



Research Article

Development and validation of headteachers' leadership behavior questionnaire (HLBQ)

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ABSTRACT

The leadership behavior of the headteachers is associated with institutional worth. This study intended to develop and validate a headteachers' leadership behavior questionnaire (HLBQ) to measure the leadership behavior of headteachers. The questionnaire encompassed two sub-dimensions viz: people-oriented leadership behavior and task-oriented leadership behavior as per Blake and Mouton's Managerial Grid. After a rigorous literature review followed by focus group discussions, the preliminary draft of the tool encompassed forty-three (43) items on the five (5) points Likert Scale. Based on the content and face validity, the items with CVR values less than 0.42 were dropped. The revised questionnaire was pilot tested on three hundred and ten (310) public secondary school teachers employed in the school education department. The data were processed through Smart PLS version 4, which provided the questionnaire's validity, reliability, and model fit. After deleting the unfit items, the questionnaire was further reduced to thirty-one (31) items. AVE values of the items related to people-oriented leadership behavior were $0.658 > 0.5$, and for task-oriented were $0.686 > 0.5$. Fornell-Lacker criterion value (0.828) was more than the correlations with other latent constructs, i.e., 0.811 and 0.831. The Heterotrait-Monotrait ratio (HTMT) value was $0.859 < 0.9$, which is acceptable. Cronbach alpha for people-oriented leadership behavior was $0.967 > 0.7$, and task-oriented leadership behavior was $0.658 > 0.7$. Similarly, the composite reliability (CR) values for people-oriented leadership behavior were $0.970 > 0.7$, and task-oriented leadership behavior was $0.963 > 0.7$. Thus, the headteachers' leadership behavior questionnaire (HTLB) was internally consistent, valid, and reliable. The findings of the entire study supported using the headteachers' leadership behavior questionnaire (HLBQ) to explore and measure the leadership behavior of the headteachers.

Keywords: *Headteacher; Validation; Leadership Behavior*

1. INTRODUCTION

The 4th Sustainable Development Goal pertains to the quality of education. Many researchers concluded that the headteachers' leadership behavior is one of the essential factors influencing institutional worth. The headteachers have the highest authority in their schools. Their leadership affects the teaching-learning process, teacher motivation, and teaching quality (Andriani et al., 2018). The researcher intended to find out leadership behavior among the headteachers working under the domain of the School Education Department and tried to develop and validate a tool to measure the leadership behavior of headteachers. For this purpose, Blake and Mouton's Model provided a link between leadership and departmental success, as Balbuena et al. (2020), indicated. Keeping in view

the demographical variables of the local respondents, the researcher intended to develop and validate a headteachers' leadership behavior questionnaire (HLBQ) to measure the leadership behavior of headteachers serving in secondary schools in South Punjab (Pakistan).

Blake and Mouton identified different behaviors encompassing task completion and employee development. They determined that the leaders with the team management behavior balance their task accomplishment and employee needs. Achievement-oriented leaders let their followers know their expectations. However, in the current scene, it is observed that most heads' leadership behavior is either casual or authoritative. These two situations portray the gap between the ideal and the current situation. Because there is a big gap between the present and ideal situation, the researcher needs to investigate this grey area. Therefore, the researcher conducted this study to explore the different leadership behavior of the headteachers. For this purpose, a questionnaire was required to be developed and validated through the standardized procedure to seek the perception of the teaching force to gauge their headteachers' leadership behavior. According to (Leonard et al., 2019), effective performance in educational institutions results from appropriate leadership behavior. Therefore, leadership behavior requires revisiting and attention in departments.

2. LITERATURE REVIEW:

The attributes and activities that make a person effective as a leader is referred to as leadership behavior (Salas-Vallina et al., 2021). The process through which a person leads stimulates and impacts the efficiency and task accomplishment of others to attain specified goals is known as leadership behavior (Andriani et al., 2018). Leadership behavior is critical to the success of any organization because of its impact on employee performance. (Razak et al., 2018) Leadership is more important than ever in today's constantly changing social, economic, and technological environment. (Unal, 2014). Leaders are responsible for gathering materials, developing policies, organizing, and controlling actions to achieve agreed-upon goals. (Liljenberg, 2021). Leadership improves management effectiveness and competency, as well as long-term performance and resource management. (Salas-Vallina et al., 2021). The headteacher of the school is the most senior teacher. They are in charge of managing the school and ensuring that everything runs smoothly daily (Bush & Ng, 2019). Headteachers are essential in various educational institutions, including primary schools, secondary schools, and colleges. (Ali et al., 2019). Headteachers, unlike most teaching staff, do not always teach in classrooms. Instead, they apply their years of experience to motivate and manage their teachers and students (Godwin & Kabeta, 2019). A Headteacher manages a school and creates a positive and appropriate learning environment (Rostini et al., 2022). Their responsibilities include delivering the highest quality education to students, assisting teachers and staff, and ensuring a safe and successful school environment (Alsaleh, 2021). In educational institutions, proper leadership behavior contributes to teachers' motivation and students' academic achievement. (Baptiste, 2019). Over the years, researchers have looked at different ways of being a leader in discovering the most genuine and effective manner.

There are various ways to lead. Before deciding on a leadership style, it's essential to look at the structure and economic status of the institution (Yasir et al., 2022). There is no universal definition of leadership. A leader or the organization can define leadership in whatever way they see fit. Leaders guide their followers toward common goals in an orderly and systematic manner. Some leaders prioritize tasks, while others prioritize people. Various schools of thought arose in an attempt to define distinct leadership styles. Leadership is a complex behavior that reflects the leader's beliefs, personality, experience, work, atmosphere, and situation analysis. Various leadership theories explain various complexities (Nilsa & Anitha, 2019). These theories are the Great-Man Theory of Leadership, Trait Theory of Leadership, Behavioral Leadership Theory, Ohio State University Research, Michigan Studies, Blake and Mouton Managerial Grid, Decision-Making Model of Leadership, Fiedler model of Leadership, Path-Goal Model of Leadership, Situational Model of Leadership, Transformational Theory of Leadership and Transactional Theory of Leadership. All these theories are essential, but Blake and Mouton's Managerial Grid is much more related to the current study.

Blake and Mouton's Leadership theory added a new dimension to research groups that had previously focused solely on the distinctive approach, which claimed that leaders are born with a compelling personality and the ability to inspire others. Nobody else could be the leader. Leaders are not created; they are born to be leaders. However, this study expanded the researchers' understanding of leadership by revealing that anyone may be a leader by assessing the situation's requirements. This whole scenario switched the focus of personal trait theory to the leader's activities, precisely what they do and how they do it. Several researchers from The Ohio State University and The University of Michigan also presented their findings and a practical solution. Although trait leaders have innate abilities, leaders theoretically combine two behaviors: work and interpersonal connections. Effective and successful leaders will always establish a healthy balance between the two. Squires (2018), Northouse (2016), and Blake and Mouton's model were initially called the Managerial Grid, but it was renamed the Leadership Grid after considerable advancement and renaming. This grid is primarily motivated by two concerns: one for manufacturing and one for people (Bashir et al., 2022).

Blake and Mouton identified task and people-focused leadership behaviors since they were most important and created a two-dimensional Managerial Grid based on output (task-oriented) and people (people-oriented) concerns (relationship-oriented). Each grid axis has a nine-point scale from 1 to 9. On each axis, you can assign leaders different leadership strategies. Each grid axis has a nine-point scale, from 1 (little concern) to 9 (significant concern). On each axis, you can give leaders different leadership techniques. This essay discusses other leadership behaviors and their effects on the success of any educational institution, as depicted in the below-mentioned Fig. 1.

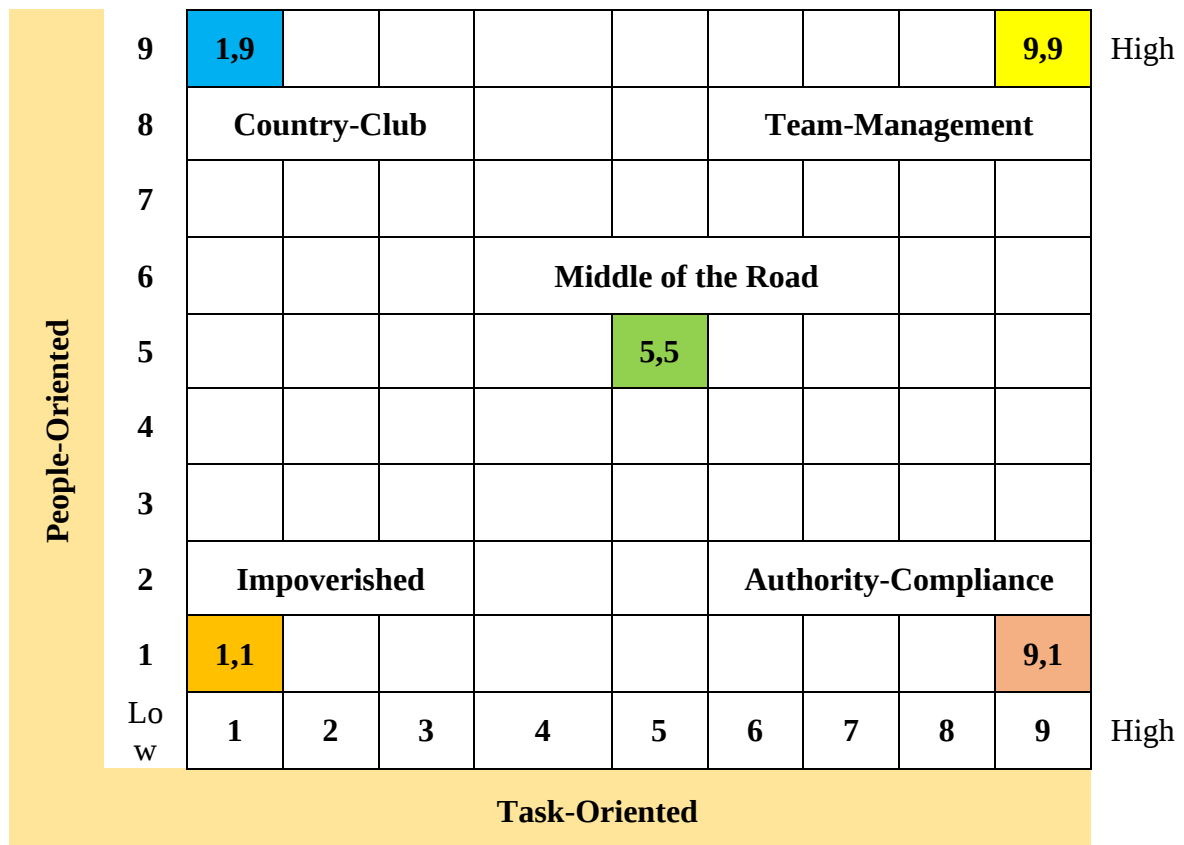


Fig. 1. Blake and Mouton Managerial Grid

This model indicates five (5) dimensions of leadership Behavior viz: Impoverished Leadership, Country Club Leadership, Authority-Compliance Leadership, Middle-of-the-Road Leadership, and Team Management Leadership. Impoverished Leadership (1, 1) or Indifferent Leadership indicates that the team head remains unconcerned with their employees' work product and stays at (1,1) on the Figure. Country Club Leadership (1, 9) indicates that the team head remains easy while dealing with people than with production. Authority-Compliance Leadership (9,1) suggests that the team head remains concerned with the high output value at the expense of employees' well-being. These bosses have a habit of ignoring the needs of their workers. Middle-of-the-Road (Leadership 5, 5) indicates that team heads care moderately about output and people. They balance a company's goals and employees' needs. Middle-of-the-Road is a compromise strategy where the boss tries to avoid worker disagreement while still needing results. This technique can't solve output or people. However, Team Management Leadership (9, 9) indicates that the team head values productivity and individuals. This method is often seen as the most productive and recommended for leaders because members of the organization work together to complete tasks and form deep bonds. This strategy emphasizes making subordinates feel like valuable members of the organization by fostering collaboration, commitment, judgment, respect, and cooperation. Following are the different perceptions of the given model.

2.1. CONCERN FOR PRODUCTION (TASK-ORIENTED) LEADERSHIP:

Managers who focus on output encourage their colleagues to reach their goals. The leadership style involves giving orders, planning, emphasizing deadlines, and providing work calendars.

2.2. CONCERN FOR PEOPLE (RELATIONSHIP-ORIENTED) LEADERSHIP:

Caring managers are aware of their employees' thoughts and emotions, fostering trust and understanding. These employers are approachable, encourage clear dialogue, promote collaboration, and care about their employees.

Following are the different perceptions of the given model.

2.3. IMPOVERISHED LEADERSHIP (1, 1)

Impoverished Management or Indifferent Leadership is used to describe managers unconcerned with their employees' work product. You do the bare minimum to get the job done and maintain your intimate relationships. Worrying about not being held accountable is the primary concern of poor leaders.

2.4. COUNTRY CLUB LEADERSHIP (1, 9)

A Country Club Leadership supervisor is more easily dealing with people than with production. This personality trait is concerned with their followers' safety, well-being, and peace. By meeting the needs of employees, they believe efficiency will rise because everyone will be happy. As a result, officials at the Country Club place a higher value on people than labor output. It is because of this that the workplace is often attractive but ineffective. Task-oriented subordinates may take offense at this style of leadership.

2.5. AUTHORITY-COMPLIANCE LEADERSHIP (9, 1)

Authority-Compliance is the management style known as Produce-or-Perish places a high value on output at the expense of employees' well-being. These bosses have a habit of ignoring the needs of their workers. However, the primary goal should be to improve technical performance. Managers use monetary rewards like cash bonuses to motivate their workforce to raise their game. Supervisors may use coercion to penalize employees if goals are not met. This method is based mainly on McGregor's Theory X, which states that employees are motivated by external factors because they are unmotivated and unwilling to take on responsibilities.

2.6. MIDDLE-OF-THE-ROAD (LEADERSHIP 5, 5)

Middle-of-the-Road managers care moderately about output and people. They balance a company's goals and employees' needs. Middle-of-the-Road is a compromise strategy where the boss tries to avoid worker disagreement while still needing results. This technique can't solve output or people.

2.7. TEAM MANAGEMENT LEADERSHIP (9, 9)

A Team Management manager values productivity and individuals. This method is often seen as the most productive and recommended for leaders because members of the organization work together to complete tasks and form deep bonds. This strategy emphasizes making subordinates feel like valuable members of the organization by fostering collaboration, commitment, judgment, respect, and cooperation. According to McGregor's Theory Y, employees are intrinsically motivated, enjoy their work, and want to develop themselves without financial incentives. Blake and Mouton's research shows that good collaboration is the best foundation.

It is worth mentioning that proper leadership in schools motivates teachers and improves student achievement. Leadership behavior has impacted the performance of many schools, departments, and the work environment. School failure is often caused by ineffective guidance. Schools, which provide a joint education function through learning and teaching actions, are one of the most influential societal structures. They are made up of students, parents, and the school environment. School heads are an essential part of this organization. Today's competitive corporate environment requires individual and organizational employee motivation. Motivation affects employee morale, attitudes, and behavior toward the organization, so it's key to achieving personal and corporate goals. A leader can only coordinate and motivate individuals to achieve organizational performance.

Teachers in schools are not completely self-sufficient; they have to perform under the supervision of the headteachers. Teachers may be encouraged to accomplish their best by their heads. Designing, preparing, implementing, directing, and leading processes for the uniformity of all programs and power sources are important for headteachers (Pont, 2020). As a leader, headteachers should use their vision and intellect to achieve the intended goals for the school's development (Day & Sammons, 2016). In recent decades, teacher motivation has garnered much attention in the modern educational discussion. It has become essential to the teacher's and learners' abilities. However, according to Davidson (2004), teachers' motivation is tied to how they sense they are treated and view their functioning and duties. If teachers are not motivated in their delivery, they will not spend as much time in the classroom engaging in activities. According to (Armstrong, 2006), as a chief executive officer, the headteachers must appreciate and acknowledge that good results are achieved through the people.

3. METHODOLOGY

In the first step, a rigorous literature review followed by multiple focused group discussions between the stakeholders and the leadership experts (senior secondary school headteachers) was conducted to identify the expected factors of the questionnaire, and items were developed primarily. A google sheet was forwarded to multiple local and international experts on leadership behavior in terms of language clarity, appropriateness, usability, and alignment of items with factors. Twenty experts (national and international) were requested to provide their valuable expert opinion. The content validity ratio (CVR)

was calculated by using MS Excel with version 365. A tentative layout of the questionnaire was designed with the details cited in the below-mentioned Table 1.

Table 1. Detail of the Items

Factors	Number of Items
People-Oriented Leadership Behavior	26
Task-Oriented Leadership Behavior	17
Total	43

Thus, forty-three (43) items were developed and further discussed with peers, leading headteachers, and faculty members of the Department of Education.

3.1. VALIDATION OF HEADTEACHERS' LEADERSHIP BEHAVIOR QUESTIONNAIRE (HLBQ)

An instrument is useless without its Validity. Validity reveals how well the data represents the subject under examination (Taherdoost, 2016); Validity of the tool means that it measures what we want (Atta-Asiedu, 2020). Researchers identified different methods to ensure the Validity of the Questionnaire.

Table 2. Confirmation of Validities

Components	Sub Areas	Researcher	Technique to Validate
Content Validity		Khurram et al. (2020)	CVR, CVI based on Review by Expert
		Kennedy et al. (2019)	Lawshe's CVR, CVI based on Review by Expert
Face Validity		Khurram et al., (2020)	Review by Experts
		Kennedy et al. (2019)	Pilot Testing
Construct Validity	Convergent Validity	Tentama & Nabilah, (2020); Wang et al. (2021)	(AVE) value > 0.5
	Discriminant Validity	Tentama & Nabilah, (2020)	The value of the construct's AVE roots > correlation among latent variables
		Lopez-Odar et al. (2019)	The square root of AVE > correlations with remaining subscales

Table 2 represents different types of validities. The degree to which a measure seems to be associated with a certain construct is known as face validity. It assesses the viability, readability, uniformity of style, relevancy, formatting, straightforward reasonability, and clarity of the language used in the questionnaire's presentation (Oluwatayo, 2012). Focus group (consisting of senior secondary school headteachers) discussions were conducted to ensure the face validity of the Headteachers' Leadership Behavior Questionnaire (HLBQ).

The degree to which items on an instrument indicate the content universe to which the measure will be generalized is referred to as content validity (Straub et al., 2004). It is necessary to ensure the instrument's content validity while developing, and all the essential items may be included in the tool (Lewis et al., 2005; Boudreau et al., 2001). Literature review and expert opinion provide the basis for content validity (Khurram et al., 2020). Choudrie and Dwivedi (2005), reported that the subject experts might be from different geographical locations. Thus, the content validity of the instrument was ensured by applying the below-mentioned steps: (a) through literature review; (b) expert opinion was desired on two levels (Essential/ Not-essential); (c) a google sheet was forwarded to multiple local and international experts of leadership behavior in terms of language clarity, appropriateness,

usability, and alignment of items with factors. Twenty (20) national and international experts provided their valuable expert opinion; (d) the content validity ratio (CVR) was calculated by using MS Excel with version 365. As per Lawshe (1969), the CVR cut value for twenty experts is 0.42. Therefore, the items with a CVR value less than the cut value were dropped. At the last stage (e), all the items beyond the threshold value were excluded from the instrument.

Khurram et al. (2020), reported that content validity is ensured by calculating CVR and CVI based on the experts' review as per the Lawshe cut values. He further noted that Face Validity is also confirmed through expert opinion. Therefore, an expert opinion was sought from national and international experts through a google sheet on forty-three (43) items. Twenty (20) experts provided their valuable opinion, of which sixteen (16) were international experts on leadership behavior. Based on the cut value set by Lawshe (0.42) for twenty experts, the items below the threshold value were deleted from the proposed questionnaire. Therefore, twelve (12) items were deleted since their CVR value was observed below 0.42, and thirty-one (31) items were retained. After exclusion of the weak items and revisiting, it was observed that the questionnaire possesses nineteen (14) items on People-oriented leadership behavior and sixteen (14) items on task-oriented leadership behavior. The revised tentative questionnaire was again forwarded to national and international experts through Whatsapp groups, LinkedIn, researchgate, and emails in the Google form to seek their valuable opinion and suggestions. Based on the results on the values of CVI and CVR, the following items were deleted from the questionnaire, and thus, the below-mentioned items were retained. The below-mentioned Table 3 indicates the retained items of the Headteachers' Leadership Behavior Questionnaire (HLBQ).

Table 3. Status of Items of the Headteachers' Leadership Behavior Questionnaire (HLBQ)

Item	Items	CVR	Status
PO1	My headteacher maintains a working relationship with the teachers.	0.80	Retained
PO2	My headteacher gives me an appropriate place.	0.60	Retained
PO3	My headteacher helps in solving problems in complex situations.	0.90	Retained
PO4	My headteacher prefers the well-being of team members	0.90	Retained
PO5	My headteacher balances my rights and obligations.	0.80	Retained
PO6	My headteacher acknowledges my services.	0.90	Retained
PO7	My headteacher supports me beyond limits.	0.70	Retained
PO8	My headteacher provides feedback.	0.60	Retained
PO9	My headteacher arranges recreational gatherings.	0.90	Retained
PO10	My headteacher provides me freedom of work.	0.90	Retained
PO11	My headteacher establishes creative communication with teachers.	0.90	Retained
PO12	My headteacher guides me without exerting pressure.	0.90	Retained
PO13	My headteacher includes me in the decision-making process.	0.80	Retained
PO14	My headteacher helps me eliminate mistakes.	0.70	Retained
PO15	My headteacher allows me to set priorities.	0.60	Retained
PO16	My headteacher arranges training for capacity building.	0.90	Retained
PO17	My headteacher provides justifications for his/her actions.	0.90	Retained
TO1	My headteacher plans the tasks for the team.	0.80	Retained
TO2	My headteacher monitors my tasks.	0.90	Retained
TO3	My headteacher evaluates my tasks.	0.90	Retained
TO4	My headteacher gives out rewards for task completion.	0.70	Retained
TO5	My headteacher is a situation handler.	0.90	Retained

Item	Items	CVR	Status
TO6	My headteacher builds appropriate teams for task accomplishment.	0.70	Retained
TO7	My headteacher assigns tasks according to the teachers' competency.	0.80	Retained
TO8	My headteacher arranges idea-sharing meetings before taking the initiative.	0.90	Retained
TO9	My headteacher believes in the completion of the task.	0.80	Retained
TO10	My headteacher emphasizes the quantity of work rather than quality.	0.90	Retained
TO11	My headteacher always demands to do more.	0.80	Retained
TO12	My headteacher believes in close supervision for the best performance.	0.90	Retained
TO13	My headteacher recognizes my task accomplishment.	0.60	Retained
TO14	My headteacher guides me in completing tasks.	0.90	Retained

The CVR values of all the questionnaire items remained excellent, ranging from 0.6 to 0.9. The below-mentioned Fig. 2 indicates that 13% of items possess CVR= 0.6, 13% have CVR= 0.7, 22% have CVR= 0.8, and 52% have CVR= 0.9. This percentage indicates that items were excellent in terms of content validity ratio.

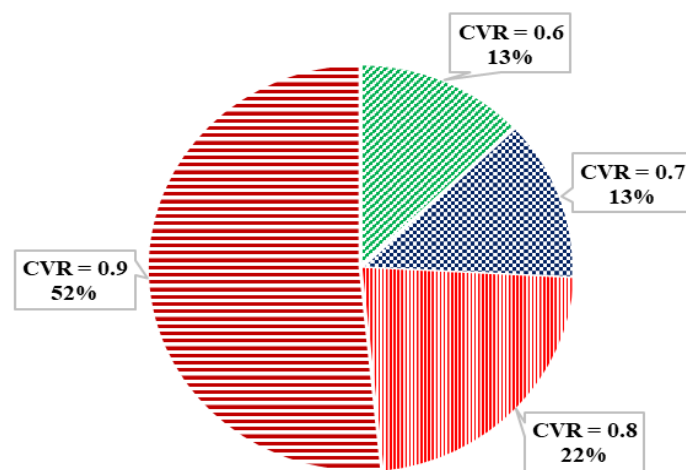


Fig. 2. Percentage of CVR Values of the Retained Items

The CVI value was calculated as 0.9, which was entirely satisfactory since it remained greater than the Lawshe cut value. In this way, the content and face validity of the Headteachers' Leadership Behavior Questionnaire (HTLB) was ensured.

3.2. PILOT TESTING OF HEADTEACHERS' LEADERSHIP BEHAVIOR QUESTIONNAIRE (HLBQ)

Tentama and Nabilah (2020), reported using Smart PLS for the data analyses of the questionnaire. Thus, the Headteachers' Leadership Behavior Questionnaire (HTLB) data were processed with Smart PLS version 4, which helped to ensure the model fit, Validity, and reliability. For the pilot study, Khurram (2020), reported that ten to fifteen (10-15) respondents are essential for each item of the questionnaire. The questionnaire was sent to three hundred and ten (310) respondents, secondary school teachers of SED (School Education Department), South Punjab, Pakistan, excluding the study sample. The responses received from the respondents were 310, which were processed through Smart PLS version 4 to ensure the construct and discriminate Validity of the scale through factor analysis.

The below-mentioned figure represents the outer model test analysis conducted through this software:

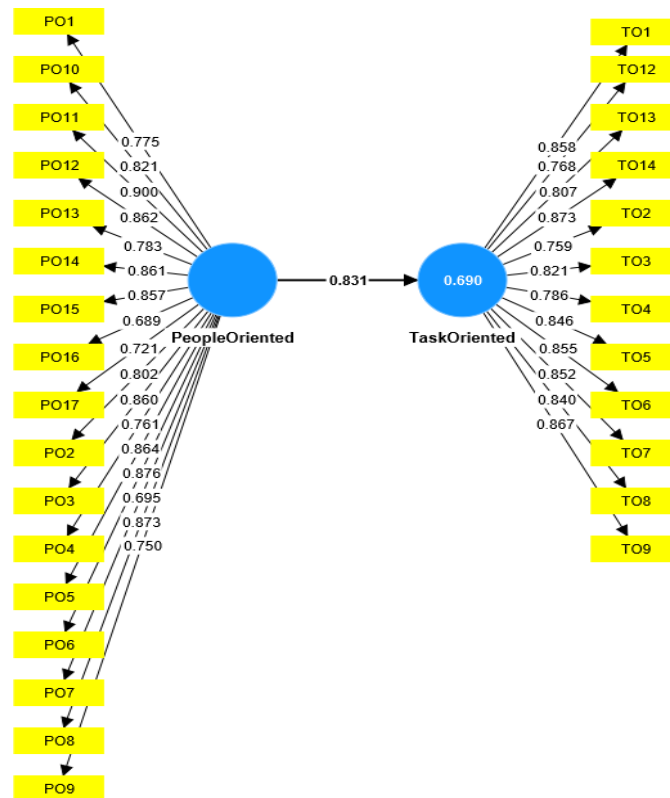


Fig. 3. Outputs of the Construct Model Test

Fig. 3 portrays that all the factor loading values are more significant than 0.5, indicating their acceptability for inclusion in the instrument.

Table 4. Factor Loading Values of the Headteachers' Leadership Behavior Questionnaire (HTLB)

People-Oriented Leadership Behavior		Task-Oriented Leadership Behavior	
Items	Values	Items	Values
PO1	0.066	TO1	0.102
PO10	0.075	TO12	0.092
PO11	0.083	TO13	0.093
PO12	0.074	TO14	0.107
PO13	0.073	TO2	0.082
PO14	0.080	TO3	0.099
PO15	0.080	TO4	0.101
PO16	0.067	TO5	0.109
PO17	0.071	TO6	0.104
PO2	0.067	TO7	0.110
PO3	0.074	TO8	0.107
PO4	0.066	TO9	0.099
PO5	0.074		
PO6	0.074		
PO7	0.059		
PO8	0.078		
PO9	0.069		

Tentama and Nabilah (2020), indicated that the Construct Validity is ensured by conducting two tests viz: Convergent validity and Discriminant Validity. They further cited that Construct Validity is confirmed by conducting tests. Loading factors are used to examine convergent Validity, which measures the correlation size between items and construct scores. The below-mentioned Fig. 4 and Fig. 5 indicate the factor loading values of the Task-Oriented Leadership Behavior and People-Oriented Leadership Behavior.

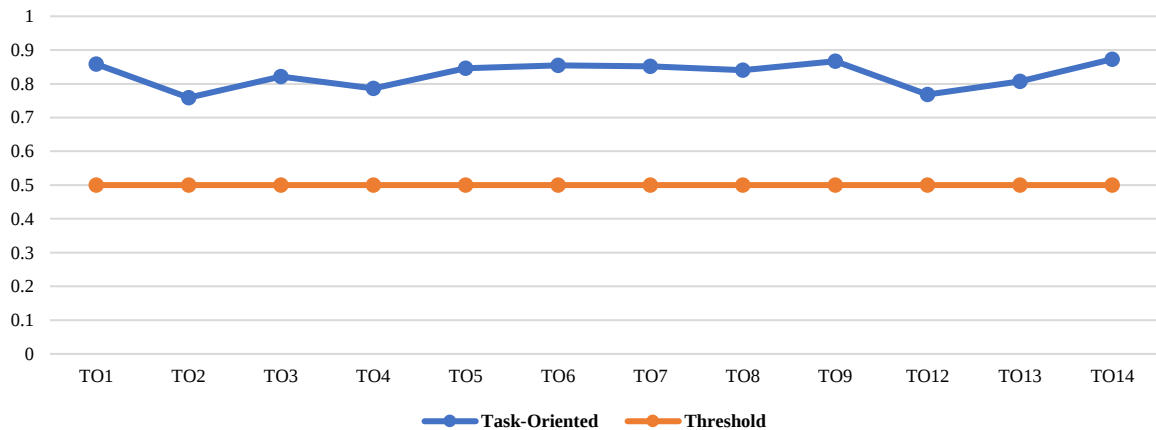


Fig. 4. Factor Loading Values of Task-Oriented Leadership Behavior

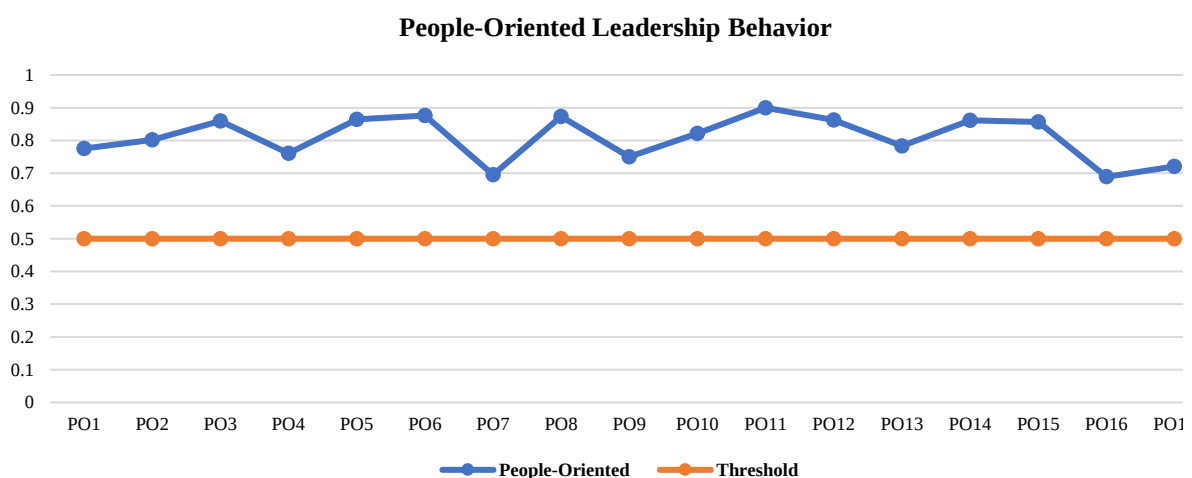


Fig. 5. Factor Loading Values of People-Oriented Leadership Behavior

3.3. CONVERGENT VALIDITY

The values of factor loading and between the factors remained greater than 0.5. When analyzing the factor matrix, the loading role becomes more crucial; the larger loading factor values greater than 0.5 and average variance extracted (AVE) values greater than 0.5 are considered significant. Thus, the questionnaire with an AVE value greater than 0.5 represents good convergent validity (Wang et al., 2021). The below-mentioned Fig. 6 indicates that the AVE values for the items related to People-Oriented Leadership Behavior were $0.658 > 0.5$, and for Task-Oriented Leadership Behavior were $0.686 > 0.5$.

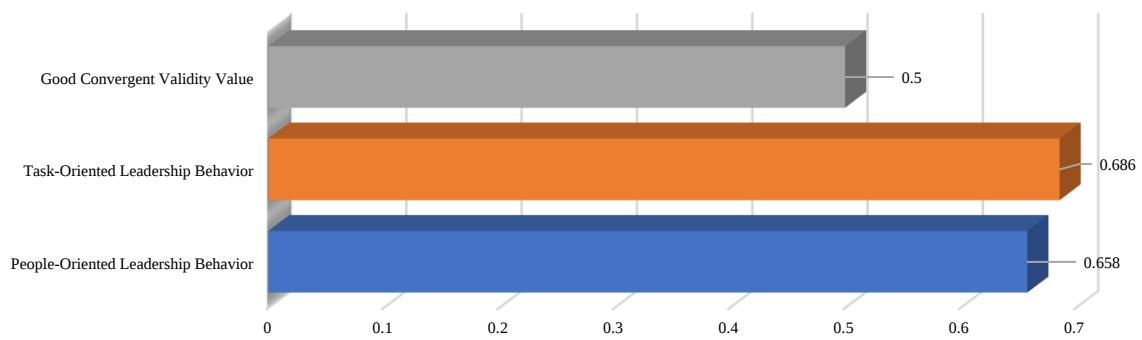


Fig. 6. Outputs of the construct model test

Table 5. Cronbach's alpha, rho_A, Composite reliability, and Average variance extracted (AVE)

Latent Variables	ID	Number of Items	AVE	Cronbach's Alpha	CR	rho_A
People-Oriented Leadership Behavior	PO	17	0.658	0.967	0.970	0.969
Task-Oriented Leadership Behavior	TO	14	0.686	0.958	0.963	0.960

3.4. DISCRIMINANT VALIDITY

Different constructor gauges do not correlate with height, which is why discriminant validity is performed; height is predicted to raise the cross-loading value between constructs and items more than the other construct values. It is better to compare the AVE roots of a construct that should be greater than the correlation among latent variables. Wang et al. (2021), reported that good discriminant validity means that the value of the square root of the AVE of the model should be greater than the correlation coefficient among the latent variables. Similarly, Lopez-Odar et al. (2019), indicated that Fornell-Larcker criterion establishes the discriminant validity of the survey instrument. Afthanorhan et al. (2021), reported that the discriminant validity could be found in three ways, i.e., (a) values of cross-loading factors should be greater than 0.7, (b) Fornell-Larcker Criterion, which means that the square root of the AVE of each construct should have a greater value than the correlations with other latent constructs (c) Heterotrait-Monotrait (HTMT) ratio of correlation which means that the HTMT values close to 1 indicate a lack of discriminant validity. The threshold value is 0.9. The below-mentioned table-06 indicates that the Fornell-Larcker criterion means that the square root of each construct's AVE was greater than the correlations with other latent constructs.

Table 6. Cross-Loading Factor Results

Items	People-Oriented	Task-Oriented	Items	People-Oriented	Task-Oriented
PO1	0.775	0.609	TO1	0.695	0.858
PO10	0.821	0.698	TO12	0.626	0.768
PO11	0.900	0.770	TO13	0.637	0.807
PO12	0.862	0.689	TO14	0.731	0.873
PO13	0.783	0.678	TO2	0.557	0.759
PO14	0.861	0.744	TO3	0.676	0.821
PO15	0.857	0.746	TO4	0.690	0.786

Items	People-Oriented	Task-Oriented	Items	People-Oriented	Task-Oriented
PO17	0.721	0.656	TO5	0.746	0.846
PO2	0.802	0.620	TO6	0.713	0.855
PO3	0.860	0.687	TO7	0.748	0.852
PO4	0.761	0.610	TO8	0.733	0.840
PO5	0.864	0.683	TO9	0.672	0.867
PO6	0.876	0.690			
PO8	0.873	0.722			
PO9	0.750	0.637			

The below-mentioned Fig. 7 indicates that all the values of cross-loading factors are greater than 0.7, which portrays a good discriminant validity.

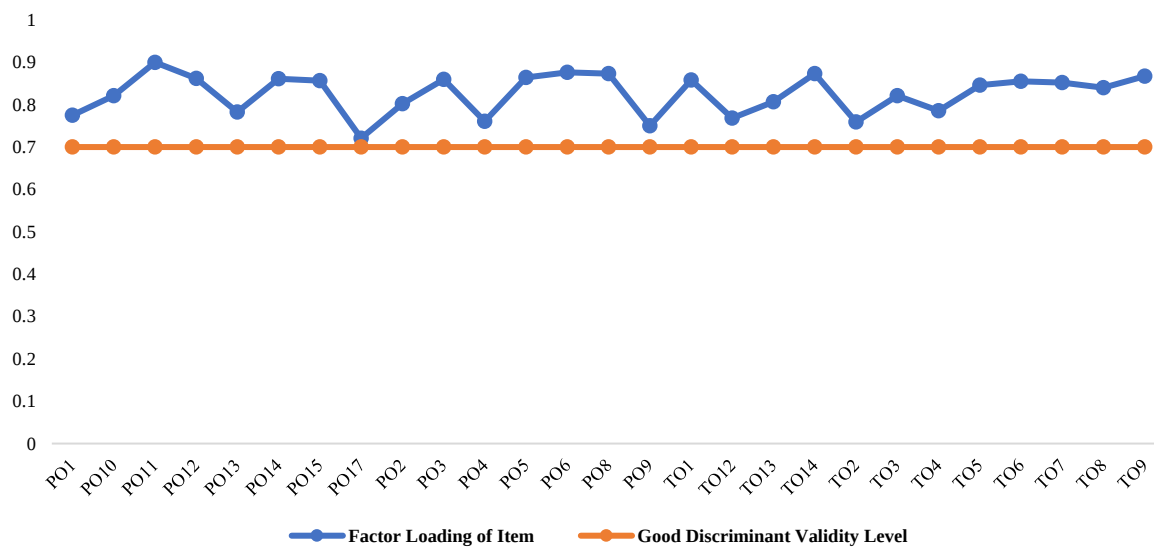


Fig. 7. Outputs of the factor loading

The below-mentioned Fig. 8 represents that the value of Fornell-Lacker criterion for People-Oriented Leadership Behavior was $0.811 > 0.774$ and Task-Oriented Leadership Behavior $0.831 > 0.774$, which establishes the square root of each construct's AVE remained more than the correlations with other latent constructs and proved that the instrument possesses discriminant validity.

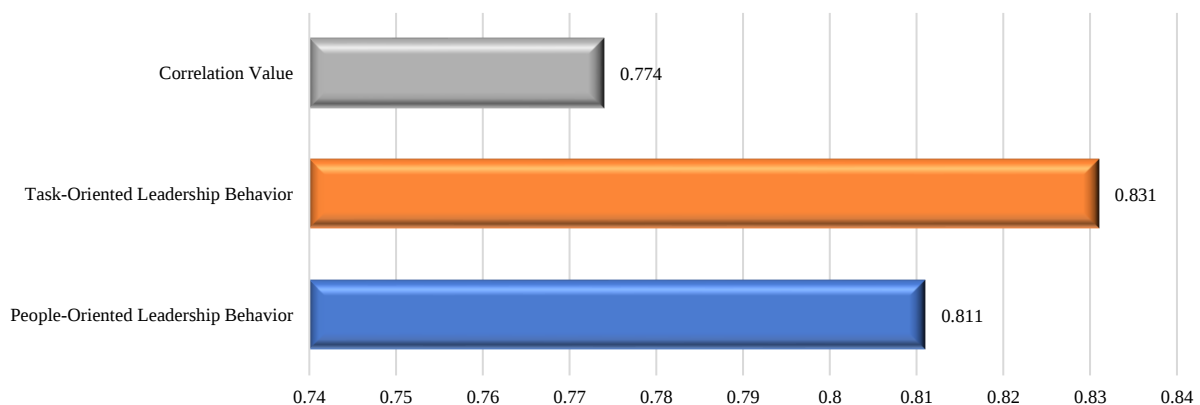


Fig. 8. Outputs of the Fornell-Lacker criterion

The value of the Heterotrait-Monotrait ratio (HTMT) was found $0.859 < 0.9$ which is acceptable and ensured the discriminant validity.

3.5. RELIABILITY

The table above indicates the Cronbach alpha values for People Oriented Leadership Behavior were $0.967 > 0.7$, and Task-Oriented Leadership Behavior was $0.658 > 0.7$. Similarly, the composite reliability (CR) values for People-Oriented Leadership Behavior were $0.970 > 0.7$, and Task-Oriented Leadership Behavior was $0.963 > 0.7$. As per the criteria set by Wang et al. (2021), Cronbach's Alpha and composite reliability values remained more significant than 0.7, ensuring the tool was reliable. Afthanorhan et al. (2021), indicate that the desired value of Cronbach's Alpha for internal consistency should be greater than 0.9. Thus, the Headteachers' Leadership Behavior Questionnaire (HTLB) was found to be internally consistent and reliable.

Table 7. Model Fit Summary of HTLB

	Saturated model	Estimated model
SRMR	0.051	0.051
d_ULS	1.138	1.138
d_G	1.019	1.019
Chi-square	1098.843	1098.843
NFI	0.929	0.929

The threshold value of Standardized Root Mean Square Residual (SRMR) should be less than 0.08 and Normed Fit Index (NFI) greater than 0.90. However, the table indicates that SRMR is $0.051 < 0.08$ and NFI is $0.929 > 0.90$.

4. CONCLUSION

Effective leaders motivate and inspire the people they are leading. This research study discusses the leadership behavior grid developed by Blake and Mouton. However, each behavioral study has its authenticity and theoretical underpinnings. Both their contrasts and similarities exist. An effective leader cannot use one leadership style to finish a project or reach a goal. Sometimes, a leader will set their leadership style based on how competent their followers are, and other times, they will make changes based on how motivated their team members are. A behavioral approach was researched at The Ohio State University, The University of Michigan, and later by Blake and Mouton. Ohio University is where LBQ was developed. Blake and Mouton also developed a managerial grid for manager training. It provides the leader with a variety of advice. Successful leaders constantly evaluate the situation and respond accordingly. Findings revealed that it was conceivable to create a tool for evaluating the leadership behavior of school headteachers that could provide valid, reliable, workable, and acceptable results. Therefore, the Headteachers' Leadership Behavior Questionnaire (HTLB) developed and validated through the rigorous study could be incorporated into the public secondary schools of SED (School Education Department).

Author Contributions:

Ms. Nyla Ramzan is a Ph.D. scholar in the Education department at Khwaja Fareed University of Engineering and Information Technology, Rahim Yar Khan, Pakistan. She conducted this study under Dr. Azmat Farooq Ahmad Khurram, an Assistant Professor at Khwaja Fareed University of Engineering and Information Technology, Rahim Yar Khan, Pakistan. Ms. Nyla Ramzan and Dr. Azmat Farooq Ahmad Khurram conceptualized the main idea of the study and finalized its methodology and write-up. Ms. Nighat Ahsan, a peer at the same university, helped in the data collection, whereas Dr. Azmat Farooq Ahmad Khurram facilitated data analysis and software finalization. All authors have read and agreed to the published version of the manuscript.

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Reference:

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