Abusive Supervision and the Knowledge Worker Productivity: The Mediating Role of Knowledge Management Processes

Purpose – Drawing upon the theoretical underpinning of knowledge worker productivity *(Drucker 2001; 1999),* the study aims to examine the relationship between abusive supervision and knowledge management (KM) process *(creation, application, and sharing of knowledge)* and its impact on the knowledge worker productivity in knowledge intensive organizations.

Design/methodology/approach – Hypothesis were tested through PROCESS Macro in IBM SPSS v.26 on a sample of 204 employees working in banking sector of Pakistan. Confirmatory factor analysis (CFA) was conducted to test the model fitness through AMOS v. 26.

Findings – The results showed that the relationship between abusive supervision and KM process *(creation, application, and sharing of knowledge)* is negative and highly significant, i.e. greater the abusive supervision in the banking sector, the lower is the engagement in KM processes. Furthermore, there is a positive and highly significant relationship between the knowledge management process and knowledge worker productivity. Finally, the study indicates the negative impact of abusive supervision on the knowledge worker productivity through the mediating mechanism of knowledge management processes.

Research limitations/implications – A key limitation is that the study is cross-sectional, and the findings may only be generalizable to developing countries context.

Originality/value – Previous studies have focused on supervisor-employee relationship but not in the context of knowledge worker productivity. This article fulfills this gap through understanding the impact of abusive supervision on the knowledge worker productivity in relation to knowledge management processes (knowledge creation, sharing and application) by drawing upon the theoretical underpinning of knowledge worker productivity.

Keywords: KM, Knowledge worker productivity, Abusive Supervision, Knowledge Management Process.

"The next society will be a knowledge society. Knowledge will be its key resource, and knowledge workers will be the dominant group in its workforce i.e. 1) borderlessness, 2) upward mobility, and 3) the potential for failure as well as success."

Peter F. Drucker (2001) on 'Knowledge is All'

1. Introduction

The era of post capitalism has a major shift of focus at workplace environment towards the changing nature of tasks from routine to creative, and types of workers from manual to knowledge workers (*Perotti et al., 2010; Drucker, 1999; 2001*). The age of technology has marked knowledge as a critical input to foster creativity among organizations (*Carleton, 2011; O'Driscoll, 2003; Drucker, 1999*). Knowledge work encapsulates the type of work, which is non-repetitive, creative and innovative in its nature, mainly performed by the employees who are highly skilled (*Bosch, et al., 2009*). The previous research has enlightened the term knowledge workers many times along with the importance of the shift of organizations' focus from tangible outcomes to intangible results which eventually casts light on the productivity of knowledge workers (*Mládková, 2012*). Knowledge workers can be marked as highly valuable asset of an organization in the 21st century, as they are responsible for the productivity of an organization. Knowledge workers are engaged in innovative and creative tasks, moreover, they apply their knowledge on the optimal usage of resources acquired through continuous learning (*Drucker, 1999*). Knowledge worker productivity is quite different from the manual productivity. It is basically concerned with the quality and quantity of the unstructured, innovative and creative tasks (*Shujahat et al. 2019, Drucker, 1999*). The Drucker's theory of knowledge worker productivity enlisted the causing agents which have marking impact on the productivity of a knowledge worker. These include the task given to the knowledge worker (*Kianto et al., 2019*):

- *How much one is authorized to perform it on his/her own?*
- *Whether the task is providing continuous learning and growth, and the focus on the quantity and quality of the outcomes?*
- *Are the outcomes bringing innovation to the organization? and*
- *Whether he is considered as a valuable asset by the organization?*

Apart from the physical environment, Haynes *(2008; 2007a;2007)* has spotted behavioral environment to be the most influential in the productivity of employees *(Palvalin et al., 2017)*. The hostile environment in the form of the supervisors' destructive behavior in an organization can result in counterproductive behavior of knowledge workers in the knowledge management process. The antagonistic verbal or nonverbal behavior by the supervisor which excludes any kind of physical attack comes under the umbrella of "Abusive Supervision" *(Kim et al., 2015, Tepper,*

2000). Past research has demonstrated the nature of relationship between the, abusive supervision and different productive and unproductive knowledge management behaviors, like knowledge sharing (Choi et al., 2019, Wu & Lee, 2016, Kim et al., 2015) and knowledge hiding (Khalid et al., 2018) respectively. Choi et al., (2019), explained the negative impact of abusive supervision on the knowledge sharing behavior, similarly, Wu & Lee (2016), in the study of different industries in Taiwan also explained how abusive supervision can impose negative impact on the knowledge sharing behavior of employees. Similarly, Kim et al. (2015), while conducting a study in the South Korean organizations concluded the same pattern of negative relationship of abusive supervision and knowledge sharing. Zhang et al. (2017), elaborated the inversely proportional relationship between the abusive supervision and knowledge sharing. On the other hand, Khalid et al., (2018) has also linked abusive supervision with counter knowledge sharing behavior, knowledge hiding; proving it to be a positive relationship. However, the linkage of knowledge worker productivity with abusive supervision hasn't been established even though some of the studies give some conceptual linkage on significance of supervisor behavior and KM process *(Kim et al., 2019; Khalid et al., 2018; Kim et al., 2015; Lee et al., 2016).* As recently, Butt et al (2018) also proposed to explore the supervisor-employee relationship ultimately affecting knowledge worker productivity and knowledge management engagements. In the changing work dynamics, it is imperative for the organization to focus on the knowledge worker productivity and the factors affecting it.

Thus, the aim of this study is to explain the nature of causal relationship between the abusive supervision and knowledge worker productivity through the mediating mechanisms of knowledge management process in the knowledge intensive organizations. The present study fills this gap and expands the literature of knowledge management specifically in relation to abusive supervision, knowledge management process, and knowledge worker productivity which remained underexplored so far. Furthermore, the study helps us to analyze the reasons behind such behavior of the supervisor, despite the fact that a knowledge worker is an asset for the knowledge intensive organizations. Lastly, the research aids in examining the effect of abusive supervision on different factors of knowledge worker productivity and how an organization can counter such behavior and enhance the productivity. Based on previous discussion, study will answer the following main research question:

RQ: What is the relationship between abusive supervision and knowledge worker productivity in relation to knowledge management processes?

Thus, the study covers the following aspects as per this research question, i) impact of abusive supervision on the knowledge worker productivity? ii) impact of knowledge management processes on knowledge worker productivity and; iii) knowledge management process mediating the relationship between abusive supervision and knowledge worker productivity. The study is significant for both the researchers and practitioners in the field of knowledge management, as it not only adds to the literature of knowledge management and leadership but also helps the management to implement the findings in practice. The study will be helpful to the researchers as it probes into the problems related to the leadership and supervision of knowledge worker productivity through the knowledge management processes, which are, knowledge creation, knowledge sharing and knowledge utilization. In the same way, the study will help managers and executives understand the impact of unethical leadership on knowledge workers' productivity, make them aware of the leadership problems how to cope up with this issue.

2. Theoretical Background

2.1 Knowledge Worker Productivity and Knowledge Management Process

Nowadays, the work performed by the employees is more directed towards the accomplishment of upcoming challenges in order to cope up with the ongoing competition *(Sumbal et al.,2020; Akhtar et al., 2016; Bosch et al., 2009).* Knowledge work is the type of work which doesn't comply with the standard work practices rather it deals with the intellectual capital and is performed by knowledge workers through capturing, creating and utilizing of the (explicit and tacit) knowledge *(Turriago-Hoyos et al., 2016).* On the other hand, productivity of a knowledge worker differs from that of manual worker, because the former mainly deals with unstructured and situation specific tasks *(Bosch-Sijtsema et al., 2009).* Likewise, knowledge worker productivity is more concerned with the quality and quantity of the output *(Palvalin et al., 2015; Drucker, 1999).* Knowledge worker productivity differs from individual to individual, mainly due to creativity and innovation involved in the tasks. Moreover, the context of workplace differs for individuals due to the different culture, leadership, environment and even individuals' own perception *(Bosch-Sijtsema et al., 2009; Yao et al., 2007).* Knowledge work cannot be predicted due to the innovativeness linked to it. For instance, some researchers marked it as more related to job itself

including self-management and learning perspective while others defined it by describing the content of the tasks allotted to the employees *(Palvalin et al., 2017)*. Hence, involving the flow of knowledge from knowledge capturing to knowledge utilization is collectively term as knowledge management process.

Knowledge management process has been defined in the previous research as creation, acquisition, storage, sharing and application of knowledge *(Costa and Monteiro 2016)*. The recent studies focus on the aspect of knowledge management process which are related to creation, sharing and utilization of knowledge *(Shujahat et al. 2019; Shujahat et al., 2017, Andreeva et al., 2017)*. It is a cyclical process as the knowledge created or captured is shared among the colleagues within an organization. Knowledge is then applied by them when required in certain contexts. If something new is learned or new knowledge is created through application of existing knowledge, the existing knowledge base is updated, and again shared within the organization, and thus, the cycle continues. Hence, knowledge management process aims at the proper flow of knowledge among knowledge workers at appropriate time to perform their tasks properly *(Shujahat et al., 2019; Shujahat et al., 2017; Constantinescu, 2009; Feng et al., 2005)*. Therefore, it is hypothesized that knowledge management process (knowledge creation, application and sharing) will be positively related to knowledge worker productivity:

> *H1: KM process (creation, sharing, and application) has a positive impact on the knowledge worker productivity.*

2.2 Abusive Supervision and Knowledge Management Process

Previously, different scholars laid down importance of leadership theories and styles on the productivity, performance and knowledge management behaviors of the employees. Researchers have described both ethical and unethical styles of leadership (Brown et. al, 2005) Both transactional and transformational leadership styles, displaying ethical leadership, are proven to improve the performance in many organizations but the basic assumptions differ and fit different organizational environments. The transactional theory of leadership assumes that the behavior and performance of the employees can be amended through the initiation of reward and punishment mechanism *(Atapattu & Ranawake, 2017; Shah et al., 2015; McGrath & MacMillan, 2000)*, moreover, the leader-employee relations follows the essence of command and control strategies, aligning it with the extrinsic rewards system. On the other hand, transformational theories are more

suitable where the individual will, and creativity are given importance and employees work with intrinsic motivation. The leaders attach the goals with the moral and ethical values, and Knowledge worker show greater engagement towards knowledge management processes *(Atapattu & Ranawake, 2017).* Tepper *(2000)* demonstrated the concept of abusive supervision by referring it as a perception of the subordinates in an organization regarding sustained portrayal of hostile behavior by their respective supervisors which may not include any kind of physical contact. Abusive supervision, an unethical style of leadership, not only affects the employee but also poses negative outcomes for the organization as well in the form of organizational ineffectiveness *(Tepper et al., 2006).* It is also considered as one of the causing factors for workplace stress, ultimately yielding low performance at workplace *(Lee et al., 2013).*

Past research work has explored the nature of abusive supervision which may include ill-treatment with employees, aggressive behavior towards them in the shape of criticism or withholding necessary information *(Kim et al., 2015; Tepper, 2000; Keashly 1998).* Abusive supervision is considered as a subjective phenomenon, whose extent may vary among employees of a same abusive supervisor. Rising interest of the researchers in this construct enlightens the need to probe into the destructive outcomes of this toxic supervisory behavior. The major portion of the research on abusive supervision explains the motivational and physiological factors associated with this behavior *(Liu et al., 2016).* The impact of abusive supervision on knowledge creation is still underexplored except few studies where researchers classified abusive supervision as a "social-evaluative threat" and looked at its impact on employee creativity *(Lee et al., 2013; Tepper, 2007).* Moreover, moderate level of abusive supervision, will boost employee creativity because employees try to prove themselves when faced with any kind of threat undermining their self-esteem and status *(Dickerson & Kemeny, 2004).* Conversely, when abusive supervision increases the employees divert their energy and attention to manage the stress, caused as an outcome *(Lee et al., 2013).* Zhou and Shalley *(2011)* laid down the actual reason behind less creativity in the presence of abusive supervision i.e., the working conditions become non-conducive for employees in the presence of low or high level of abusive supervision *(Liu et al., 2016).* As the leader-led supervision basically allows the employee to generate, share and apply the knowledge e.g., whenever the supervisor shows hostility towards subordinates, he/she may respond in a way which is detrimental to the organizational overall productivity *(Aryee et al.,*

2008). Thus, the second set of hypotheses clearly states the impact of abusive supervision on KM processes (knowledge creation=H2a, sharing= H2b, and application= H2c):

> *H2 (a, b, c): Abusive supervision has a negative impact on KM process (creation, sharing, and application)*

2.3 Abusive supervision and Knowledge Worker productivity

According to the Drucker's theory, as the knowledge workers are innovative and creative in accomplishing their quality tasks, so they should be given tasks according to their own inclination and interest. The supervisors should not impose orders, ultimately hampering their productivity *(Drucker, 1999)*. Moreover, as per this theory, knowledge workers should be treated as asset rather than a cost. However, unethical leadership does not treat them as resource or asset but something of no value let alone even labelling knowledge worker as cost. Previous studies demonstrated a negative relationship between the abusive supervision and productive behaviors of employees *(Lee et al., 2018; Kim et al., 2015; Xu et al., 2012).* The present study draws upon the theoretical underpinning of knowledge worker productivity to examine the relationship between abusive supervision and knowledge worker productivity. Previously, researchers have focused on the aspect of curbing subordinate's important resources through this type of detrimental supervisory behavior *(Pradhan & Jena, 2018; Wu & Hu, 2009; Harris et al., 2007).* Specifically, research describes the highly detrimental effects of less frequently occurring phenomena of abusive supervision *(Harris et al., 2011; Tepper et al., 2007).* The managers and supervisors play an important role for the well-being of their subordinates and the organization. For this reason, their abusive behavior may result into forming negative work related attitude of subordinates ultimately lowering down their satisfaction level and obstructing their level of commitment towards the organization *(Duffy et al., 2002; Tepper, 2000)*, and low level of performance *(Harris et al., 2011).* Existing research indicated that ten to sixteen percent subordinates face abusive supervision at their workplaces *(Kim et al., 2015; Namie & Namie, 2009).* Moreover, abusive supervision has been classified by many researchers as an active type of destructive leadership behavior whose outcomes are far more deteriorating than any other type of active or passive leadership *(Kim et al., 2015; Schyns & Schilling, 2013; Bass & Avolio, 1987).* Thus, we hypothesize that abusive supervision will negatively impact the knowledge worker productivity

(H3), and KM process (creation, application, and sharing of knowledge) mediates the relationship between abusive supervision and knowledge worker productivity:

H3: Abusive supervision has a negative impact on the knowledge worker productivity

2.4 Mediating Role of Knowledge Management Process:

Abusive supervision may produce intentional or unintentional unfavorable outcomes for an organization. These outcomes may be at individual or organizational level, wherein, individual level may refer to stress, depression or work life balance and organizational level embraces the consequence of the above mentioned behavior on the overall performance and productivity of the employees *(Wu & Lee., 2016)*. The performance of employees can be linked to the knowledge management processes (Creation, sharing and application) undertaken by knowledge workers. It is evident from the previous research that if an individual is facing abusive supervision, most probably he/she will also project the same behavior to his/her own subordinates, thus, undermining knowledge sharing, and inflicting harm to the organizational and individual capacities *(Khalid et al., 2019)*. Similarly, Yun et al. *(2018)* argued that abusive supervision poses a high risk on sharing behavior in employees, and they withhold knowledge as a portrayal of revenge from the supervisor. Wu & Lee (2016) categorized abusive supervision as "dark side" in an organization which hinders the knowledge management process in the workplace ultimately undermining the knowledge worker productivity. So, in order to test how knowledge management process (Creation, sharing, application) mediates the negative relationship between abusive supervision and knowledge worker productivity we hypothesize:

H4: *KM process (creation, application, and sharing of knowledge) mediate the relationship between abusive supervision and knowledge worker productivity.*
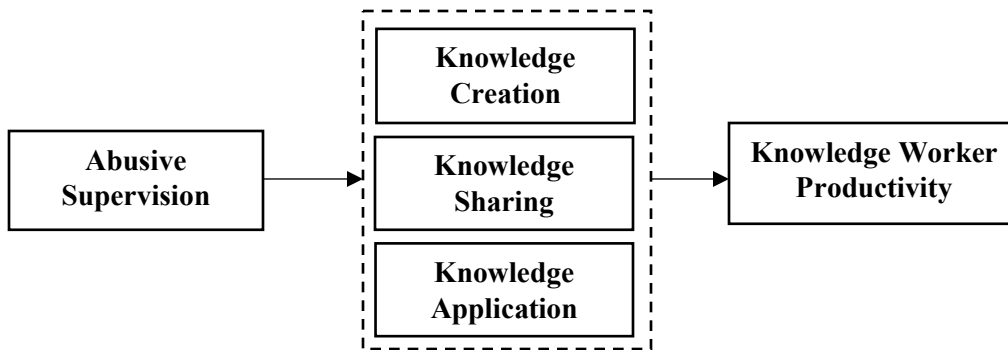
Theoretical framework

Figure 1: Research Model

3. Methodology

3.1 Participants and Procedure

The research is carried out from the knowledge workers in the banking sector of Pakistan. In fact, there have been many studies on KM and knowledge workers (Shujahat et al., 2020; Kianto et al., 2019; Butt et al., 2018) and even on the role of unethical leadership in a range of knowledge-behaviors. Consistent with the previous studies (Kianto et al., 2019; Butt et al., 2018) we operationalized Knowledge workers as the individuals who have acquired 16 years of education and are not involved in the physical work but knowledge work that requires to engage in KM processes. Under this definition, we accessed knowledge workers at the middle and frontline managerial positions (Bosch-Sijtsema et al; 2009). We have chosen Private Banks for the purpose of finding the impact of abusive supervision, as the jobs and the knowledge workers in the private organizations generally and especially banking sector of Pakistan are such knowledge-intensive (Bari et al., 2020) that they require their knowledge workers to be engaged in knowledge management process (Shujahat et al., 2020) in their bid for enhanced organizational productivity and profit, thus providing a relevant context (Cappa et al., 2020). Also, as stated by Bari et al (2020), the context of the authors also played its role in choosing the banking sector of Pakistan. Another reason is that knowledge is considered as a source of competitive advantage in the banking sector (Khoualdi and Binibrahim, 2019) and there is a continued regulatory pressure from national and international regulators to enhance the standards by establishing knowledge based economies (Alosaimi, 2016). Moreover, in order to utilize the intellectual capital of the employees in the

banks, it is pertinent to explore the factor affecting this capital of knowledge workers in the modern economy *(Pancholi & Pancholi, 2014)*.

Overall, a total of 18 branches of six private banks from all over Pakistan were chosen, depending upon the proximity of the researcher, where 350 self-completion questionnaires were distributed and administered by the researchers. Firstly, the purpose of the research was conveyed to the participants. These were distributed among the knowledge workers, whose attributes are already discussed above, to judge in what ways the abusive supervision impacts knowledge worker productivity and whether knowledge management process mediates this relationship. Out of 350 questionnaires we received 204 valid responses, which then became our sample size. The sample size could be a limitation for the study. However, as per Austin & Steyerberg (2015) and Cappa et al (2020), it is acceptable having more than 10 observations per variable. Thus, the sample size is adequate enough to perform the analysis. Notwithstanding, there is another reason of this sample size i.e. because the data were collected from those knowledge workers who were directly engaged in knowledge management activities and these were not so high in number when approached from these organizations. Questionnaires included measures of knowledge worker productivity, abusive supervision and KM process (knowledge creation, sharing and application). The control variables in this study are gender, formal education and managerial position, remaining consistent with the prior studies (Kianto et al., 2019; *Shujahat et al. 2019; Tariq et al. 2018*). Participants were informed about the anonymity and confidentiality of their responses in this study, and that they can withdraw from participating in the research work at any time. Data were analyzed by utilizing PROCESS Macro as recommended by Preacher and Hays (*2012*) to test the mediating mechanism and related hypotheses. Whereas, descriptive and reliability statistics were analyzed by using IBM SPSS v.26. Confirmatory factor analysis (CFA) was conducted to test the model fitness through AMOS v. 26.

3.2 Measures

To measure the variable five Likert scale will be used from strongly agree to strongly disagree. Measures of different variables are as following:

3.2.1 Knowledge Worker Productivity

For knowledge-worker productivity, a seven-item validated scale Smart WoW–constructing a tool for knowledge work performance analysis from Palvalin et al (*2015*) was adapted based on a five-

point Likert-type scale from 1 to 5 (1 totally disagree, 5 totally agree). The sample items included are how much a knowledge worker considers his work satisfactory and how he assesses himself whether he is meeting the customer's expectations or not, as "I achieve satisfactory results in relation to my goals", "I am able to meet customers' expectations". Cronbach's $\alpha = 0.943$

3.2.2 Knowledge Management Process

a) Knowledge Application

For knowledge application, a six-item validated scale was adapted from Tseng and Fan *(2011)* based on a five-point Likert-type scale from 1 to 5 (1 totally disagree, 5 totally agree). A sample item included which analyses if the organization achieves efficiency through knowledge or not, as "My organization uses knowledge to improve efficiency" etc. Cronbach's $\alpha = 0.929$

b) Knowledge sharing and Knowledge Creation

Knowledge sharing and knowledge creation were measured by adapting from Organizational Renewal Capability Inventory survey *(Kianto et al. 2016)* based on a five-point Likert-type scale from 1 to 5 (1 totally disagree, 5 totally agree). The sample items for these variables are, "My colleagues are open and honest with each other" and "Our organization actively collects development ideas", respectively. Cronbach's $\alpha = 0.898$ and 0.922 for knowledge sharing and creation respectively.

3.2.3 Abusive Supervision

The Tepper's (*2000*) scale is used to measure abusive supervision. The scale has 15 items originally with an internal reliability of 0.95, out of which we are using only 5-items based on a five-point Likert-type scale from 1 to 5 (1 totally disagree, 5 totally agree). A sample item includes how the boss might be involved in hostile behavior towards the sub-ordinates, "My boss ridicules me" and "He/ she Invades my privacy". Cronbach's $\alpha = 0.920$.

4. Results

4.1 Confirmatory Factor Analysis

A confirmatory factor analysis was conducted in order to analyze the distinctiveness among the variables, through AMOS v.26. The five multi-items construct along with the hypothesized model was tested and compared its model fitness with other alternative models in order to check for common method bias *(Akhtar et al., 2016; Podsakoff, 2003)*. Table I presents the results of

confirmatory factor analysis. According to several prior studies, for a significant model the standard values of the model fitness should be, 0.05< RMESA >0.10 (*MacCallum et al, 1996*), CFI, NNFI, GFI, IFI < 0.09 (Hooper et al., 2008). The results of our baseline model (as shown in Table I) were e.g., RMSEA: 0.078; CFI: 0.916, NNFI: 0.86 GFI: 0.78 and IFI: 0.91.

Table I: Results of Confirmatory Factor Analysis

Model	χ^2	df	RMSEA	CFI	NNFI	GFI	IFI	$\Delta\chi^2$	Δdf
One-factor model	2341***	436	0.147	0.681	0.637	0.565	0.683	1429.4	28
Three-factor model	1655.8***	431	0.118	0.795	0.743	0.617	0.796	744.277	23
Five-factor model	911.523***	408	0.078	0.916	0.86	0.78	0.91	*Baseline model*	

*Notes: n= 204, RMSEA, root mean square error of approximation; CFI, comparative fit index; NNFI, Non-normed fit index; GFI, goodness fit index. The five-factor model explains the actual model with the variable, abusive supervision, knowledge creation, knowledge sharing, knowledge application and knowledge worker productivity. Three-factor model means that the mediating variables are combined into one variable i.e. knowledge management process, dependent variable, knowledge worker productivity and independent variable abusive supervision, moreover one factor model shows that all the items are included in one latent variable. ***p<0.001*

4.2 Coefficients of Correlation, Descriptive and Reliability Statistics

Table II presents the means, standard deviations, estimated reliabilities and inter-correlated reliabilities among the variables of the study in the support of our hypotheses. The reliability analysis was carried out to determine the internal consistency of all the variables in the study. The Cronbach's alpha scores were abusive supervision= 0.92, knowledge creation= 0.922, knowledge sharing= 0.898, knowledge application= 0.929, and knowledge worker productivity= 0.943. These alpha scores demonstrate consistency, and reliability of the data. Abusive supervision was negatively related to knowledge creation *(r= −0.667, p<0.01)*, knowledge sharing *(r= −0.680, p<0.01)*, knowledge application *(r= −0.718, p<0.01), and* knowledge worker productivity *(r= −0.774, p<0.01).* On the other hand, knowledge management process was positively related to knowledge worker productivity e.g. Knowledge creation *(r= 0.717, p<0.01*), knowledge sharing *(r= 0.816, p<0.01), and* knowledge application *(r= 0.801, p<0.01).*

Table II: Results of Mean, Standard Deviation, Correlation Coefficients, and Reliability Statistics

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1- Age	2.819	1.446	—										
2- Gender	.333	.473	-.135	—									
3- Education	1.824	1.059	.146*	-.098	—								
4- Experience	2.382	1.236	.287**	.008	.180*	—							
5- T_experience	10.137	8.183	.901**	-.104	.144*	.310**	—						
6- Position	1.966	.727	.871**	-.117	.059	.270**	.854**	—					
7- Abusive Supervision	3.725	1.021	.363**	-.123	.159*	.000	.377**	.328**	*0.92*				
8- Knowledge Creation	2.573	.926	-.290**	.139*	-.070	.048	-.267**	-.247**	-.667**	*0.922*			
9- Knowledge Sharing	2.279	.843	-.204**	.081	-.049	.088	-.163*	-.189**	-.680**	.716**	*0.898*		
10- Knowledge Application	2.079	.897	-.319**	.090	-.100	.037	-.246**	-.264**	-.718**	.694**	.731**	*0.929*	
11- Knowledge Worker Productivity	2.083	.908	-.271**	.046	-.168*	.043	-.229**	-.241**	-.774**	.717**	.816**	.801**	*0.943*

Note: *n=204; Cronbach's Alpha (a) values are given in diagonal position as bold and italic; *p < .05; **p < .01, ***p<.001*

4.3 Hypotheses Testing (Mediation Analyses)

The hypothesized research model was tested with the help of Model-4 in PROCESS Macro (SPSS v.26), as suggested by Hayes *(2013)* and previously used in number of studies e.g. Eissa & Lester (2017), and Akhtar et al., (2016). These results are shown in Table III. In H1a it was hypothesized that knowledge creation would be positively related to knowledge worker productivity. Although, the results showed positive relationship but was not significant *(β= 0.0910, ns)*. In H1b and H1c, it was hypothesized that knowledge application, and knowledge sharing would be positively related with knowledge worker productivity. The results confirmed the positive and significant relationships for knowledge application *(β= 0.2775, p<0.001),* and knowledge sharing *(β= 0.3960, p<0.001*). Hence, H1b and H1c were supported but H1a was not supported.

Similarly, in Hypothesis 2*(a,b,c),* it was hypothesized that abusive supervision would be negatively related to knowledge management process (knowledge sharing, knowledge creation, and knowledge application). The results showed that abusive supervision was negatively related to knowledge creation *(β= -0.5869, p<0.001),* knowledge sharing *(β= -0.5885, p<0.05),* and knowledge application *(β= -0.6276, p<0.001)*. Similarly, in Hypothesis 3, it was hypothesized that abusive supervision would be negatively related to knowledge worker productivity *(β= -0.2398, p<0.001)*. Hence, H2(a,b,c) and H3 were supported.

Table III: Results of Mediation Analysis

	β (SE)			
Variable	**KC**	**KS**	**KA**	**KWP**
Age	-.1232 (.0876)	-.0973 (.0774)	-.2600 (.0771)***	-0.0037 (.0536)
Gender	.1004 (.1049)	-.0080 (.0928)	-.0264 (.0924)	-0.1186 (.0627)
Education	.0337 (.0482)	.0308 (.0426)	.0079 (.0424)	-0.0759 (.0287)***

Position	.0347 (.1462)	-.1146 (.1293)	-.0331 (.1286)	-0.0761 (.0872)
Experience	.0413 (.0424)	.0392 (.0375)	.0267 (.0374)	0.0023 (.0253)
T-Experience	.0125 (.0148)	.0326 (.0131)*	.0449 (.0130)***	0.0098 (.0091)
Abusive Supervision	.5869 (.0527)***	-.5885 (.0466)***	-.6276 (.0463)***	-.2398 (.0472)***
Mediators:				
M1 - Knowledge Creation				. 0910 (.0498)
M2 - Knowledge Sharing				.3960 (.0581)***
M3 - Knowledge Application				.2775 (.0559)***
F	*23.6593***	*26.7264***	*34.5321***	*78.9282***
R²	*.4580*	*.4884*	*.5522*	*. 8035*

Note*: n = 204; KC=Knowledge Creation; KS=Knowledge Sharing; KA=Knowledge Application; KWP=Knowledge Worker Productivity;* **β** *= Beta Coefficients; SE: standard error; *p < .05; **p < .01, ***p<.001*

Table IV describes the results of direct, indirect and total effect of abusive supervision on knowledge worker productivity. In the line of Hypothesis 3, the study found that there is a highly significant negative direct relationship between abusive supervision and knowledge worker productivity *(ab=-.2398, p<.001; 95% CI [-.333, -.1466]).* The indirect effect of abusive supervision on knowledge worker productivity via knowledge creation, the first mediator, is not significant *(ab=-.0534, ns; 95% CI [-.1167, .0085]),* which rejects Hypothesis 4a, as knowledge creation did not mediate the relationship between independent and dependent variable. On the other hand, the indirect relationship of abusive supervision and knowledge worker productivity via knowledge application *(ab=-.1742, p<.001; 95%CI [-.2581, -.0911]),* second mediator; and knowledge sharing *(ab=-.2331, p<.001; 95%CI [-.3196, -.1584]),* third mediator; is highly significant. Thus, Hypotheses 4b and 4c were supported.

Table IV: Results of Direct, Indirect, Total Effect of Abusive Supervision

Mediation Analysis	Effect	SE	LLCI	ULCI
Direct Effect of AS on KWP	-0.2398	0.0472	-0.333	-0.1466
Indirect Effects of AS on KWP via Mediators KC, KS, and KA				
Total Effect	*-0.4607*	*0.0457*	*-0.5472*	*-0.366*
KC	-0.0534	0.0314	-0.1167	0.0085
KS	-0.2331	0.0408	-0.3196	-0.1584
KA	-0.1742	0.0428	-0.2581	-0.0911

Note*: n = 204; LLCI: lower level of the 95% confidence interval; ULCI: upper level of 95% confidence interval; SE: standard error. *p < .05; **p < .01, ***p<.001*

5. Discussion

It has been noted that the recent studies have explored and investigated the relationship between abusive supervision with knowledge management process *(Choi et al., 2019, Wu & Lee, 2016, Kim et al., 2015)* and the relationship between knowledge management process and

knowledge worker productivity (Shujahat et al., 2019; 2017). But, the relationship between abusive supervision and knowledge worker productivity has been unexplored till date. Therefore, our study has several theoretical contributions by investigating the possible leader-level antecedents of knowledge worker productivity through knowledge management processes.

First, previous studies, for example, Shujahat et al (2020) and Kianto et al (2019) demonstrated that how organizational KM implementation and personal knowledge management implementation can enhance their productivity. But, the mentioned studies ignored the possible supervisor-level predictor of knowledge worker productivity that could has potential to mitigate employees' knowledge worker productivity. Therefore, our study, from the perspectives of Drucker's theory of knowledge worker productivity, advanced the understandings that the unethical leadership hampers the productivity of knowledge workers, as unethical leadership is such a bitter reality and prevails not only in the developing and underdeveloped but also in the developed economies and firms. The present study found that there is significant negative relationship between the abusive supervision and knowledge worker productivity in the private banking sector of Pakistan. Knowledge worker productivity depends upon different factors related to task and the nature of the task, the study finds out when the supervisor is abusive or ridicule the knowledge workers, ultimately the productivity of their work is hampered in the banking sector, where in-time performance through effective knowledge utilization and sharing is high in demand. The descriptive and statistical analysis of the data collected from the survey questionnaires also conforms with the fact that the abusive supervision has been marking negative impact on the knowledge worker productivity.

Second, we introduced an underlying mediating mechanism (i.e., knowledge management process) in order to get the complete understanding of the relationship between abusive supervision and knowledge worker productivity. Therefore, our study proposed the parallel mediation KM processes (knowledge creation, knowledge application and knowledge sharing) to understand the influence of abusive supervision on knowledge worker productivity. By doing so, we found that abusive supervision is negatively associated with the knowledge creation, knowledge application and knowledge sharinug. These findings are consistent with the previous studies (e.g., see *Yun et al. 2018, Liu et al., 2016*). In line with this, our study also found that knowledge application and knowledge sharing are significantly related with knowledge worker productivity of the employees

working in banking sector. These results confirm the previous findings, portraying the positive association of knowledge sharing and knowledge application with the knowledge worker productivity *(Shujahat et. al, 2019, Shujahat et. al, 2017, Iranzadeh and Pakdelbonab's 2014)*. We did not find the relationship between knowledge creation and knowledge worker productivity. The definition of knowledge work entails the aspect of knowledge creation *(Bosch-Sijtsema et al., 2009)* and previous research has shown a significant relationship between knowledge creation and knowledge worker productivity *(Shujahat et al., 2019)*. In this study, the result is justified because in the banking sector, knowledge creation activities are not done by all the knowledge workers, rather these activities are at the hands of only key posts of the head office such as executives or heads of different key sections. Furthermore, these banking services organizations are working under the direct supervision of central bank in the country. In case of Pakistan, State Bank of Pakistan is the central bank and also the financial services regulatory authority. All the banking organizations have to abide by the rules and standard operating procedures to operate as commercial bank in the country. The detailed analysis of the data collected from the participants also portrays this aspect that the respondents at the top management level are more oriented towards the knowledge creation as compared to the respondents at the mid-management or career level. We strongly recommend future researchers to consider this aspect of knowledge creation because it may work well if this process is further detailed to frontline managers, so that higher number of knowledge workers may contribute towards knowledge creation. This is also because that services sector organizations more specifically banks are becoming more and more dynamic e.g. branchless banking, online banking, introduction of AI, big data, machine learning, and other useful technologies. These disruptive technologies play a crucial role in enhancing the KM activities in banks.

We found that abusive supervision is negatively associated with knowledge worker productivity through the mediating relationship of knowledge application and knowledge sharing, but knowledge creation was not mediating the above said relationship. The results may be due to the fact that in Pakistan, there is a lack of activities related to knowledge creation in the banking sector at the branch level, because the management mostly follows the standard operating procedures set by top hierarchy in the head offices and are also bound to strictly follow the prudential regulations set by the regulatory authority (the central bank in the country) i.e. State Bank of Pakistan. Moreover, it is also evident that the knowledge workers at the upper

management level are not facing abusive supervision and resultantly their productivity is greater. In the same way, the data also shows that the career level knowledge workers are facing more abusive supervision which ultimately affects their productivity.

Thirdly, the study explains the fact that when the knowledge workers carry out the activities when the information related the given task is easily available and when the knowledge workers are encouraged by the management or the supervision to actively seek for new information and knowledge about the task, then, ultimately their productivity increases. This leads to more job engagement as knowledge workers get involved in their jobs with positive attitude (Trabucchi et al., 2020). Thus, inclusive leadership (Backlander, 2019) helps enhance the productivity of knowledge workers. Moreover, the statistical analysis shows that when the knowledge workers exert pressure on collecting information from a number of sources inside and outside the organization, their productivity increases. In the same way, when the organization keenly develops through the diverse ideas of the knowledge workers, it gives a push to the knowledge worker productivity. The study also proves, whenever the employees are given the opportunity to get themselves involved in the creative uplift of the organization through their ideas and feedback, it enhances the productivity. Also, knowledge application has positive impact on the knowledge worker productivity, for instance whenever the knowledge workers in the banks use their knowledge in the tasks and to solve different types of issues and problems, or in order to improve efficiency of the given task, or to upgrade their specializations in the work, the knowledge worker productivity increases. The research proves the fact that knowledge sharing has a positive impact on knowledge worker productivity, because when the knowledge workers efficiently communicate with other knowledge workers their productivity increases.

6.1 Practical Implications of the Study

The findings clearly demonstrate the impact of abusive supervision on the productivity of knowledge worker of the emerging knowledge economy in the banking sector. Our study would help the practitioners to understand how abusive supervision can pose adverse impact on an individual's knowledge management process and ultimately how the abusive supervisors can hamper the productivity of knowledge worker. Therefore, we offer several implications for managers and practitioners. First, it is essential for managers, decision makers, and practitioners to understand what instigates supervisors to behave in an abusive manner. Abusive supervision

may be triggered by many factors such as subordinate deviant behavior (e.g., see Ahmad et al., 2019). Therefore, managers and decision makers must carefully observe the antecedents of abusive supervision and counter those elements through various on-the-job training programs to mitigate it at the workplace.

Second, there is no moral or ethical justification for abuse. Hence, decision makers must introduce clear and strict workplace policies about mistreatment at the workplace. The clear must be conveyed to all the managers and supervisors that abusive behavior will not be tolerated at all. In line with this, organizations should arrange trainings to provide supervisors with a holistic understanding of supervisor-to-subordinate directed mistreatment. By doing so, organizations may be able to train their supervisors to recognize and manage their own abuse at the workplace, e.g., through mindfulness mediation practices (Latif, Tariq, Khan, Weng, Butt, Obaid, & Sarwar, 2020; Waqas, Hongbo, Tariq, & Yahya, 2020; Shillamkwese, Tariq, Obaid, Weng, & Garavan, 2020).

Third, to mitigate the influence of abusive supervision on the productivity of knowledge worker, organizations should articulate a shared vision, emphasize a collective identity, and provide a common purpose and goals (e.g., knowledge worker productivity), which can create attachment with each other (supervisors and their immediate workers) that ultimately strong the leader-member relationship. Thus, by doing so, managers and practitioners could be able to reduce the possibility of abusive supervision and motivate supervisors to provide support their subordinates towards knowledge worker productivity.

6.2 Limitations and Future Rresearch

Although, the present study fulfills the existing gap, but it has certain limitations as well and future studies may be carried out to overcome these limitations. First, the nature of the data is cross-sectional which limits to make inferences about the causality among the abusive supervision, knowledge management process, and knowledge worker productivity as presented in our hypothesized research model. Therefore, to address this limitation, we call for future studies to consider utilizing other research designs (e.g., multi-wave study i.e., temporal or longitudinal designs) which could provide support for the predictive validity of the current study (Weng et al., 2020). The sample size of this study is also a limitation, although enough for the analysis, but a larger sample size will contribute in confirming the findings of the study and also enhance

generalizability. In line with this, the other research designs (e.g., multi-source study and experience sampling study) could provide robustness to our findings by assessing the changes in behavior over the time and to cater different perspectives of subordinates and supervisors (Hongbo, Waqas, & Tariq, 2019; Tariq, & Weng, 2018).

Second, in the present study, we have collected data from the banking sector (i.e., service sector) which leads towards another limitation, i.e., the limited generalizability. Future research, however, could increase the generalizability of our findings by conducting it in different sectors (e.g., manufacturing sector, technological or textile sector), and even in different contexts (e.g., western economy) to understand how the abusive supervision hampers the knowledge worker productivity in the developed world.

Third, the future study can be done while linking abusive supervision to other knowledge management aspects, for example, knowledge retention. As the knowledge economy demands the explicit and tacit knowledge to be retained within the organization in order to increase the productivity. Finally, abusive supervision can also be linked with the factor of knowledge loss, which can be one of the results of this type of leadership. So, the future study can be done by analyzing the impact of abusive supervision on knowledge risk management.

6. Conclusion

The current study clearly demonstrates the impact of a destructive type of supervision, i.e., abusive supervision on one of the most important aspect of knowledge economy, i.e., knowledge worker productivity, through the knowledge management processes. The main participants of this survey were the knowledge workers from banking sector, who are equipped with formal education and are involved in creative and innovative tasks in the organizations. Although, there are many studies related to abusive supervision and knowledge management, but little research work has been conducted upon the relationship between abusive supervision and knowledge worker productivity *(Kim et al., 2019; Khalid et al., 2018, Lee et al., 2016; Kim et al., 2015)* and this research work makes an attempt to fill this identified gap.

As per this study, the Drucker's theory (1999) proclaims that the knowledge worker is an asset, while unethical style of leadership considers it as a cost. The ethical style of leadership mainly supports the assumptions of Drucker's theory, while the impact of abusive supervision is

quite contradictory with the basic assumptions of Drucker's theory (Alshammari et al., 2015). In short, it can be said that both transactional and transformational theories of leadership are in line with Drucker's stance, as, the knowledge worker is an asset. Unethical leadership basically effects the motivation of employees which in turn effects their ability to engage in knowledge creation, sharing and utilization eventually leading to reduced knowledge worker productivity. Also, it can be concluded that knowledge sharing and knowledge utilization happens more at middle and lower levels in financial organizations as compared to knowledge creation. Knowledge creation might be happening more at the top management levels in governing institutions involved in policy making specifically in case of banks as the study revealed that there is a lack of knowledge creation activities at the branch level. The study further leads to the conclusion that KM processes are interrelated and effect of abusive supervision on one of the processes (for example; knowledge sharing) can impact the other two processes i.e. knowledge utilization and knowledge creation as well however, this needs to be further tested empirically.

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