

Development of Teacher Motivation Scale at Secondary Level

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The major aim of this study was to develop a Likert type motivation scale that measure teachers' motivation at secondary level. This teacher motivation scale is named as Sajid teacher motivation scale (STMS). This scale was based on Fredrick Herzberg two factor motivation-hygiene theory. Initially, 39 items of STMS were developed under the light of Herzberg two factor motivation-hygiene theory and was administered to 53 secondary school teachers of public schools from three districts of Punjab. Exploratory factor analysis was conducted to identify the factors in teacher motivation scale. Five factors were identified on the basis of cumulative variance explained value of 57.634. 35 items of the STMS were finalized after the factor loading analysis. Five factors were role of administration (11 items); achievement (6 items); pay and job protection (6 items); career and advancement (8 items); interpersonal relations (4 items). The Cronbach's alpha value of the entire scale was 0.926; for each subscale, alpha ranged from 0.70 to 0.926. Discriminative validity was also established. The results indicated that the Sajid teacher motivation scale was valid and reliable. STMS can be used to assess teacher motivation at secondary level.

Key Words: *validity, reliability, motivation*

Introduction

Motivation is an energy or drive due to which an individual does something. Motivation identifies the reasons, why people choose to act some things and up to what extent, they can sustain and pursue the activity (Han & Yin, 2016). Therefore, motivation is defined as "a force, one that makes us constantly move, act or do things" (Kiziltepe, 2008, p. 517). Motivation answers the questions, why human beings perform certain tasks or behaviours. This "why" is called human "motives". Initially, an individual feels some need or drive, which boost up

psychological process and individuals perform certain tasks or behaviours (Oladele, 2005). Broussard and Garrison (2004) define motivation as "the attributes that move us to do or not to do something" (p. 106).

Motivation increases the performance of an employee and the goals can be achieved in a better way. The behaviour and performance of an employee can be transformed through motivation. An individual has different levels of motivation, according to the situation (Robbins, Judge, & Sanghi, 2005). Motivation is essential for individual and

organizational performance. Even a skilful individual in an organization will perform efficiently unless they are motivated (Warr & Wall, 1975).

Intrinsic and extrinsic motivations are two types of motivation. Inner urge or self-interest of the individuals is known as intrinsic motivation. While extrinsic motivation originates from a source outside the individual. A person is said to be extrinsically motivated when he performs something due to some reward or fear of punishment. However, what kind of motivation is present. An individual works with responsibility only, when is motivated adequately (Adeyemi & Oyetade, 2011). Intrinsically motivated people to participate in activities for its own sake and will, while extrinsically motivated people to participate in activities only to get rewards, bonus and promotions (Moreno, 2010).

Teacher motivation is an attraction, retention and concentration of an individual about the teaching profession. What attracts an individual to continue his initial teaching courses and adopt the teaching profession? Teacher motivation is an extent due to which teachers connect with their teaching courses and occupation (Sinclair, 2008). Teacher motivation promotes the teacher's intrinsic values to choose the teaching profession and uphold

teaching. The strength of teacher motivation depends upon a number of efforts done for teaching and these efforts influenced by a number of contextual factors (Han & Yin, 2016).

Educational leaders and managers have a special concern about teacher motivation. The teacher has a key role in the learning and teaching environment. If teachers are not motivated then the desired educational goals cannot be achieved. Now a day, teachers have a common complaint about the difficulty of student learning in the classroom and students are less motivated about to learn. This is difficult to motivate the students if teachers are not motivated. Properly motivated teachers work for the implementation of reforms originated by the policymakers (Jesus & Lens, 2005).

Teacher motivation has a major role in quality education. Without an effective and motivated teacher, the desired goals cannot be achieved. Teachers should be properly motivated to achieve quality learning. Teacher motivation enhances the empowerment of teachers in their occupation. Motivated teachers can perform their tasks effectively (Ofojebe & Ezugoh, 2010). According to Adeyemi and Oyetede (2011), it is clear that effective learning and teaching take place only when the teachers are well motivated.

Because teachers are the real actor of learning and teaching environment. Motivation has an effect on their productivity and educational standards.

There are two stages of teacher motivation. The first stage is Pre-service teacher motivation, and the second stage is in-service teacher motivation. Pre-service teacher motivation is about teaching and in-service teacher motivation is about to remain in the teaching profession as a career (Han & Yin, 2016). According to Sophia (2014), teacher motivation refers to intrinsic and extrinsic derives which influence the teacher work performance to accomplish the goals.

Workplace motivational theories are classified into two groups. These groups are named as content and process, motivational theories. Content theories focus on the behaviour and performance of employees. Employees gain job satisfaction and motivation when the work task provides them with a sense of self-improvement. According to the content theory, all individuals working at the same job place have the same set of needs. Oppositely process theories discussed the cognitive process behind the employees' diverse needs and behaviours (Yusoff, Kian, & Idris, 2013). Conventionally motivation theories are divided into two groups, named as content and process

theories. Content theories explain what energizes or initiates behaviour. Process theories are about cognitive behaviour. Maslow's theory of the hierarchy of needs and Frederick Herzberg two factor theory were well-known content theories (Addison & Brundrett, 2008).

Fredrick Herzberg two factor motivation-hygiene theory was designed in 1959. This theory was based on feedback collected about the working environment. Herzberg sets motivation and hygiene factors about employees working attitudes (Robbins & Judge, 2009). The first factor of Herzberg' theory relates to intrinsic motivation. This factor is known as motivators, which includes achievement, work itself, recognition, responsibility, advancement and growth. The other factor is hygiene (dissatisfying), which belongs to extrinsic motivation. These hygiene factors are company policies, supervision, relationship with supervisor and peers, working conditions, security, pay and status (Utley, Westbrook, & Turner, 1997).

Herzberg's theory proposed that motivation and hygiene factors are interdependent upon each other. Hygiene factors will eliminate the employee's job dissatisfaction, but the intrinsic factors will provide the inner growth and development for better performance. Extrinsic factors provide the employees' willingness to

work while the intrinsic factors provide the quality of work (Robbins & Judge, 2009). A study conducted by Yusoff and Kian (2013) among 124 employees of electronic companies of Malaysia. This study concluded that there is some difference between intrinsic and extrinsic factors of employees. The organizations should modify their procedures and working to fulfil both the intrinsic and extrinsic factors of the employees.

Chu and Kuo (2015) conducted a study about testing Herzberg two factor theory in an educational setting. What is the impact of motivation and hygiene factors on job involvement of employees? The results of the study proved that both the hygiene and motivation factors have a positive and significant effect on job involvement. The results also showed that Herzberg's theory still holds true today in different social situations. Islam and Ali (2013) conducted a study about the application of Herzberg's two-factor theory on university teachers. The questionnaire was based on motivators and hygiene factors. According to the results of the study, teachers are not satisfied with the policy of the university, pay, and opportunity for the growth. Most of the teachers are satisfied with the motivators' factors like achievement, recognition, work itself and advancement. The study has supported motivators'

factors in the respect of the motivation-hygiene theory.

To assess and understand the employees' motivation at work, a study was conducted by the Baah and Amoako (2011). Employee motivation was assessed by applying the Fredrick Herzberg motivation-hygiene theory. The two-factor theory explains the motivators and hygiene factors. Motivators are intrinsic factors, while hygiene factors are extrinsic factors of motivation. This study adds what motivates employees most. Intrinsic factors or extrinsic factors. The worker's rate motivation factors higher than hygiene factors. This study concluded that motivation factors have a high influence on the motivation of workers than hygiene factors in the working set, according to the opinion of workers.

Yusoff, Kian, and Idris (2013) conducted a study about Herzberg's motivation-hygiene theory on work motivation. Does Herzberg's motivation-hygiene theory work for the today environment, was a major aim of the study. The results proved that intrinsic and extrinsic factors are used as a one set of determinants to find the employees' job motivation in order to increase job performance. A study was administered in Isparta, Turkey to assess the motivation of secondary school teachers. Herzberg's

two-factor theory was applied. A paper survey was distributed among the one hundred and ninety-eight respondents. These respondents were involved in high school teaching. The results of the study revealed that motivation and hygiene factors affect the satisfaction of secondary school teachers (Hilmi, Ali, & Nihal, 2016).

Alfayad and Arif (2017) conducted a study, using a cross-sectional design and collect the data on a questionnaire from 300 non managerial staff working in a private organization of Jordan. Herzberg motivation theory was applied to assess the worker's voice and job motivation. To test the hypothesis, Structural equation modelling (SEM) by Amos was used. Herzberg's motivation theory supports the relationship between workers' voice and motivation of employees, which leads to job satisfaction at the workplace. Smerek and Peterson (2007) conducted a survey of 2700 employees about motivation working in business operations. The results conclude that Herzberg's theory is most suitable to assess the motivation at the job place. The strongest predictor of job motivation is work itself.

The major aim of this study was to develop a Likert type scale to assess the teacher motivation at the secondary school level. This motivation scale is named as

Sajid teacher motivation scale (STMS).). This study has assessed the in-service teachers' motivation at the secondary level in Punjab.

Methodology

Writing items of the scale--

Initially, 39 items were developed under the light of Herzberg two factor theory. 17 items were developed under the light of intrinsic motivation and 22 items were developed under the light of extrinsic motivation by the Herzberg two factor hygiene theory. An expert opinion was obtained to verify the content validity of the scale. In this way, statements were modified and revised to get a better shape. The questionnaire was based on a five-point Likert scale. Statements of the scale were translated into Urdu for better understanding. These translations in Urdu were also reviewed by the experts.

Pilot Study-- The teacher motivation scale was applied to 53 randomly selected public secondary school teachers, including male and female from three districts of Punjab in 2016. The three districts of Punjab were Lahore, Vehari and Faisalabad including urban and rural areas. The face validity of the scale was determined by the expert opinion. In reliability analysis, Cronbach's alpha value

was 0.931 and item to total correlation values of all statements were above 0.3

Analysis of Data

The exploratory factor analysis (EFA) technique was applied by using principal components as a method. Varimax rotation method was used. Factor loading values above than 0.35, were accepted as loading values.

Findings

Initially, KMO and Bartlett’s test was applied to assess the suitability of data for factor analysis. The value of KMO test was 0.601 and Bartlett’s test of sphericity value was significant at (p = 0.000). According to Pallant (2011), the value of KMO test 0.6 or above and Bartlett’s test of sphericity is significant. This refers that the data is accepted for factor analysis.

The scree plot shows the Eigenvalues against the items of the scale. Scree plot analysis helps us in reducing the factors. From the analysis of the scree plot, it is clear that the first five values of the scree plot are significantly above the flat line. Then the line is almost flat. This means that five factors are loading distinctively.

Table 01

Factor Loading of items in Sajid Teacher Motivation Scale (STMS)

Items	F 1	F 2	F 3	F 4	F 5
	Role of Administration	Achievement	Pay and Job Protection	Career and advancement	Interpersonal Relations
	Items (11)	Items (06)	Items (06)	Items (08)	Items (04)
01	0.571				
02	0.717				
03	0.713				

Five-factor solution was accepted with the cumulative variance value of 57.63.

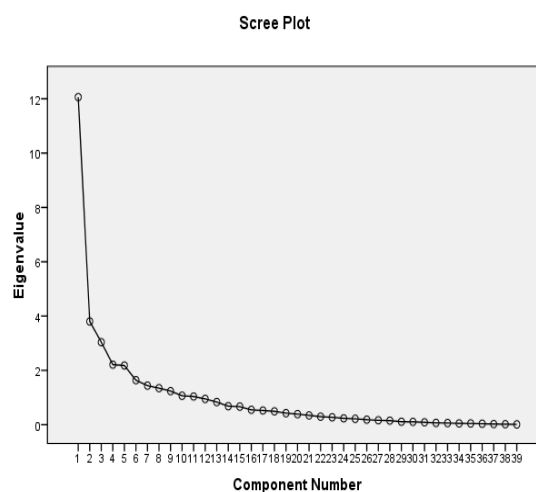


Fig 1. Factor scree plot STMS

Totally 35 items of the Sajid teacher motivation scale (STMS) were finalized with 5-factor solutions. Construct validity of STMS was verified by the factor analysis. The results presented in table 01 indicate that five factors constitute the construct of STMS scale and these factors confirmed the five factors designed in the STMS scale.

04	0.517				
05	0.756				
06	0.629				
07	0.715				
08	0.550				
09	0.615				
10	0.853				
11	0.862				
12		0.816			
13		0.634			
14		0.851			
15		0.617			
16		0.387			
17		0.542			
18			0.857		
19			0.904		
20			0.901		
21			0.417		
22			0.719		
23			0.416		
24				0.390	
25				0.565	
26				0.693	
27				0.743	
28				0.466	
29				0.397	
30				0.531	
31				0.354	
32					0.715
33					0.471
34					0.578
35					0.574

Note. All loadings values smaller than 0.35 have been omitted.

According to table 01, there were finally five factors concluded with 35 items of the Sajid teacher motivation scale. The first factor was labelled as ‘*Role of Administration*’ with 11 items. The second factor was labelled as ‘*Achievement*’ with 6 items. The third factor was named as ‘*Pay and Job Protection*’ with 6 items.

The fourth factor was named as ‘*Career and Advancement*’ with 8 items. The fifth factor was labelled as ‘*Interpersonal Relations*’ with 4 items. The Cronbach’s alpha value of STMS scale was 0.923. Cronbach’s alpha value of each factor was calculated. Cronbach’s alpha value ranges from 0.70 to 0.93.

Table 02

Reliability Coefficients, Discriminative validity (mean correlations with other subscales)

Name of Factor (Sub Scale)	No. of Items	Mean	SD	Cronbach’s Alpha	Mean Correlations
Role of Administration	11	41.92	8.17	0.930	0.506
Achievement	06	25.15	3.18	0.798	0.366

Pay and Job Protection	06	19.98	5.26	0.856	0.236
Career and Advancement	08	27.83	5.59	0.786	0.492
Interpersonal Relations	04	16.77	2.02	0.70	0.429
Total scale (STMS)	35	131.66	18.42	0.929	

The construct validity is determined by calculating its relationships with other constructs, both related (convergent validity) and unrelated (divergent validity). This divergent validity is called the discriminant construct validity (Pallant, 2011). According to Campbell and Fiske (1956) introduced the concept of construct validity for evaluating the test validity. Discriminant validity shows that two scales or subscales or constructs measure different concepts. The evaluation of discriminant constructs validity shows that the concept of a test is not highly correlated with the concept of the other test. A value of less than 0.85 described that discriminant construct validity exist between two constructs. A value greater than 0.85 means, two constructs are overlapping with each other. They measure the same concept. Baer et al. (2008) determined the construct validity of the five facets mindfulness questionnaires and calculate the intercorrelations of five mindfulness facets. Intercorrelations range from 0.32 to 0.56 with a p-value less than 0.01 suggests that facets have distinct constructs. Table 02 indicated the discriminative validity, ranging from 0.236

to 0.506. This showed the independence of each subscale. The discriminative validity by mean correlation was also determined by the Tuan, Chen, and Shieh (2012) and Rana, Mehmood, and Reid (2015).

Conclusion

STMS was developed on the basis of Herzberg two factor motivation-hygiene theory. Five factors were identified as a result of exploratory factor analysis. Total items of the scale were 35. The Cronbach's alpha value STMS was 0.926 and for each factor of the scale was ranging from 0.7 to 0.93. Discriminant construct validity of the scale ranges from 0.236 to 0.506. The results of the study interpreted that the STMS had good validity and reliability. STMS covers the intrinsic and extrinsic factors, which influence the teacher motivation at the job place. Researchers and scholars can assess the level of teacher motivation at the secondary level by using the STMS. The present study contributes to the assessment of teacher motivation at the secondary level. The results of the study provide insight to policymakers, school administrators, teacher educators and teachers, focusing on different dimensions

of teacher motivation. Further teacher motivation scale can be developed at the elementary level in public schools. Although a scale can be designed to assess the teacher motivation of private-sector teachers.

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