case studies, *Manag. Decis.* 59 (6) (2020) 1291–1311, <https://doi.org/10.1108/MD-01-2020-0038>.
- [54] A. Serenko, N. Bontis, The intellectual core and impact of the knowledge management academic discipline, *J. Knowl. Manag.* 17 (1) (2013) 137–155.
- [55] A. Serenko, N. Bontis, Understanding counterproductive knowledge behavior: antecedents and consequences of intra-organizational knowledge hiding, *J. Knowl. Manag.* 20 (6) (2016) 1199–1224.
- [56] B. Kör, M. Mutlutürk, M.C.J. Caniels, Analysing and visualising the trends in knowledge management: towards a normative knowledge management framework, *Int. J. Knowl. Manag. Stud.* 13 (1) (2022) 1–32.

- [57] A. Serenko, Personality disorders as a predictor of counterproductive knowledge behavior: the application of the Millon Clinical Multiaxial Inventory-IV, *J. Knowl. Manag.* 27 (9) (2023) 1–34.
- [58] M. Černe, C.G. Nerstad, A. Dysvik, M. Škerlavaj, What goes around comes around: knowledge hiding, perceived motivational climate, and creativity, *Acad. Manag. J.* 57 (1) (2014) 172–192, <https://doi.org/10.5465/amj.2012.0122>.
- [59] J.R.B. Halbesleben, J.-P. Neveu, S.C. Paustian-Underdahl, M. Westman, Getting to the 'COR' understanding the role of resources in conservation of resources theory, *J. Manag.* 40 (5) (2014) 1334–1364.