The Role of Principals' Leadership Behaviors in Stimulating Teachers' Innovative Work Behavior: A Correlational Study

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ARTICLE INFO	ABSTRACT
	This study followed a correlational cross-sectional approach that investigates the relationship between teachers' perceptions of principals' leadership behaviors and teachers' own innovative work behavior (IWB). The Person-environment fit model guided the study. The results indicated positive and moderate correlations between the dimensions of principals' leadership behaviors and teachers' innovative work behaviour except for monitoring which is negatively correlated with teachers' IWB. A coefficient analysis indicated that providing resources, support for innovation, and recognition are possible predictors for the teachers' innovative work behaviors. **Keywords:** principals, leadership behaviors, teachers, innovative work behavior, public schools, United Arab Emirates

1. Introduction

In this rapidly evolving period, rapid technological advancements, alterations in basic regulations and policies, and worldwide competition have caused challenges for all establishments, including schools, in keeping up with shifts in job demands. According to Fullan (2001), a culture of change involves both fast and nonlinear progress, as well as significant potential for innovative breakthroughs (P.5). Knowledge is now the primary driver of progress in the workplace, leading to a decrease in specific instructions given by leaders. Therefore, in order to guarantee optimal performance, schools must prioritize innovation and provide teachers with training in innovative teaching methods. Innovative teaching methods, such as creating new approaches to teaching to excite students, can support learners in achieving their maximum capabilities (Baharuddin et al., 2019; Bakhru, 2018; Lambriex-Schmitz et al., 2020). Numerous studies globally have looked into this issue (Bocconi, Kampylis, & Punie, 2012; Halasz, 2021; Law, Yuen, & Fox, 2011; OECD, 2013, 2017; Paniagua & Istance, 2008; Turrado-Sevilla & Canton-Mayo, 2022; Vincent-Lancrin, Urgel, Kar, & Jacotinet, 2019).

Recent research indicates that teachers are lacking innovation to stay competitive in a rapidly changing educational landscape (Ibrahim et al., 2021). The World Economic Forum in 2016 emphasized the need for proficient and experienced educators to adapt efficiently to the swift transformations in labor markets. Hence, teachers must continuously enhance their skills and knowledge as part of their profession (Organisation for Economic Cooperation and Development [OECD], 2018). When society establishes new needs, innovation in education is seen as essential (Arkhipova & Kuchmaeva, 2018). Teachers and educational establishments must embrace innovative practices to fulfill these new demands (De Bruijn et al., 2017; Mousa, 2018; Thurlings, Evers,&Vermeulen,2015).

Although the education system has undergone changes, some research suggests that teachers are not adapting to these changes and are lacking creativity (Guerriero, 2017; Izzati, 2018). The World Economic Forum (2016) emphasizes the significance of acquiring new skills to remain competitive in emerging labor markets, yet educational systems are not adapting quickly enough to facilitate this development. The achievements of a school rely on the teachers' endeavors to generate fresh ideas. On the other hand, there are occasions when a united push is necessary to motivate public school teachers to introduce innovation in their classrooms (Usman & Mat, 2017). There is an increasing amount of research on creative work behavior across various industries. Nevertheless, limited research has been done on public educational institutions (Lambriex-Schmitz et al.,

2020). Additionally, limited research has examined the variables that impact teachers' actions (Mousa, 2018; Thurlings, Evers, & Vermeulen, 2015).

Individual innovators play a crucial role in the success of organizations by demonstrating innovation capabilities and a willingness to innovate, leading to better performance and productivity (Baharuddin, Masrek, & Shuhidan, 2019; De Bruijn et al., 2017; Janssen, 2003). Numerous studies have stated that creative employees play a crucial role in promoting innovation for the achievement of organizational success (Afsar, Badir, & Saeed, 2014; Lambriex-Schmitz et al., 2020; Shahab & Imran, 2018). Additionally, Janssen (2000) stated that individual actions play a crucial role in organizational innovation as they involve idea generation, response to others' ideas, and development of ideas to improve work settings. Yuan and Woodman (2010) described innovative work behavior (IWB) as the creation and application of new ideas, whether they are developed by individuals or borrowed from others, in the workplace.

Hence, organizations are keen on examining every organizational aspect that could improve their employees' IWB (Agarwal, 2014; Shahab & Imran, 2018). This is especially accurate in the educational field of the United Arab Emirates (UAE), which has experienced consistent transformations over the past few decades. For example, teachers have observed numerous changes in educational policies since 2005 in response to UAE Vision 2021, which aims to prepare students for international competition. In September 2017, the Ministry of Education (MoE) and Abu Dhabi Department of Education and Knowledge (ADEK) introduced a new unified educational system, aiming to standardize teaching and learning by emphasizing innovation to equip students with the necessary skills and abilities for the workforce as productive members of society (WAM, 2017). Abu Dhabi Economic Vision 2030 is focused on establishing a knowledge-based economy through innovation, technology, and research. Therefore, the UAE has the potential to reduce its reliance on the oil and gas sector from 60% to 40% (Low, 2012).

The quality of education offered will not exceed the quality of the teachers, according to Warner and Burton (2017, p. 21) Teachers' performance, teaching efficacy, and innovative teaching have been linked by research (Warner & Burton, 2017) Teachers' innovative behaviors influence not only their teaching practices and professional habits, but also students' creation of novel and original ideas, according to Turrado-Sevilla and Canton-Mayo (2022) The root of all innovations is usually a new idea that flourishes. Key players in the innovation field are ideas that are held and processed in individuals' minds. Teachers can be motivated to exploit these ideas for innovative outcomes by investigating their predictive factors. These include principals' leadership behaviors.

This study focuses on principals based on previous research, which has revealed that leadership is an essential influential factor in employee performance and work behavior (Anderson et al., 2004; De Bruijn et al., 2017; Soderstrom & Bjork, 2015; Khethail, 2019) The process of persuading others to attain an objective is called leadership. The majority of authors agree that leadership consists of three main concepts: an influence, a group, and a goal. Employees can be motivated to change and adapt their attitudes to implement new programs and methods that may help them achieve organizational goals by a leader.

Principals who are familiar with the most effective strategies and methods to lead their schools while ensuring the fulfillment of new global demands are required. They should be aware of new innovations and developments and find ways to convince teachers to implement them in classes. This will make learning a more enjoyable experience. Innovative teaching will produce creative students who can think outside the box, according to Turrado-Sevilla and Canton-Mayo (2022; Vincent-Lancrin, Urgel, Kar, and Jacotinet, 2019) Educational leaders would benefit from identifying leadership behaviors that foster teacher innovation, whether directly or indirectly. To address this need, this study examines the influence of eight innovation-stimulating leadership behaviors indicated by De Jong and Den Hartog (2007): innovative role modeling, consulting, delegating, supporting innovation, providing a vision, recognition, supplying resources, and monitoring on teachers. Idea exploration, idea generation, idea championing and idea implementation are the four stages of IWB.

1.1 Research Purpose
This study examines the relationship between principals' leadership behaviors and teachers' IWB and how principals can ameliorate their teachers' innovation in the schools of the UAE, an Arab Gulf country that has seen rapid growth in innovation in recent years. The predictor variables are the eight innovation-stimulating leadership behaviors: innovative role modeling, consulting, delegating, supporting innovation, providing a vision, recognition, providing resources, and monitoring (De Jong & Den Hartog, 2007), whereas the criterion variable is teachers' IWB.

1.2 Person-environment fit model

The person-environment fit model is used to focus on workers' perceptions about their work performance and the link between their performance and the current settings and conditions (Deschenes, 2021). It emphases on comprehending the connections between the worker and the environment that influences her/his present circumstance, yet the environment also influences the worker (Holmbeck, Zukerman, & Zurenda, 2007; Pasca, 2014) The concept 'fit' refers to the harmonious interaction between person and the environment, fostering cooperative endeavors (Pasca, 2014) Studies have found that what employees interpret their 'wellness' towards their workplace means for their display (Deschênes, 2021) Therefore, principals should alter the workplace to meet teachers' demands (Tak, 2011).

Studies of the person-environment fit model have shown that the working environment has three dimensions.
1.Person-organization fit, which reflects similarity among employees and the organizational structure coming about because of the employee's interpretations about institutional support, like managerial approaches and agenda (Edwards, 2008).
2.Person-group fit reflects the match between employees and their workgroup happens because of the employees' positive viewpoints about working in a group (Van Vianen et al., 2011).
3.Person-job fit contemplates an employee's contentment on her/his job because of the equivalence between her/his skills and the requirements of the job (Lavelle et al., 2007).

The three elements of the workspace are dependent on each other and interact within the complex organization systems (Pasca, 2014) A person-organization fit aids employees in aligning their character with organizational values, objectives, and culture, advancing constant job fulfillment (person-job)and a feeling of fitting in groups (person-group) (Edwards, 2008). An appropriate person-group fit encourages employees to perform well (person-job) and supports them to think about their faithfulness to the organization (person-organization). The person-job fit helps employees in understanding how their skills match the hierarchical requirements and enhance their commitment to the organization and group.

1.3 Research Questions

The purpose of the study can be summarized in the following research questions. The main question is: What is the relationship between principals' leadership behaviors and teachers' IWB? This question was addressed in detail through the following sub-questions:
1.   How do teachers rate their principals' leadership behaviors and their own IWB?
2.   Is there a relationship between teachers' perceptions of principals' leadership behaviors and their own IWB?
3.   What are the most significant principal leadership behaviors that affect teachers' IWB?

2. Literature Review

The purpose of this literature review is to contextualize and situate this study within existing knowledge. It examines literature focusing on objective and subjective explorations of innovation and employees' IWB, including its dimensions, determinants, and how it is influenced by three leadership styles: transformational, participative, and leader–member exchange theory.

2.1 Innovative Work Behavior

Research on innovations traces its roots to the economic sciences, where Schumpeter (1942) believed that innovation is "the process of ingenious destruction." Then, it led to the development of macro methodologies that used whole organizations as the core of analysis. These approaches acknowledge the importance of innovation and target the link between organizational achievement and economic increase. These approaches target the link between organizational achievement and economic increase. Innovation management and dispersal are some of the factors considered. In contrast, micro approaches focused on individuals, as they play a crucial part in the creation of new products (Anderson et al., 2004) Innovations are significant not only for organizational success but also for improving the efficiency of employees by developing new processes and products (West, 2002)
Furthermore, the term 'innovation' refers to the application of novel or previously existing procedures and products in situations that result in substantial adversities in employment. For example, if a new idea is introduced to the market, it could be used to redefine the goals and assumptions of the organization. Novel products and processes can be included in innovations, as well as existing ideas that are appropriate and new for the adopter and contain a redefinition of basic assumptions and goals.
Invention is often used to refer to a process or outcome that can be achieved through a product or process (Rogers, 2003) An innovation that utilizes tangible assets or intellectual property can be viewed as a result, whereas practices, services, and procedures can be viewed as processes.
Innovation is based on concepts and ideas of individuals or organizations, according to all descriptors. Ideas that are considered innovative must be fresh and relevant to the context of the innovation, as well as to the organizational and social contexts impacted by it. Furthermore, an innovation should be considered beneficial for the social context in which it is being developed (King, 1992). Furthermore, an innovation should be

considered beneficial for the social context in which it is being developed. It should allow practitioners to accomplish a task or solve a problem, and they should be able to use available resources efficiently.

The idea of innovation refers to a variety of processes and behaviors that are essential to a successful work environment. New ideas, strategies, and tasks are some of the things that are developed. The reaction of employees to a high workload could motivate them to develop innovative work habits, according to Ramamoorthy et al. To deal with heavy workloads, employees attempt to invent and implement fresh concepts to boost their efficiency and enhance their work performance (Akram et al., 2015) They are encouraged to promote and develop new strategies to keep their organizations competitive. Therefore, organizational researchers focus on examining the factors influencing employees innovative work behaviors (Abdullatif et al., 2016)

There are several definitions of innovation in education. Most commonly, it refers to the combination of three components: idea generation, idea promotion, and realization of an idea in teaching and learning (Bawuro, Shamsuddin, Wahab, & Chidosie, 2019) Innovation is the process of applying new ideas or procedures to existing products or procedures, according to several studies (De Jong & Den Hartog, 2007; Janssen, 2000; Shahab & Imran, 2018)

The process of generating new ideas, which usually involves problem solving and brainstorming, was conceptualized as the concept of innovative work behavior. The promotion and implementation of these ideas is also involved. The following section discusses the four dimensions of IWB to gain a full understanding of it.

2.1.1 Dimensions of Innovative Work Behavior

This study follows De Jong and Den Hartog's (2010) four stages of IWB: idea exploration, idea generation, idea championing, and idea implementation. Innovation is often the result of an opportunity to improve conditions or the need for an immediate response to a problem.

2.1.1.1 Idea Exploration

Innovation usually begins with the discovery of performance gaps, that is, gaps between the real and potential executions of tasks or actions. The realization of something new begins when an individual recognizes a previously untapped opportunity (Basadur, 2004; De Jong & Den Hartog, 2010) A new opportunity, issue, or dilemma that must be resolved is often the beginning of an innovative procedure.

An effort to improve things or a risky circumstance that requires a swift response could be the catalyst for recognizing an opportunity. While some opportunities for innovation may seem simple to recognize, they can be ignored for long periods (Petroski, 1992) Opportunities can be found in a variety of sources, including family members and friends, as well as work contacts. Opportunity exploration involves activities such as searching for approaches to enhance existing products, services, or methods, or attempting to perceive current work practices, services, or products in different ways (Basadur, 2004)

2.1.1.2 Idea Generation

The exploitation of opportunities is facilitated by a creative idea, which is supplied by individuals (De Jong & Den Hartog, 2010; Mumford, 2000) Awareness of a need is one element; ability to construct new ways to address the need is a second. Idea generation involves imagining processes and actions aimed at enhancing the current situation.

Combining information and arranging it are the main ways in which concepts emerge (Lambriex-Schmitz, 2020); they enable issues to be identified and fresh strategies for execution to be proposed. It is one of the best indicators of imaginative accomplishment to combine and reorganize concepts. Idea generation often consists of the reorganization of information chunks and other assets to establish a different and more suitable possibility.

2.1.1.3 Idea Championing

Selling ideas is the next step after generating ideas. Even if new ideas appear to have some validity in filling a performance gap or solving a problem, it is difficult to convince others to apply them. Innovative concepts typically encounter resistance due to a variety of factors. New ideas require new processes and methods of doing work. It is possible that employees who're not used to this sort of thing will be resistant to it.

Some teachers who are old and habituated to conventional approaches are difficult to convince of the value of new systems in the educational context. These teachers must be convinced of the effectiveness of the new approach and the dysfunctionality of the previous approach. Second, some teachers may not be adequately trained to utilize and implement new approaches. Third, some teachers may not be adequately trained to utilize and implement new approaches. As a result, they require more hands-on learning opportunities, including enlightening, encompassing talks and seminars, to prepare them both in terms of theory and practice. In some studies, idea championing is also called idea promoting.

2.1.1.4 Idea Implementation

It takes hard work from individuals to convert plans and proposals into real applications to turn ideas into concrete outcomes. Specific behaviors are required from initiators to create new methods or products before verifying them and applying any required modifications. Strong self-control skills are needed to perform tasks

and control the relevant processes involved when implementing ideas. Their formal job roles or responsibilities might not include such procedures. Furthermore, implementers should remain determined and continue with their efforts by overcoming obstacles until the final application is completed (Parker et al., 2006) Idea realization is also called idea implementation in other studies (e.g., Messmann & Mulder, 2011, 2012, 2015; Widmann, Messmann, & Mulder, 2016) The following section discusses the determinants of innovative work behaviors among employees.

2.1.2 Determinants of Innovative Work Behavior Among Individuals

Relatively some studies have analyzed the antecedents of individual innovation from a comprehensive perspective; most earlier studies focus on employee creativity rather than on the implementation of creative ideas (De Jong, 2007). However, recent studies have considered both the stages of idea generation and idea implementation. From the studies that have focused on the generation and implementation stages, Table 1 presents some factors identified as exerting an influence on innovative behavior. These are grouped into three categories: individual characteristics, organizational factors, and relational factors. This overview is not comprehensive but highlights the general area of studies on this topic.

Table 1: Determinants of Innovative Work Behavior

Category	Factors
Individual	Expected performance outcomes (Yuan & Woodman, 2010)
	Self-efficacy (Fairuz et al., 2013; Hsio et al., 2011)
	Learning goal orientation (Bouwhuis, 2007)
	Proactive goal planning (Montani et al., 2014)
	Employee trust (Lee, 2014)
	Education level (Janssen, 2000)
	Well-being (Ibrahim et al., 2021)
	Intrapreneurship personality (Amo & Kolvereid, 2005)
	Problem-solving style (Scott & Bruce, 1998)
	Employee trust (Lee, 2014)
Organizational	Work engagement (Runhaar et al., 2016)
	Job commitment (Bawuro et al., 2018; Lucka et al., 2012; Serdyukov, 2017)
	Job demands (Janssen, 2000)
	Role orientation (Axtell et al., 2000; Dorenbosch et al., 2005)
	Workplace happiness (Bawuro et al., 2018)
	Influence in workplace (Janssen, 2005)
	Work engagement (Hosseini et al., 2021)
	Job control (Binnewies & Gromer, 2012)
	Structural empowerment (Knol & Linge, 2009)
	Psychological empowerment (Pieterse et al., 2010)
	Task variety and management support (Lambriex-Schmitz et al. 2020)
	Job satisfaction (Gorozidis & Papaioannou, 2014; Serdyukov, 2017; Thibaut et al., 2018)
	Job tenure (Dorenbosch et al., 2005)
	Job autonomy (Awang-Hashim et al., 2017; Spiegelaere et al., 2014)
	Organizational justice (Akram et al., 2017)
	Organizational support (Yuan & Woodman, 2010)
	Support for innovation (Scott & Bruce, 1994)
	Innovation strategy (De Jong, 2005)
	Organizational climate (Chan, 2016; Kundu & Roy, 2016)
Relational	Transformational leadership (Bawuro et al., 2018; Pieterse et al., 2010)
	Transactional leadership (Pieterse et al., 2010)
	Participative leadership (De Jong & Den Hartog, 2010)
	Leader-member exchange theory (June and Kheng, 2013)
	Stimulating leadership behaviors (De Jong & Den Hartog, 2007)
	External work contacts (De Jong & Den Hartog, 2010)
	Team leader support (Axtell et al., 2006)
	Team method control (Axtell et al., 2000)
	Team perspective (AlSoltane & Al allaq, 2020)

It is worth noticing that the last group of determinants comprises relational variables centered on the connections and interactions of employees with colleagues. Scholars emphasize two main influences when studying this group of determinants: leaders and teams. Some scholars have explored relationships and their influence, such as team leader support (Axtell et al., 2006) and team method control (Axtell et al., 2000). Other

researchers have investigated the influence of external work contacts (De Jong & Kemp, 2003; De Jong & Den Hartog, 2010; Lukoto & Chan, 2016) on employees' IWB.

The influence of leaders is a key aspect of relational variables. It has been found that when a leader involves employees in the decision-making process, employees will be more committed to these decisions and will try to work using new and innovative methods (Siddique & Nawaz, 2019). Furthermore, they will have a higher level of autonomy, ownership, and empowerment in performing their duties, which will give them a wider space to create and innovate (Axtell et al., 2000). To gain a full understanding of leadership's role in IWB, the next section discusses the term leadership as well as the preceding studies that have explored the effects of each leadership style on employee's IWB.

2.2 Leadership

The results of leadership on employees' innovative behavior have been the focus of numerous studies in the relational realm, as it's a major concern for leaders to comprehend how they can encourage their staff's ingenuity. The two main functions of leadership are providing direction and exercising influence, according to some definitions of leadership. Leadership is a behavior that includes working with people and tasks, according to Feldhausen and Pleiss (1994) Leaders must be able to communicate well, solve problems, think critically, plan effectively, and set goals for group members, according to the perspective. Boccia and Ackerman (1997) suggested that personal experiences and self-evaluations are the major influences on leadership behaviors.

Many researchers have found that transformational leaders exert a positive influence on teachers creativity, creating a vision, and implementing change (Piccolo & Colquitt, 2006; Wang, Law, Hackett, Wang, & Chen, 2005; Sosik et al. Principals can encourage teachers creativity when they practice transformational leadership behaviors, according to three studies. Other studies have found that the quality of relationships between leaders and followers correlates with support for innovation (Graen & Scandura, 1987; Scott & Bruce, 1994) High-quality relationships include recognition, providing resources, empowering, and encouraging employees to take risks. The Multimedia Super Corridor in Malaysia was significantly and positively related to employees' IWB, according to June and Kheng (2013) Basu and Green (1997), Janssen and Van Yperen (2004), and Yukl (2006) also found that high-quality relationships have a positive influence on employees IWB. Furthermore, participative leaders involve their workers in the decision-making process, giving them the freedom to make crucial choices and direct their own tasks. Yukl (2002, 2006) suggests that sharing practices may take multiple forms, such as shared decision making, delegation, and consultation. Participative leadership and individual innovation have been found to have a positive correlation. For example, Axtell et al. (2000) demonstrated that participation with leaders is positively and significantly related to employee's innovation. Krause (2004) found in a study of 399 middle managers from German companies that autonomy is positively related to individual innovative behavior due to greater control over how tasks are conducted. The authors of Frischer (1993) and Judge et al. (1997) concur that empowering workers fosters an innovative atmosphere in their organizations.

2.2.1 Principal Leadership Behaviors

The 13 leadership behaviors in De Jong and Den Hartog's (2007) study are innovative role modeling, intellectual stimulation, stimulating knowledge diffusion, providing resources, consulting, delegating, supporting innovation, organizing feedback, recognition, rewards, monitoring, and task assignment. However, only eight behaviors were chosen to be tested in this study, as those eight behaviors were found to have crucial influences on employees' idea generation and implementation (both stages of innovation) in business firms. Therefore, the researchers aimed to investigate their effects on teachers' innovative work behavior in educational settings.

Below are eight innovation-stimulating leadership behaviors. First, *innovative role modeling* describes how a leader exhibits innovative behavior, such as exploring opportunities, generating ideas, championing, and putting effort into implementation. Second, *consulting* revolves around checking with others before issuing changes that might influence them, including gathering their thoughts and recommendations. Third, *delegating* means assigning tasks to employees and offering them the autonomy to decide how to perform a duty. Fourth, *support for innovation* means dealing positively with innovative employees, being sociable and reachable, being a good listener, and considering the individual's needs if issues occur. Fifth, *providing a vision* pertains to conveying an image of the desired forms of innovation and giving instructions for upcoming endeavors and efforts. Sixth, *recognition* refers to acknowledging innovative activities. Seventh, *providing resources* means offering time and budgeting to apply ideas. Eighth, *monitoring* entails examining the success and proficiency of innovation, scrutinizing workers' performance, and providing feedback for development.

2.3 Conclusion

Based on the above literature review, it can be argued that innovation is a key factor for success that helps organizations to be competitive. In addition, employees are the main resource of these innovative ideas. To be innovative, employees must be both able and willing to innovate. The determinants of employees' IWB can be classified into three types of factors: individual, organizational, and relational. Research has found that leadership is the most influential factor under the relational category. Many studies have been conducted in the organizational field, and only some studies have been conducted in the educational field to investigate the relationship between leadership styles and employees' IWB. This study contributes to the existing literature by

examining which principal leadership behaviors can stimulate teachers' IWB. The following chapter describes the research methods, including procedures, participants, measures, and data analysis. The conceptual framework for this study is presented in Figure 1.
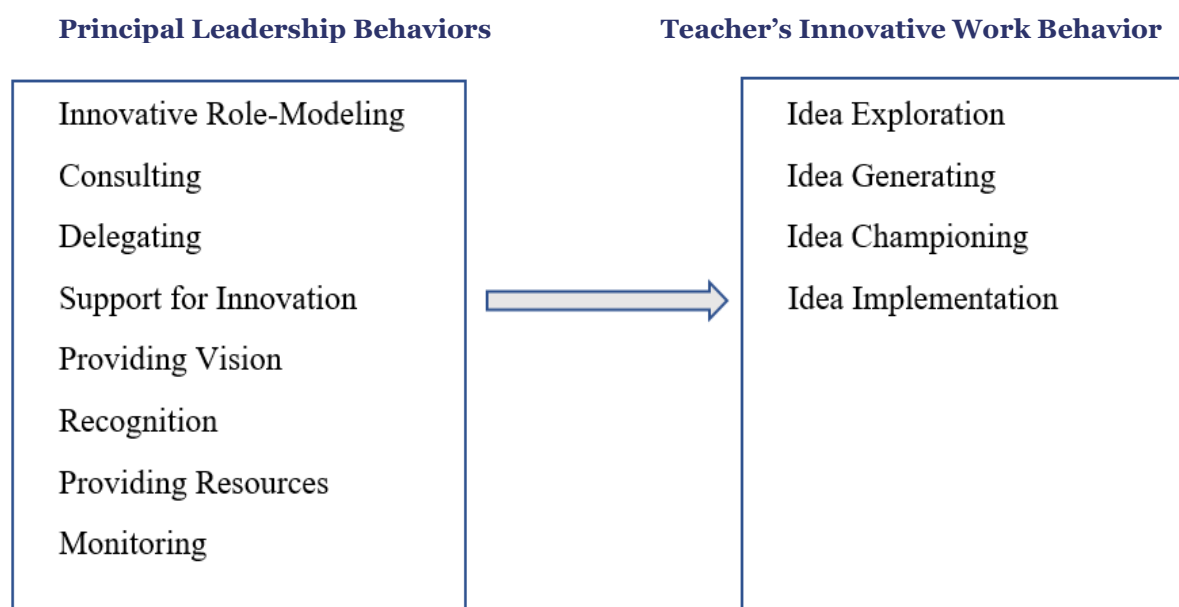
Principal Leadership Behaviors   **Teacher's Innovative Work Behavior**

Innovative Role-Modeling		Idea Exploration
Consulting		Idea Generating
Delegating		Idea Championing
Support for Innovation	→	Idea Implementation
Providing Vision		
Recognition		
Providing Resources		
Monitoring		

Figure 1: Conceptual framework

3. Methodology

Given that there were no instruments available to measure principals' leadership behaviors and teachers' innovative work behavior in the Emirati context, our first imperative was to develop and validate two reliable instruments. The development of the PLBQ involved identifying key principal leadership behaviors based on previous theoretical research findings. Similarly, the design of the IWBS included identifying key innovative processes based on previous research findings.

The purpose of this study was to investigate the relationship between principals' leadership behaviors and teachers' IWB in schools in the UAE, an Arab Gulf country that has undergone rapid growth in innovation in recent years. The predictor variables are the eight above-mentioned innovation-stimulating leadership behaviors: innovative role modeling, consulting, delegating, supporting innovation, providing vision, recognition, supplying resources, and monitoring (De Jong & Den Hartog, 2007). The criterion variable is teachers' IWB.

The main question was: What is the relationship between principals' leadership behaviors and teachers' IWB? This was addressed through the following sub-questions: How do teachers rate their principals' leadership behaviors and their own IWB? Is there a relationship between teachers' perceptions of principals' leadership behaviors and their own IWB? What are the most significant principal leadership behaviors that affect teachers' IWB?

3.1 Study Design
This was a correlational cross-sectional study which investigated the relationship between teacher-perceived their principals' leadership behaviors and their own innovative work behavior.

3.2 Data Collection: Procedures and Participants
After obtaining the ethical approval from the Review Board at UAE University, the researchers applied for approval from the MoE for online distribution to teachers in all emirates. To ensure some degree of generalizability, teachers who taught disparate subjects were randomly selected from public schools. A representative sample of 1,047 participants received the questionnaire and were asked to sign a consent form. All participants were provided with self-report questionnaires regarding their perceptions of principals' leadership behaviors and their own IWB. These questionnaires were designed by the researchers and built based on the literature review to determine the leadership behaviors that influence employees' innovation. Teachers were surveyed using the PLBQ to assess their perceptions of their principals' leadership behaviors. The Innovative Work Behavior Scale (IWBS) was used to collect data about the teachers' IWB. The data were analyzed to demonstrate the validity and reliability of both instruments.

3.3 Measures and Instruments

Principal leadership behaviors. These were assessed by items based on eight innovation-stimulating leadership behaviors constructs developed by De Jong and Den Hartog (2007). The scale was translated back–back from English to Arabic and then back from Arabic to English. The Arabic version was reviewed by a bilingual expert at United Arab Emirates University before distribution.

Innovative work behavior. This was assessed by items inspired by scales developed by three papers, including Janssen (2000), Scott and Bruce (1994), and De Jong and Den Hartog (2010), in which they explored individual innovative behavior in the workplace. The scale was translated back–back from English to Arabic and then back from Arabic to English. The Arabic version was reviewed by a bilingual expert at United Arab Emirates University before distribution. Drawing on De Jong and Den Hartog's (2010) work on the four stages of innovation, the scale includes items that refer to idea exploration, idea generation, idea championing, and idea implementation.

Covariates. To control for the possibility that sociodemographic differences in the predictor and outcome variables might lead to bogus relationships, gender (1 = male, 2 = female), regions (Abu Dhabi, Dubai, Sharjah, Um Qaiween, RAK, Fujairah), age (years), education level (1 = high school diploma, 2 = bachelor's degree, 3 = master's degree, 4 = PhD, 5 = other), and school tenure (years) were entered as covariates.

3.4 Data Analysis

Data were analyzed using the Statistical Package for the Social Sciences (SPSS 25) program to calculate the descriptive statistics. Pearson correlation coefficients were used to examine the relationships between leadership behaviors and teachers' IWB. Furthermore, a regression analysis was conducted to identify the factors of principal leadership behaviors that may predict teachers' IWB. Reliability and validity are discussed in the following sections.

3.4.1 Validity

To ensure that the PLBQ and IWBS surveys measured what they were intended to measure, content validation was conducted for both surveys. According to Haynes et al. (1995), *content validity* is described as "the degree to which the elements of an assessment instrument are relevant to a representative of a targeted construct for a particular assessment purpose" (p. 238). The most common and accepted approach to determining content validity is expert judgment (Pamuk et al., 2013; Rossiter, 2008).

The first round of review of the instruments took place when both questionnaires were sent to six professors in the College of Education to review, and all feedback was considered and applied accordingly. The second round of review for the instruments took place when both questionnaires were sent to the UAEU Committee for Research Ethics in Social Sciences and approved by the committee in July 2020. Finally, the final versions of the instruments were sent to the Ministry of Education to ask for approval to distribute the study questionnaires to all UAE teachers.

3.4.2 Reliability

A *pilot study* is a pre-test or trial run of a larger, more comprehensive study that enables the researcher to detect and minimize potential operational difficulties (Saunders et al., 2018). Pilot studies have two main goals: determining the feasibility of undertaking a small-scale study and pretesting a research tool (Van Teijlingen & Hundley, 2001). Feasibility studies emphasize the operational constraints of the primary research and provide information regarding resource requirements, such as time and money (Gudmundsdottir & Brock-Utne, 2010). According to Bell et al. (2018), pilot testing helps researchers determine the effectiveness and accuracy of their suggested research techniques. Pilot studies are important for identifying the feasibility of a research project and minimizing the risks or difficulties that may arise during the main study. They may also reveal problems with face, construct, and discriminant validity that may affect the validity and reliability of the research (Bell et al., 2018).

A pilot study was conducted on a group of 83 public school teachers from all emirates who were not part of the study sample group. Cronbach's alpha was used to establish reliability. *Reliability* is the degree of consistency within the instrument where, under similar conditions, the results would be comparable (Cozby, 2001). A reliability analysis was conducted to identify the internal consistency of the scales that were used: innovative work behavior and principal leadership behavior. *Table* 2 outlines the Cronbach's alpha coefficients of the dimensions of innovative work behavior. The subdimensions of idea exploration, idea generation, idea championing, and idea implementation were greater than 0.7, demonstrating good internal consistency (Nunnally, 1978).

Table 2: Pilot Reliability Analysis of Innovative Behavior

Innovative Behavior Dimensions	Cronbach's Alpha
Idea exploring	0.885
Idea generation	0.887
Idea championing	0.913
Idea implementation	0.923

A similar analysis was performed for the principal leadership behavior dimensions and revealed that the scores for innovative role modeling, supporting innovation, delegating, providing resources, recognition, consulting, providing a vision, and monitoring had scores greater than 0.7 (see Table 3). This indicates strong internal consistency in the scale, thus demonstrating that the scale is reliable for operationalization in the main study (Nunnally, 1978).

Table 3: Pilot Reliability Analysis of Principal Leadership Behaviors

Principal leadership behavior dimensions	Cronbach's alpha
Innovative role modelling	0.949
Support for innovation	0.954
Delegating	0.939
Providing resources	0.95
Recognition	0.938
Consulting	0.92
Providing vision	0.95
Monitoring	0.964

4. Results

4.1 Completeness and Response Rate of the Main Study
For the main study, the surveys were sent to 1,500 teachers in the UAE. A total of 1,047 individuals completed the survey, with a response rate of 69.8%. The data were coded and evaluated for missing values. According to Hair et al. (2017), missing values are acceptable if they stay below the 5% criterion; however, they must be handled using techniques such as mean replacements, closest neighbor replacement, and the expectation-maximization algorithm. These approaches to missing data provide only minor changes to the findings (Hair et al., 2017). Hair et al. (2017) advised against the deletion of answers with missing values due to the high probability of injecting bias into the data. The simple count function in SPSS (Version 25) was used to count user or system missing values in the data. As there were no missing values in the completed answers, the completeness of the survey data was verified.

4.2 Preliminary Data Analysis of the Main Data
4.2.1 Presence of Outliers
According to Tabachnick and Fidell (2007), a *quantitative outlier* is a scenario in which a single indicator has a large value (a univariate outlier), or values from two or more factors are mixed in an unexpected way (a multivariate outlier), which significantly misleads the statistical analysis. The Mahalanobis distance (D2) technique was used to identify outliers. D2 is the "distance of a case from the centroid of remaining cases, where the centroid is the point formed at intersection between all means of all variables" (Tabachnick & Fidell, 2007, p. 406). D2 measures the distance between the point representing all means and the point representing the two scores of the current case. As the scores move away from the centroid, D2 increases (Tabachnick & Fidell, 2007).

4.2.2 Normality Analysis
After ensuring the absence of mistakes and incomplete data, the normality of the data must be evaluated, as many methods utilized in this study, such as structural equation modeling (SEM), require the data to follow a normal distribution (Tabachnick & Fidell, 2013). To determine whether the data are normally distributed, the skewness and kurtosis of the individual elements of the measures should be examined, with maximum values above or below zero indicating a problem with normality (Pallant, 2016; Tabachnick & Fidell, 2013). The values of univariate skewness and kurtosis should be less than 2 and 7, respectively, for SEM (Chou & Bentler, 1995; Curran et al., 1996; Muthen & Kaplan, 1985). Univariate skewness and kurtosis were tested for normality using SPSS descriptive statistics.

4.2.3 Common Method Bias
To deal with common method bias, several strategies were implemented based on Podsakoff et al. (2003, 2012). Participants were guaranteed anonymity, and the objective and intended use of the study were stated in the introduction of the questionnaire to encourage honesty. All subjects provided informed consent to participate. They were made aware that they could opt out at any moment and not answer any questions. To ensure unbiased results, questions that were easy to understand, devoid of jargon, and precise in nature were selected. Interviewees were given the option of receiving a report, summarizing the study findings to show appreciation, and encouraging honest responses. These measures were implemented according to recommendations to eradicate or significantly reduce common method bias.
The Harman single-factor test is often employed to identify common method bias. This test uses an unrotated matrix containing all survey variables loaded simultaneously and assumes the presence of conventional process

bias when a single component accounts for more than 50% of the variation (Harman, 1976). As proposed by Podsakoff et al. (2003), Harman's single-factor test was used to assess common method bias. An exploratory factor analysis was performed on all measured items. Although even simple experiments may reveal common technique bias, more complex experiments may require statistical adjustments to rule it out. According to Conway and Lance (2010), post-hoc statistical adjustments are not reliable and have severe limitations. In this study, only 35.6% of the variation could be attributed to the measured items, indicating that common method bias was not an issue.

4.2.4 Reliability Analysis

Consistency and robustness tests were conducted to evaluate the data and the questionnaire (Saunders et al., 2018). Internal consistency and composite reliability were used to assess reliability. Cronbach's alpha, which assesses a construct's reliability by computing correlations among responses to questionnaire items, is often used to measure internal consistency. The variance and covariance scores evaluated the overall construct reliability, called *composite reliability*. Cronbach's alpha coefficient is considered reliable for measuring scale dependability. Cronbach's alpha values ranged from 0 to 1. According to DeVellis (2012), Cronbach's alpha must be greater than 0.70 for the scale to be considered reliable. However, Cronbach's alpha may have values as low as 0.7 for scales with fewer than 10 elements (Pallant, 2016). All constructs in the present study had Cronbach's alpha values above 0.7 (Table 4), indicating construct reliability. The following section presents the main study results.

Table 4: Reliability Analysis of the Latent Constructs

Latent constructs	Cronbach's alpha
Innovative behavior	0.972
Principal leadership behavior	0.988

4.2.5 Demographics of the Main Study

Of the 1,047 respondents, 55.7% were women, and 44.3% were men. In terms of age, 25.2% were 36–40 years old, 18.4% were 41–45 years old, 16.5% were 46–50 years old, 15.9% were 31–35 years old, 10.7% were above 50 years old, 9.8% were 26–30 years old, 3% were 21–25 years old, and 0.5% were below 20 years old. In addition, 41.9% were from the UAE, 14.7% were from Jordan, 14% were from Egypt, 8.2% were from India, 3.9% were from the United Kingdom, 2.8% were from Syria, 2.8% were from the United States, 2.4% were from South Africa, 2% were from China, 1.4% were from Tunisia, 1.1% were from Palestine, 1% was from New Zealand, 0.8% was from other countries, 0.8% was from Pakistan, 0.8% was from Sudan, 0.6% was from Ireland, and 0.4% was from Saudi Arabia.

Moreover, 62.9% held a bachelor's degree, 30.9% held a master's degree, 3.4% held a high school diploma, 2% held a PhD, 0.6% held a Doctor of Education (EdD), and 0.2% did not specify their education level. In addition, 86.7% had formal training, while 13.3% did not.

Furthermore, 23% had 11–15 years of teaching experience, 22.1% had 16–20 years of teaching experience, 17.7% had 6–10 years of teaching experience, 13.4% had five years or less of teaching experience, 12.2% had 26 years or more of teaching experience, and 11.7% had 21–25 years of teaching experience. In addition, 57.5% worked in Abu Dhabi, 14% worked in Ras Al Khaimah, 13.1% worked in Sharjah, 8% worked in Dubai, 4.6% worked in Al Fujairah, 1.4% worked in Ajman, and 1.3% worked in Umm Al Quwain. Finally, 35.4% taught in Cycle 1, 35% taught in Cycle 3, and 29.6% taught in Cycle 2. It is remarkable to mention that cycle 1 includes grades from 1 to 4, whereas Cycle 2 includes grades from 6 to 8 and Cycle 3 consists of grades from 9 to 12.

4.3 Results of Question I: Descriptive Statistics of the Main Study

As previously mentioned, the first question for this study pertains to teachers' perceptions of their principals' leadership behaviors as well as their own innovative work behavior. All survey items were positively worded. The higher the score of the numeric value of each Likert scale response, the higher the self-perception of the teacher.

Tables 5 and 6 show the PLBQ and IWBS number of items. Table 13 outlines the average scores of the items for the various components of principal leadership behaviors. As is evident in the table below, the component of innovative role modeling had a mean of 11.79 (SD = 30.7), support for innovation had a mean of 16.32 (SD = 4.17), delegating had a mean of 11.78 (SD = 3.24), providing resources had a mean of 11.57 (SD = 3.28), recognition had a mean of 11.22 (SD = 3.56), consulting had a mean of 11.094 (SD = 3.25), providing a vision had a mean of 16.03 (SD = 3.85), and monitoring had a mean of 16.62 (SD = 3.67). In addition, for the components of innovative work behavior, idea exploration had a mean of 12.87 (SD = 2.25), idea generating had a mean of 16.78 (SD = 3.38), idea championing had a mean of 11.57 (SD = 3.12), and idea implementation had a mean of 12.18 (SD = 2.90).

Table 5: PLBQ variables and items

PLBQ variables	PLBQ items
Innovative role modelling	1, 2, 3
Support for innovation	4, 5, 6, 7
Delegating	8, 9, 10
Providing resources	11, 12, 13
Recognition	14, 15, 16
Consulting	17, 18, 19
Providing vision	20, 21, 22, 23
Monitoring	24, 25, 26 ,27

Table 6: IWBS variables and items

TIWB variables	TIWB items
Idea exploring	1, 2, 3
Idea generation	4, 5, 6, 7
Idea championing	8, 9, 10
Idea implementing	11, 12, 13

The items were measured on a 5-point scale, with a maximum score of 5. The mean scores were generally close to the maximum value. This indicated a high depiction of principal leadership behaviors from the perspective of the participants. The average scores of the innovative work behavior scale were evaluated. The results indicated high innovative work behavior in the present sample—as all the mean scores were close to or greater than 4. This demonstrates that the sample population and data were appropriate for the present study. The means of the PLBQ ranged from 3.53 to 4.2 (Table 7). The means of the IWBS ranged from 3.83 to 4.34 (Table 8). These results signify that most participants had a high perception of the principals' leadership behaviors and their own innovative work behavior.

Table 7: Descriptive Statistics of PLBQ Items

No.	Items: My school principal...	Mean	Std. deviation
1	regularly models innovative practice	3.95	1.069
2	continuously generates innovative ideas	3.9	1.066
3	collaboratively generates innovative ideas	3.94	1.073
4	encourages me to develop new teaching methods	4.13	1.055
5	is friendly with innovative teachers	4.11	1.089
6	responds eagerly to my innovative ideas	4.04	1.133
7	provides opportunities to implement innovative ideas	4.04	1.12
8	offers me freedom and autonomy to plan my work	3.96	1.139
9	allows me to decide how to perform my work	3.97	1.14
10	offers me opportunities to share in conducting administrative duties	3.86	1.122
11	provides means needed for innovation	3.92	1.105
12	provides time to work out new ideas	3.84	1.171
13	is willing to devote time and money in innovative works	3.81	1.142
14	openly recognizes my innovations	3.82	1.258
15	awards me for my innovative works	3.76	1.258
16	grants awards that meet my expectations	3.64	1.208
17	seeks my thoughts and views	3.86	1.112
18	consults me about school plans	3.7	1.182
19	consults me in critical decisions	3.53	1.17
20	explicitly considers innovation in the school improvement plans	3.96	1.085
21	involves teachers in drawing the school vision and mission	3.91	1.105
22	communicates the school vision about innovation with teachers	4.05	1.039
23	provides directions for future activities	4.11	0.957
24	Monitors whether I serve my objectives	4.17	0.948
25	checks up regularly on my progress	4.2	0.967
26	points out to me if my work is not up to standard	4.15	0.961
27	provides feedback on how to modify my mistakes	4.1	1.012

Table 8: Descriptive Statistics of IWBS Items

No.	Items: How often do you…	Mean	Std. deviation
1	look for opportunities to improve the existing teaching method/s?	4.24	0.781
2	look for opportunities to upskill with the recent technologies?	4.34	0.811
3	pay attention to new ideas about school, department, and classroom practices?	4.29	0.851
4	plan new teaching methods/ techniques in your classroom?	4.28	0.868
5	generate novel solutions for the work problems?	4.15	0.895
6	assess your planning process?	4.14	1.01
7	propose multiple approaches to teach your lesson?	4.17	0.937
8	inspire key school members to be enthusiastic for your innovative ideas?	3.91	1.114
9	try to persuade school members to support your innovative ideas?	3.83	1.11
10	get approval for your innovative ideas?	3.84	1.099
11	contribute to the implementation of the new ideas?	4.08	0.978
12	share in the development of the new teaching processes?	4.07	1.011
13	practically apply innovative ideas to become part of the regular daily work?	4.04	1.058

4.4 Results of Question II: Correlation Analysis

A Pearson correlation analysis was carried out to determine the correlations between the subdimensions of PLBQ and IWBS. The results of the analysis are depicted in Table 9. The results indicated moderate correlations between the dimensions of PLBQ and IWBS in the present study, except for monitoring, which had a negative correlation with the total IWB (Table 9).

Table 9: Correlation Analysis Between the Dimensions of PLBQ and IWB

	Innovative role modelling	Support-for innovation	Delegating	Providing resources	Recognition	Consulting	Providing vision	Monitoring	Total IWB
Innovative role modelling	1								
Support-for innovation	.870*	1							
Delegating	.862**	.886**	1						
Providing resources	.876**	.893*	.911**	1					
Recognition	.820**	.858**	.885**	.895*	1				
Consulting	.793*	.780**	.826*	.849**	.854*	1			
Providing vision	.846**	.866**	.847*	.858**	.799**	.815*	1		
Monitoring	.789**	.802**	.786**	.776*	.715*	.718*	.887**	1	
Total IWB	.548*	.593**	.581*	.624**	.614**	.536*	.509**	-.399*	1

* 95.0% Confidence Interval, ** 99.0% Confidence Interval

4.5 Results of Question III: Multiple Regression Analysis

A multiple regression analysis was conducted to determine which subdimensions of the PLBQ had a stronger impact on teachers' IWB. The results indicated that PLBQ dimensions influenced IWB (F [8, 1038] = 101.3, p < 0.01).

Table 10: Regression Model Summary

Model	R	R square	Adjusted R square	Std. error of the estimate	R square change	F change	Df1	Df2	Sig. F change
Model Summary					Change statistics				
1	.662ᵃ	.438	.434	8.20781	.438	101.300	8	1038	.000

ᵃ Predictors: (constant), recognition, consulting, innovative_role_modelling, support_for_innovation, monitoring, delegating, providing_vision, providing_resources

The study revealed that three leadership behaviors influenced teachers' innovative work behavior (Table 11). Providing resources, supporting innovation, and recognition have depicted significant causal relationships with teachers' innovative work behavior, with $\beta = 0.401$ (p < 0.01), $\beta = 0.256$ (p < 0.01), and $\beta = 0.240$ (p < 0.01), respectively. However, monitoring revealed a negative, significant causation to teachers' innovative work behavior with $\beta = -0.326$ (p < 0.01). This might suggest that principals' high monitoring behavior may cause teachers to behave less innovatively, as they feel less psychological safety.

Table 11: Coefficients Analysis

Model	Unstandardized coefficients		Standardized coefficients		
	B	Std. error	Beta	T	Sig.
1(Constant)	32.989	1.204		27.403	.000
Innovative role modelling	.021	.197	.006	.108	.914
Support for Innovation	.669	.168	.256	3.980	.000
Delegating	.025	.224	.007	.110	.913
Providing resources	1.335	.242	.401	5.513	.000
Recognition	.734	.189	.240	3.875	.000
Consulting	-.095	.172	-.028	-.549	.583
Providing vision	.148	.190	.052	.778	.437
Monitoring	-.768	.154	-.326	-5.303	.000

ᵃ Dependent Variable: Total_IWB
ᵇ 95.0% Confidence Interval for B

5. Discussion and Recommendations

5.1 Summary of the Research
The main objective of this study was to investigate which principal leadership behaviors stimulate teachers' innovative work behavior. Eight principal behaviors were empirically tested in relation to IWB. This section first discusses teachers' perceptions of their principals' leadership behaviors and their own IWB. A detailed discussion follows of the relationship between principals' leadership behaviors and teachers' IWB. Finally, it discusses the principal leadership behaviors that stimulate teachers' IWB, and finally, we elaborate on the theoretical contributions and managerial implications for practitioners.

5.1.1 Discussion of Question I: Teachers' Perceptions of Their Principal's Leadership Behaviors and Their Own IWB
A descriptive analysis was conducted to evaluate teachers' perceptions of their principals' leadership behaviors and their own IWB. The analysis revealed that teachers had strong perceptions of their own IWB. The participants in the present study demonstrated a strong positive belief in principal leadership behaviors as well. The critical role of educational leaders is to ensure that school success is well recognized and frequently associated with academic achievement (Hitt & Tucker, 2016). Generally, school leadership research has been conducted from the perspective of educators by inquiring about their perceptions of leadership.

Furthermore, the results indicated that respondents perceived themselves as having high IWB, which can lead to more such behaviors, resulting in teacher and academic success. In addition, teachers' perceptions of principals' leadership behaviors can further impact leadership effectiveness and innovative teacher behavior and outcomes.

Catio (2019) argued that innovative work behavior among teachers should be prioritized for three reasons. First, innovative conduct assists teachers in remaining current in an ever-changing world. Today's society has different requirements and expectations than in the past. Modern society not only requires children to be proficient in reading and math, but also in the ability to think creatively and critically and to solve issues innovatively. Second, the rapid growth of technology capable of facilitating teaching and learning in this era undoubtedly necessitates innovative teacher conduct.

With the advancement of technology, traditional teaching techniques are becoming less relevant to today's educational demands. Teachers must continually adapt to ensure that the approaches they utilize stay relevant, which requires innovative conduct. Third, teachers who exhibit innovative behaviors set a positive example and

serve as springboards for future generations of creative individuals. Innovative behaviors influence employees' productivity, organizational performance, and organizational success (Muenjohn & McMurray, 2016).

5.1.2 Discussion of Question II: Relationship Between Principals' Leadership Behaviors and Teachers' IWB

Principals' leadership behaviors positively correlate with the innovative behavior of teachers in UAE schools, except for monitoring, which negatively correlates with teachers' IWB. The results indicated that leadership influenced IWB in all contexts. Principals' leadership behaviors, which positively correlate with teachers' IWB, include support for innovation, the provision of resources and a vision, innovative role modeling, consultation, delegation, and recognition. It is also important that teachers have the necessary resources and support to develop and implement new ideas. Without this support, teachers are likely to prevent new ideas from blossoming. Principals should show their belief in teachers by demonstrating effective support and providing them with the time and money to do their best work.

Recognition in the present study has been found to be a significant predictor for teachers' innovative work behavior. To illustrate, it proves to teachers that their innovative efforts are acknowledged and rewarded. Therefore, teachers become motivated to improve their ability to perform their jobs. It also makes them feel that they can make a difference. Therefore, principals who aim to encourage teachers' innovation should apply these behaviors and be consistent and persistent in practicing such behaviors with teachers.

Although monitoring negatively correlates with teachers' innovation, a healthy degree of monitoring could be significant in ensuring the effectiveness and proficiency of the school's operations. Monitoring can be overwhelming when principals check on teachers' performance too often and constantly evaluate their effectiveness and productivity. Future research could test the moderating role of the relationships between the principal and the teacher in the correlation between monitoring and innovation.

Barkema (1995) studied the moderating role in large firms and found that the strength of the leader's and employee's relationships can affect the link between performance and monitoring. This negative direct association between monitoring and teachers' IWB suggests that monitoring hinders teachers' innovation (De Jong, 2007). According to Kuzina and Mironycheva (2019), "[T]o compare the degree of young teachers' readiness to innovate, it is advisable to include a repetitive task in the monitoring both at the stage of express diagnosis and at the stage of final diagnosis, for example, to determine the key problem of the questions" (p. 411).

5.1.3 Discussion of Question III: The Most Significant Principal Leadership Behaviors That Affect Teachers' IWB

Leadership behaviors that affect teachers' IWB include supporting innovation, providing resources, and recognizing teachers' efforts. However, monitoring was found to have a negative influence on teachers' innovation. These behaviors allowed teachers to develop their own proficiency experience with support for innovation, and they perceived themselves as more capable of engaging in IWB. Thus, leaders provide teachers with resources, such as assistance in using technology, labs, and theaters for innovation, workshops for innovation, and planning events for promoting innovation activities. In fact, the principals provide functional and emotional support to those teachers to innovate.

This study found a negative correlation between monitoring and teachers' IWB. This is because leaders often check on efficiency and effectiveness too often, which can lead to stress and prevent teachers from developing new ideas. In addition, monitoring can be very discouraging for those who are already trying to innovate. Although excessive monitoring is often associated with a need to improve school achievement, this study results suggest that principals should be aware of the link between monitoring and innovation. There are various factors that can moderate or mediate the relationship between monitoring and IWB.

One of the most common factors that can affect the relationship between monitoring and innovation is the influence of personalized control. In 1995, psychologist David Barkema analyzed the relationship between the performance of managers and the owners of large companies. He found that the intensity of the relationship between the managers and the owners could influence the link between performance and monitoring. The level of personal involvement that managers have in their work can also affect the relationship between performance and monitoring. For instance, in a personal relationship, regular visits and discussions with the boss can lead to decreased motivation and bad outcomes. On the other hand, in an impersonal relationship, the managers have few contacts with their boss. In his study, Barkema found that the negative correlation between monitoring and IWB might be lessened for workers who maintain an impersonal relationship with their managers. For instance, comparing sales representatives who work outside the office with those who are in the office every day might lead to a reduction in the link between monitoring and innovation.

In the same field, Kuzina and Mironycheva (2019) conducted a study which aims at identifying the development of young teacher's professional competencies as the foundation for attaining high results in an academic activity. This study focuses on monitoring the development of the need for testing pedagogical innovations that affect the quality of education and the teachers' personality development." (p.411). The monitoring of the readiness of young teachers for innovative activities under the modern school conditions has affected the development of young teachers' professional skills. This term refers to the stage of succession when graduates start to engage in independent professional activities. The tasks that were offered to the respondents were

categorized into various difficulty levels depending on their level of preparedness and their teaching experience. The researchers concluded that the monitoring of the readiness of young teachers for innovative activities should include a repetitive task to compare the level of their readiness to innovate.

The findings of the study revealed that the graduates had developed their professional competence and innovative consciousness by monitoring their readiness for various activities. They were also able to identify and implement new ideas in their teaching. The monitoring of the readiness of young teachers for innovative activities has shown that they can develop their skills and knowledge to effectively implement new ideas in their teaching. One of the most important factors that needs to be considered "is the removal of innovative barriers that prevent them from both in the learning process and in the first year of work in an educational institution" (Kuzina & Mironycheva, 2019, p.411).

5.2 Theoretical Contribution and Recommendations of This Study

This study adds to the current body of knowledge by determining which principal leadership actions promote teachers' IWB. This is the first study to create and evaluate questionnaires (PLBQ and IWBS) for use in the UAE that examine teachers' assessments of principals' leadership behavioral influences on their IWB. Schools can become more innovative by utilizing teachers' innovations.

This study aims to add to the body of knowledge on individual teacher innovation by compiling a list of leader behaviors that may impact teachers' innovative behavior. It focused on factors that impact teachers' innovative initiatives rather than their performance or effectiveness, as was done in previous studies. In addition, this study differs from past work in that it targets principal leaders in schools, which has been under-investigated to date. Despite its relative significance, teachers' innovative work behavior has received little attention in schools, which is surprising considering how critical teacher innovation is for academic and school success. The present study illuminates the behaviors that school principals perform to foster innovation among their teachers.

Given this study's findings, principals aiming to encourage their teachers' innovative work behavior could support their innovative ideas and products. In doing so, principals should provide needed resources to garner teachers' motivation and commitment to implementing such decisions. Furthermore, principals should openly recognize teachers' innovative ideas and products. Briefly, principals should create a constructive and secure environment that advocates risk taking and, accordingly, stimulates idea generation and implementation. Even though monitoring is predicted negatively by teachers' innovative work behavior, a precise amount of it could ensure the high productivity and competency of the school. The challenge is how to form an equilibrium between encouraging innovation and ensuring the school's short-term effectiveness. The next section discusses the managerial contributions of this study.

5.3 Managerial Contributions and Recommendations of This Study

This study has notable policy implications for decision makers and educators. To thrive in an ever-changing environment, school stakeholders and policymakers must engage in ongoing quality enhancement. School leadership should present innovation to a school gradually in several stages. Moreover, the introduction of innovation-related symposia will stimulate teachers to propose ideas to be applied.

The results of this study provide important information concerning current school leadership actions and their effects on teachers' IWB, which may be utilized by the UAE's MoE. Furthermore, the PLBQ may be adopted by principals wishing to reflect on and improve their behavior to enhance school performance. The results of this work may be used to inform and enhance regulations governing the role and professional development of school principals. Conclusively, the results of this study have ramifications for a variety of sectors by identifying which leadership actions are most likely to optimize teachers' IWB.

In addition, the leadership behaviors identified in this study are most likely to affect the development and implementation of ideas by teachers. As such, principals wishing to foster individual innovation among teachers may choose to apply such behaviors, ensure that teachers have the appropriate autonomy to accomplish their tasks, and promote and acknowledge individual ideas and innovative achievements. Creating a positive and secure environment that promotes openness and risk taking also promotes idea creation and application.

Besides support for innovation, and the provision of resources, recognition can take more supportive forms for teachers who have high performance evaluations every year. Such forms might include promotions, financial incentives, or at least the ability to leave early when they complete all their classes.

Furthermore, the MoE should provide practical professional development workshops on innovation for teachers on a weekly basis. Teachers suggested designing seminars led by experts to educate teachers on how to be innovative and how to deliver their lessons using innovative methods. Several seminars and classes were provided to develop new and creative teaching methods, but most depended on theories.

To enhance the IWB of their teachers, principals should recognize and support their innovative efforts, provide them with the resources needed to innovate. In addition, IWB can be stimulated by establishing a strong association between innovative behavior and job performance. This can be done by communicating the need for change, demonstrating that innovation will benefit the organization, improving the quality of the relationship between the teacher and the principal, setting innovation as a job requirement, and breaking the

comfort with the status quo. Below sections explain how each influential leadership behavior could be practiced in schools.

5.3.1 Support for innovation

Support for innovation was found to be positively influence teachers' innovative work behavior. Hence, it can be seen in various behaviors, such as being kind to the people who are involved in the innovation process, being patient, and helping those who are struggling with the implementation stage. Usually, leaders are supportive of their employees when they come up with ideas, and they are helpful when they are faced with problems. Principals can support innovative teachers verbally by encouraging statements and/or materialistically through providing tools and venue for creating and implementing innovative ideas.

5.3.2 Recognition

Since this study found a positive impact of recognition on teachers' innovation, principals should consider their ways of responding to teachers' new ideas. Despite the importance of recognizing their employees' innovative efforts, many principals still only encourage a few individuals to excel. This means that most teachers are not acknowledged for their efforts. According to Smith (2002), most employees are not given credit for their efforts, and they often "feel left out and uncared for." Various forms of recognition are also commonly used to acknowledge the achievements of employees. These include awards, praise, and recognition ceremonies. Although, these forms of recognition ensure that the achievements of the employees are acknowledged and can be seen by others, teachers are not satisfied with these applied ways of recognition.

5.3.3 Providing resources

Providing resources has a strong impact on teachers' innovative work behavior. This suggests that principals should give teachers the resources they need to develop new ideas and keep them proceeding. Doing so will stimulate teachers to keep thinking and implementing new innovations. If principals do not provide teachers with the needed resources, they will not be able to implement them. Hence, they will more likely be discouraged and demotivated to innovate in the future. Furthermore, the other stimulating leadership behaviors like consulting, support, delegating and recognition would be less influential. Therefore, as possible effective method could be permitting teachers to use a specific percentage of their work time to be for innovation.

5.4 Limitations and Recommendations for Future Research

This section discusses the study's limitations and how they could be considered in future research. This study had four main limitations. The first limitation pertains to the development of a relatively simple conceptual model that only evaluates principal leadership behaviors that influence teachers' IWB. While leadership is certainly a primary factor, it is not the sole factor. Thus, future studies should consider a host of factors to determine those affecting teachers' IWB.

Second, the questionnaires in this study are cross-sectional, so no conclusions can be drawn regarding the directionality of findings (cause and effect analysis). Future studies could address this issue by examining the influence of principals' leadership behaviors with longitudinal data or in experimental settings.

Third, the relationship between principals' leadership behaviors and teachers' IWB was conducted quantitatively in the present study. In future studies, semi-structured interviews with teachers as well as principals may provide a more comprehensive picture of relevant leadership behaviors.

Finally, given the support for innovation, providing resources, and recognition are predictors of innovative work behavior, it is recommended that future research focus on the determinants that may trigger these factors. Furthermore, future research should investigate a healthy amount of monitoring and how this might result in teachers behaving innovatively.

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