

# **The Role of Coloured Books in Developing Interest and Strengthening Content Knowledge of Slow Learners**

Nusra Inayat \* Nayyab Jawed\*\* Hira Fatima\*\*\*

## **Abstract**

This research paper is about the importance of coloured books in helping the slow learners to learn better. Schools prepare the students to face the competition of the real world by focusing on their overall development. The present study was planned to identify the role of coloured books in developing interest and strengthening content knowledge of slow learners. The researcher selected 20 students of Grade 2 from the 'Government Special Institute' Center for Slow Learners from JhangSadar by simple random sampling method. These students were divided into two equal groups (10 students per group) for comparison. Researcher developed two tests; Test 1 (TACB) administered students of Group 1 who were taught with the help of coloured books. Whereas, Test 2 (TABAWB), was given to students of Group 2, who were taught with the help of black and white books. It was observed that the coloured books had more impact on slow learner students as compared to black and white books. It is observed that when bad quality printed or photocopied books are used in schools, the students usually lose interest in studies. The Education department, curriculum developers and other stake holders need to take the responsibility of selecting relevant books of good quality which bear a relation to the students in terms of environment, educational standard and literacy level.

**Key Words:** Coloured books, Importance of coloured books for slow learners, Coloured books versus Black and White books, teaching Primary School Students.

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## **Introduction**

Colour has a tremendous impact in all walks of life and especially on Students' learning and engagement, and is also valuable for understanding complex topics, maps, data charts and other

graphics. A study conducted at the University of Massachusetts noted that “thinking visually in colour promotes long-term meaningful learning and problem-solving achievement in children”.(Khatoon, 2003).

Studies have shown a strong relationship between colour preferences to emotions, and academic performance in students (Boyatzis& Varghese, 1993; Imhof, 2004; Karp & Karp, 2001; O'Connor, Sofo, Kendall, & Olson, 1990;Terwogt&Hoeksma, 2001; Wilkins, 2003).

We can get attention of special children easily by using colourful pictures. There is also a need to understand the physical, emotional and psychological effect of different colours on children. This fact can help in designing books which can play a vital role, are more effective and helpful for special children in learning better. This study is important for the students who face learning difficulties in private and public special schools. It is also beneficial for the schools in improving the standard of learning. It has great importance for teachers of special education to overcome learning problems of students at primary level. Some students, such as those with Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), Asperger Disorder (AD)and some others may be more sensitive to colours, due to heightened sensory responses and strong visual processing abilities (Freed & Parsons, 1997).

We live in a world of colour. The rapid rise in technology utilizing full colour spectrums such as televisions, the internet, and cell phones, has intensified research on the impact of colour on learning processes such as Stimulation (Greene, Bell, & Boyer, 1983; Wilson, 1996). Research has shown that moderate provocation can increase memory retention (Myers, 2006). Given the amount of colour with which individuals engage while comprehending information, it is logical to question whether stimulation due to colour has enough impact to increase memory.

Colour is an important part of the environment of learning. Studies reveal that special colours have direct effect on health, morals, emotions, behaviors and performance of the learners (Daggett et al.,2008). However, the effect of colours also depends on culture, age, sex and the level of development of children. In fact, colour reduces violence and destructive behavior of the students and reduces absenteeism (Daggett et al., 2008). In area of colour preference for learners with ASD and ADHD and AD, researches have shown varied results with diverse effects of colours on learners. Some children with ASD, AD andADHD are attracted to bright colours, while others are overwhelmed by the stimulation. Imhof (2004), Zentall& Dwyer (1989), and

Kennedy (2005) concluded that colour stimulation in the learning environment conducted by the attention and motor processes, results in better academic performance. The use of coloured lenses and coloured overlays has shown a dramatic improvement in reading for those with reading disabilities (O'Connor et al., 1990; Wilkins, 1996). Most of the prescribed text books for special children used in Pakistan are low quality photocopied black and white. It appears that a book that covers the syllabus and is of low cost is acceptable by schools as prescribed text book. However, the effect of using black and white books verses coloured books on student learning in Pakistan is not investigated. This study is an attempt to understand the effects of using coloured books on learning of special children. A 'Slow Learner' may be called sluggish, below average or borderline retarded. But we prefer the term 'Slow Learner'. Slow learners mostly delay in responding, understanding, walking and talking and have problems by birth. Severe head injuries, meningitis, or the mother's use of alcohol or cocaine during the pregnancy can cause a child to become a 'Slow Learner'. Sometimes children with below average cognitive abilities, (who are not termed as disabled or slow learners), also struggle to cope with traditional academic demands of regular classrooms due to some other reasons.

**Statement of the Problem** The present study was designed to identify the role of coloured books in developing interest and strengthening content knowledge of slow learners.

### **Objectives of the Study:**

Objectives of the study are:

1. To evaluate the effectiveness of colourful academic books in developing understanding of content in slow learners as compared to black and white books.
2. To compare the differences in interest level of slow learners when coloured books are used as compared to black and white books.
3. To study the role of coloured books in motivating slow learners.

**Significance of the Study:**

There is no research available which had studied the impact of coloured books on slow learner students' learning in Pakistan. Aiming to identify the impact of coloured books in strengthening content knowledge for slow learners, researcher conducted the study in Special Education Centers for Slow Learners in Government schools of Punjab.

**Sampling:**

Using simple random sampling, 20 students of Grade 2 were selected from the Government Special Institute Center for Slow Learners, JhangSadar, and were divided into two equal groups for comparison. Group 1 (consisting of 10 students) was taught using books with coloured pictures and Group 2 (consisting of 10 students) was taught using books with black and white pictures. In this study Researcher compared the above mentioned two groups in an English lesson and its assessment. Assessment consisted of two simple tests in which

1. Students matched words with their related pictures.
2. Students matched pictures with the other pictures.

Students answered simple questions e.g. do you like mangoes? These questions were asked verbally. The students were not shown the pictures because the items were related to their previous knowledge and depend on the likes and dislikes of the students. Assessment was designed in accordance with the ability of the slow learners. Observation technique was also used for obtaining better results for the study. Observational technique plays a vital role in studying and identifying interest level of slow learners. This technique was also used to observe their facial expression, interests, attitudes, and their behavior towards study and books (coloured as well as black and white).

**Instruments:**

Researchers developed two tests; Test 1 was administered to students of Group 1 who were taught with the help of colour books. Test 2 was administered to students of Group 2 who were taught with the help of black and white books.

**TACB:**Test administered after teaching with books with coloured pictures.

**TABAWB:** Test administered after teaching with black and white books.

### **Delimitations**

Considering the limited time and financial resources, the study was delimited to only six schools of special education at primary level in JhangSadar.

### **Data Analysis**

Data was analyzed with the help of comparing the marks of both groups. Interest level of students was measured by taking tests from them,collecting data and standard deviation of these tests results.

The students were motivated by the researchers during teaching the lesson.

Researchers delivered the lessons to both groups and motivated respondents by reinforcement, encouragement and praising.

Group 1 (coloured books) response, attention, interest level was remarkably more than Group 2 (black and white). For examples students who were taught with coloured books were showing excitement and wanted to study more using coloured books. In comparison to the students who were taught with black and white books were disinterested, confused and became tired quickly.Result of the tests clearly shows that coloured books are more interesting than theblack and white.

### **3. Result of Item I**

Table 1

Group	S1-	S2-		S4-	S5-		S7-	S8-	
1	G1	G1	S3-G1	G1	G1	S6-G1	G1	G1	S9-G1

<b>Mark</b>									
<b>s</b>	5	5	5	5	5	5	5	5	5
<b>Grou</b>	S1-	S2-	S3-	S4-	S5-	S6-	S7-	S8-	S9-
<b>p 2</b>	G2	G2	G2	G2	G2	G2	G2	G2	G2
<b>Mark</b>									
<b>s</b>	5	5	5	5	5	5	5	5	5

All students' responses were the same. All students of both groups had achieved same marks; it showed that their listening skills were good. Researcher read the item for students and then asked students to repeat these words and provide answers. It is important to note that students could answer this question by reading only and without looking at the pictures.

### **Result of Item II (Item 2 required students to recognize the picture and then match the picture with the word).**

Table 2

<b>Group 1</b>	S1-G1	S2-G1	S3-G1	S4-G1	S5-G1	S6-G1	S7-G1	S8-G1
	S9-G1	S10-G1						

Students of Group 1 worked on this question on their own, since their books had coloured pictures. Additional help was not sought by students in solving this question. They managed to work independently.

Students of Group 2 did not work needed assistance in answering this question since their books had black and white pictures. Additional guidance was sought by students in solving this question. Students of Group 2 were not been able to recognize all the pictures properly even though the Xerox copy of the lesson was clearly printed. Researcher helped students to read the written word on the paper and then match this with picture. Responses of the both group were different. Most of the students, who were taught from coloured books and whose activity was on

coloured books, got 10 out of 10 marks. But those students, who were taught with Xerox copy of books, got significantly lower marks.

### Result of Item III (Column Match)

Table 3

Group	S1-	S2-	S3-	S4-	S5-	S6-	S7-	S8-	S9-	S10-
1	G1	G1	G1	G1	G1	G1	G1	G1	G1	G1
All students' responses were the same. All students of both groups had achieved same marks; it										
Marks	5	5	5	5	5	5	5	5	5	5
Group	S1-	S2-	S3-	S4-	S5-	S6-	S7-	S8-	S9-	S10-
2	G2	G2	G2	G2	G2	G2	G2	G2	G2	G2
Marks	5	5	5	5	5	5	5	5	5	5

showed that their listening skills were good. Researcher read the item for students and got responses. Researcher asked the opposite of different words such as hard and soft etc. Researcher noted that students could answer this question by reading only and without looking at the pictures.

### Comparison between two Groups

Groups	N	Mean	Std. Deviation	t	df	sig
scores1	10	6.5667	2.71355	1.330	2.83	.280
2	10	4.2667	1.27017			

The table above shows the effect of coloured books on slow learners. The values of group 1 were N = 10, M = 6.5667, SD = 2.71355 and the values of group 2 were N = 10, M = 4.2667 SD = 1.27017. There is a mean difference between these two groups. It depicts that the group 1 who used coloured books performed better than the group 2 who used black and white books.

The sig value .280 is not less than alpha .05. So we fail to reject Ho. And concluded that there is no significance difference between Group 1 and Group 2 overall. However, it is also important to note that in Item 2 there was significant difference between the responses of Group 1 and Group 2.

The interest level of children in Group 1 was visibly more than the interest level of Group 2. It was concluded that use of the coloured books increased the interest of students of grade II at primary level. Coloured books developed great interest and motivation of students to observe and read their books carefully and were motivated towards work, which is directly related to their correct answers.

### **Observations During the Lesson:**

#### **During Coloured Book Lessons:**

During the coloured book lessons, the researchers observed that students showed interest, happiness and excitement and they were not bored during the lesson. They easily answered questions asked and quickly responded to the researcher.

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#### **During Black and White Book Lesson:**

During the black and white book lesson, researchers observed that students were not willing to study using black and white books; they were bored, disinterested and faced difficulty in answering questions.

#### **Activities:**

Researchers planned same activities for both Group 1 and Group 2, considering activities as tests.

#### **Responses of both Groups toward activities:**

##### **Item 1:**

Responses of Group 1 towards **item 1** activities were positive and responses of Group 2 were also positive, because Item one was related with reading skills of students. Students had to read sentences and tell what they liked and disliked.

##### **Item 2:**

Group 1's responses towards **item 2** activities were positive whereas responses of Group 2 were negative, because item two was related with recognizing skills of students. Students were asked to draw lines to match the pictures with the words.



**Item 3:**

Group 1's responses towards **item 3** activities were positive and responses of Group 2 were also positive because item 3 was about reading skills of students. Students were asked to match the opposite words.

**Conclusion**

Researchers noticed that the behavior of the slow learners was different in both groups. Group 1's (coloured books) response, attention, interest level was remarkably more than the Group 2 (black and white books). For example students who were taught with coloured books showed interest, were excited and wanted to continue studying using coloured books. Whereas, students who were taught with black and white books were disinterested, looked confused and became tired quickly.

Many factors play a vital role in the education of children, such as, teaching styles, behavior of the school staff and parents, appropriate curriculum and selection of the books according to the age level of the students, and so on and so forth. The importance of coloured books had immense impact on all students, especially slow learners. The coloured and well-printed books attracted the reader and increased their interest as well as made it easier for them to understand the content. It was found that coloured books played a very important role in teaching of all students especially were very helpful to slow-learners.

**Suggestions and Recommendations:**

Classroom environment influences the slow learners in building their confidence. Appraisal at the achievement in the classroom activities let the slow learners display their capabilities. Therefore the atmosphere of cooperation and equality in the class is of utmost importance. Teachers need to use humor in the class to make the classroom environment pleasant. The class size should also be reduced when including slow learners because a students' achievement is usually measured by class assessments. If the number of students is less, the teachers will be able to pay individual

attention and have more opportunities to give extra help to the slow learners. The goals of a curriculum should match the individual capacities of slow learner.

In the teachers' view, the regular school curriculum is appropriate for slow learners. They mostly have support from their Head-teacher or Principal to try new ideas and implement creative strategies. Teacher keeps a balance and a variety in all activities to meet the diverse learning needs of slow learner.

The curriculum developers also need to play an active role in assigning books that are relevant to the curriculum being taught. Moreover, the books need to have a certain connection with the students that are studying them and this can include multiple factors such as the educational background, living environment and literary understanding.

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## **Study of the Impact of Scaffold Instructions on the Learning Achievements of Post-Graduate Students**

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## Abstract

Scaffolding is an allegory for the construction of a conceptual aid to support beginners for better and easier understanding. The present experimental research was designed to see the scaffold instruction's effect on the learning achievements of post graduate students. An intact group of 60 master students studying at a university campus were distributed in two groups; one as experimental group and the other as control group. The pre/post test was pilot tested before the administration. The two groups having 30 students each were given a pretest. Controlling the extraneous variables, these two groups were taught the course “Research Methods in Education” for one semester (16 weeks). The experimental group received scaffold instructions and the other group was taught with traditional lecture method. After the completion of the semester, the 'post-test' was applied to both of the groups. Comparison of the gain score of two groups revealed that students guided by scaffold instruction achieved better grades than that of the group taught with lecture method. It was concluded that scaffolding helps to clarify concepts even at post-graduate level in complex subjects. Key words: Scaffolding, research methods, learning achievement

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**INTRODUCTION** The concept of Scaffolding was first originated by Bruner (1975). Later work was done by Wood and Ross (1976), which was further supported by Vygotsky (1978). Vygotsky recommended that the 'immature learners can complete those tasks which they can't achieve along with the guidance of mature ones.' The scaffold instruction is defined as the

organized pattern and sequence of content, tasks, learning materials as well as to optimize learning both teachers and students involvements (Simmons, Chard, & Dickson, 1993). To master new skills, tasks and to be able to comprehend and apply the skills without any guidance, the process of scaffolding supports learners. To present a complex phenomena in simple understandable form as well as visually accessible knowledge, scaffolds are planned guidelines, conceptual framework, pictorial aids or images. To enable individual as an independent learner and mastery new skills and tasks, scaffolds provide incentives for teachers. Teachers can polish students' those potentials that are out of the range of their current abilities (Rosenshine, 1992).

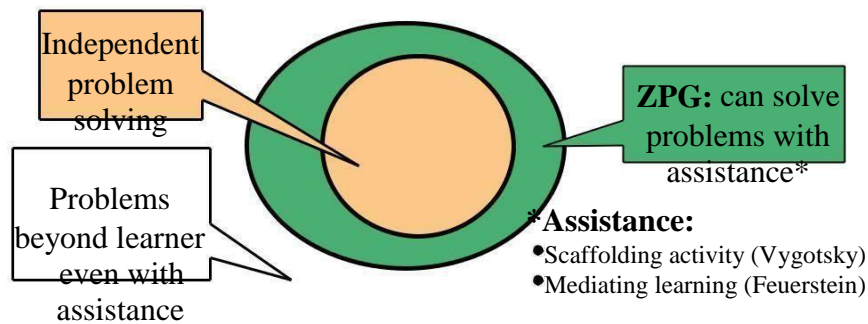
Scaffolding is a way through which teachers lead the learners from something known to unknown. Scaffolds perform as enablers, if accurately managed, in various learning settings. To break knowledge into small components and then leading towards construction and then extension are the forms of scaffolding (Benson, 1997).

Lev Vygotsky operationally conceptualized the term scaffolds with the concept of 'Zone of Proximal Development' (ZPD). The ZPD is properly defined as the gap between actual development level which can be independently established due to problem solving techniques and then the level of optimum development after mature intervention. It is the use of problem solving techniques under the supervision of adults as well as mutual collaborations with more capable peers (Vygotsky, 1978).

Through scaffolds, an expert as well as a more well-informed person can assist the students towards accomplishment of their set goals and to enable them to utilise already learnt skills, tasks and approaches to improve themselves to mastery those skills (Winne & Hadwin, 2001).

Eventually, the internalized expertise achieved through supportive guidance becomes a part of their learning. The wisdom acquired through scaffolding was the instructor's contribution to bring creativity among learners (Vygotsky, 1978).

### The conceptual framework



Vygotsky (1978)

To deal with complex phenomena, difficult concepts and professional skills, in higher education institutions, several approaches are administered to promote active learning through providing adequate scaffolding instructions. It also supports and encourages collaborative and interactive approaches in active learning classrooms (Crandall, 2002).

To design instructional strategies, the main steps included are appropriate development of instructional plans and implementation of those plans, in which teacher facilitates the students at every step in terms of active learning process (Langer, 2002).

The socio-cultural educational theory explained by Vygotsky emphasized on individual's academic achievement, his theory further refined in recent researches which is useful as teaching aids. The unique notion of scaffolding implies that an expert or well-informed person guides with the strategies and skills which not only facilitate learners to enable them to accomplish the tasks but to maintain in the forms of modeling, highlighting the critical topics towards tasks and offer hints as well as questions that might support learners to reflect (Wood et al., 1976).

The instructor's role is cognitive, perceptual and effective in the concept of scaffolding (Daniels, 2001). In 1983, Langer recognized five features of scaffoldings as, the first one 'intentionality' interconnected with the clear purposive tasks derived from separate activities that represent to the whole. The second one was 'appropriate' interlinked with the problem based

activities during instructional tasks and the third one was 'structure' which involved questioning and modeling process. The next one was 'collaboration' where teacher's role is collaborative towards student's work rather than evaluative. The last one was 'internalization' relatively based on external scaffolding usually conceptualized as the sequence that was internalized by the learners (Applebe, 1983).

### **Rationale of the Study**

The concept of scaffolding is increasingly popular among the educators, researchers as well as practitioners. There is need to establish comprehensible theoretical framework towards the basic rules of scaffolding in appropriate ways. Scaffolding techniques have been applicable in lower classes but we are not paying attention to apply these activities in higher classes which are equally challenging. Hence, it is necessary to use such techniques on the post-graduate as well as graduate programs. Moreover, being Pakistani, to meet with the international standards in education and development of lifelong conceptual learning amongst the higher levels. This is the main concern to conduct this research to focus the current problem at advance level educational courses. In Pakistan, many students have opportunity to get the degrees of MPhil and PhDs due to the progressive policies of Higher Education Commission (HEC). The productions of some universities are greater than 200 PhDs within a year. The phenomenon has modified traditional rigorous concept towards researcher's skills as well as critical analysis. Moreover, an increase in quantity may affect quality of research dissertations due to weak conceptual foundations of post graduate students. Hence, the application of scaffold techniques at higher level is very essential to enhance standards of researches and improve the quality of education. 'Research methods' as a subject, is introduced at both graduate and post-graduate levels in our country in various

Study of the Impact of Scaffold Instructions on the Learning Achievements of Post-Graduate Students programs. There is a need of sufficient knowledge, complex skills and creative thinking for practicing different methods of research.

For novice researches, the relationship among variables, method selections and statistical procedures seem to be a jargon. Use of conceptual maps, tables, grids, visuals, structures and

figures are required to clarify the concept. The effectiveness of scaffolding techniques at higher levels of education makes research methodologies easier to learn and guide students to learn mastery skills and practices.

### **Hypothesis**

Ho: There is no significant difference in the 'academic achievements' of students who were administered scaffold instructions and those who were taught through traditional lecture method.

### **Procedure of the study**

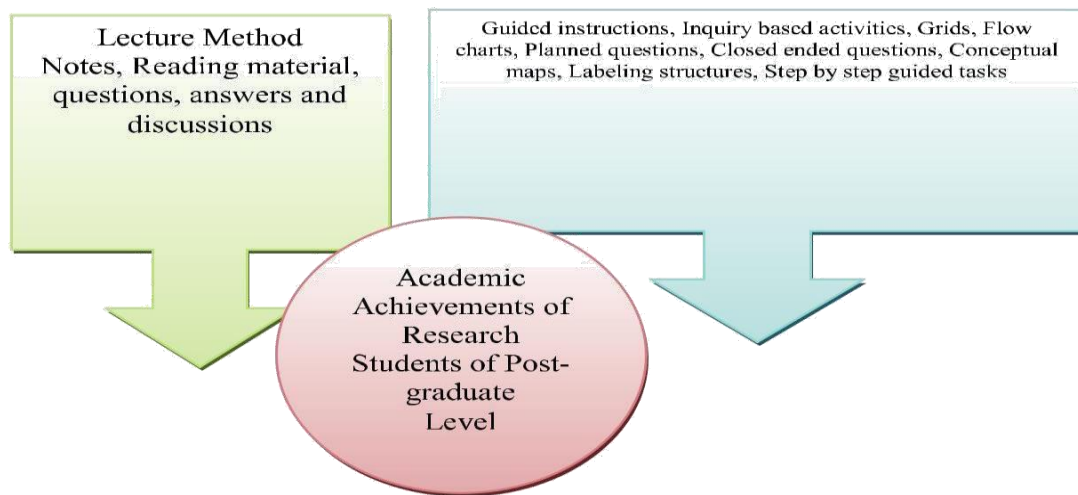
The experimental study was a 'pre-test, post-test control group design'. One group was experimental group and other was control group. The purpose of study was to investigate the impact of scaffold instructions on the learning achievements of 'post-graduate' students. The postgraduate students of subject Education, studying at a sub campus of Punjab University were considered as the population of the study. The intact group of 60 students were taken as the sample of the study. The content of 'Research Methods' was selected, having three credit hours. An achievement test was prepared by the researchers as the instrument and it was validated after pilot testing before administration; the reliability quotient was  $\alpha = 0.72$  which showed internal consistency of items. The pre-test (an achievement test) having 25 multiple choice was applied to all students. After administration of the test, the students were distributed into two groups according to the matched scores achieved in the 'pre-test' for the sake of controlling extraneous variables. The 30 students were in experimental group and the same number of students was selected for control group. The researcher applied scaffold activities to teach the selected chapters to the experimental group prepared by the researcher with the help of experts and the control group was taught with traditional lecture method by the same instructors. The scaffolds entailed grids, structured questions, tables, guided discussions, inquiry based activities, close ended exercises, conceptual maps, flow charts, illustrations and labeling structures, step by step guidelines for relevant tasks and one pager content analysis blue prints.



The control group was taught with lecture method provided notes and reading material. Question answer technique and classroom discussions were continued as per usual practice.

The duration of instructions for both methods continued for 16 weeks. After completion of the chapters, along with the final examination, the 'post-test' was applied as the part of final paper (25 multiple choice) to both experimental and control groups. To find the significant difference of scores between two groups, t-test for paired sample was applied. The final achievement on MCQs test of both experimental and control group was evaluated with the help of t-test also.

#### Conceptual framework of the scaffold experiment



## Results

The scores of pretests of both experimental and control group were subtracted from the posttests individually to get gain scores of both groups in order to determine the original difference of learning achievement of each student at the end of the study. Finally the mean of gain score of both groups was calculated and tabulated as below:

Table No.1

Descriptive statistics for achievement scores of both experimental and control group

Improvement in learning	Effect of scaffold instruction	N	Mean	SD
	Control group gain score	30	.40	4.492

Experimental group gain score	30	9.17	4.713
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#### Study of the Impact of Scaffold Instructions on the Learning Achievements of Post-Graduate

Students The table above showed that the amount of gain score of the control group was N= 30,

Mean = .40 and standard deviation = 4.492 where the value of gain score of experimental group

was N = 30, Mean = 9.17 and standard deviation = 4. 713. The mean score of experimental group

(9.17) was significantly higher than the mean score of control group (0.40).

The findings obtained revealed that the null hypothesis, ‘there is no significant difference in the

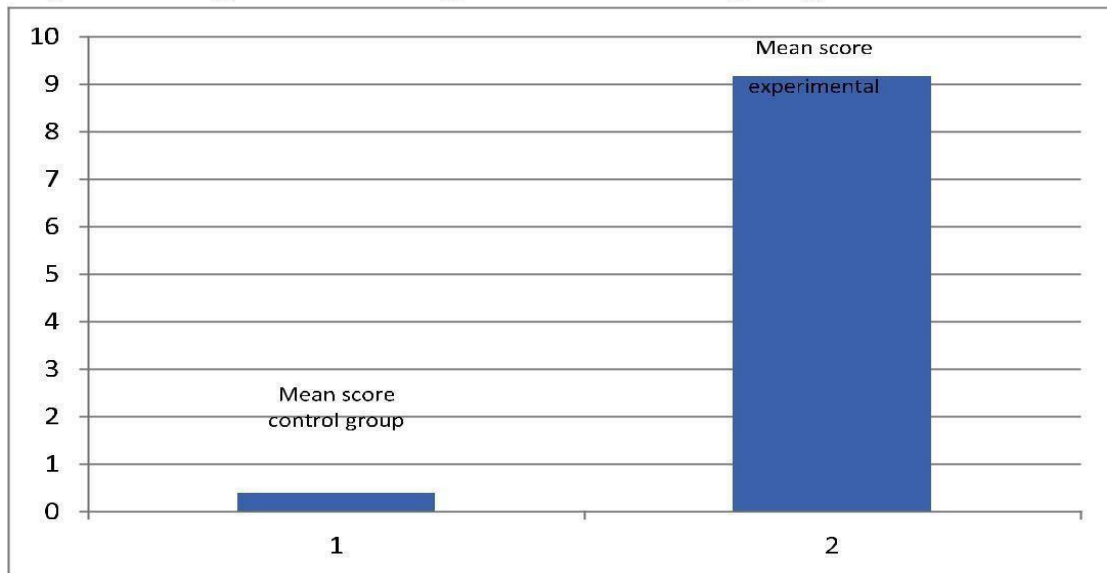
achievement of students who were taught with scaffold instruction and the students who were

taught with the traditional lecture and discussion method’ was rejected with substantial evidence

and it was proved that scaffold instructions had a positive effect on the learning

achievements of post graduate students.

**Graph showing difference in gain score of both groups**



**Table No. 2**

**Comparison of both groups with t-test**

T-test for Paired sample		Levene's Test for Equality of Variances					
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference
Enhancement in Learning	Equal variances assumed	.510	.478	-7.375	58	.000	-8.767
	Equal variances not assumed			-7.375	57.867	.000	-8.767

The table above shows the comparison of mean scores of both experimental and control groups conducted by applying t-test of paired sample at p value .05. It clearly indicates that there was a significant difference between the mean scores of two groups with M= .40 of control group and M=9.17 of experimental group. The t value,  $t = -7.375$  at  $P = .000 < .05$  which declares substantial increment in learning of experimental group.

## Conclusion and Discussion

The result showed that there was a substantial change in the academic achievements of students who were supported with scaffold instructions as compared to those who were taught with traditional

lecture/discussion methods. The students of research methods gained accurate and precise concepts having scaffolds instruction including flow charts, grids, conceptual maps, pictorial illustrations, prompts, leading questions, guided discussions, tables, and blue prints of content analysis. The learners were capable to grasp the relationship among variables, selection of research methods and various data analysis. The present study supported previous researches Rosenshine, (1992) & Simmons, Chard, & Dickson (1993) showing increased understanding of complex concepts through scaffold instruction. The experimental group exhibited high scores which showed that scaffolds might effectively be applicable at higher education level for teaching complex subjects such as sciences, mathematics, statistics and other logical contents. Scaffolds instructions enable students, at any level of age and education as well to apply new knowledge and skills in real situations. The range of scaffolds might be adapted for various subjects and may prove an effective tool for university teachers to increase learning achievements of adult learners.

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# **Factors Influencing the Attitude of Urban Educated Women towards Politics**

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## **ABSTRACT**

Women's participation in politics has been a widely suggested prerequisite of nurturing the democratic values and achieving gender equality. Additionally, politics is an opportunity for women where they can voice their concerns through participation in the decision making process. Moreover, young females' participation in politics can encourage others who have formerly been unconcerned or felt marginalized. This study was conducted after local government election in 2015 in Pakistan with the purpose to get an insight of young females' views about their engagement level in politics. Their attitude were measured by examining the knowledge, belief and behaviour of 472 young educated females towards politics. Findings revealed the role of socioeconomic background caste, and academic disciplines in shaping the political attitude among young educated women. It is suggested that women's engagement in politics should be ensured by providing them enabling conditions and environment of trust with the acknowledgement of their participation.

**Keywords:** Political attitude, Women, Knowledge, Belief, Democracy

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## **Introduction**

History witnessed the women's role in changing the power structure internationally and nationally from the suffrage movement to Tahrir Square and democracy movements in Burma (Henderson & Jeydal, 2010). Women's contribution in the political sphere is highlighted by various researchers; increased women's political participation resulted in extensive benefits for democracy such as sensitization towards communal needs, peace for minorities and more collaborative work, lesser corruption, progresses in women and children rights, economy, environment, gender equality and social services in Liberia, Nigeria, New Zealand and Russia((Latif et al., 2015;Markham, 2013; Hunt, 2007). Despite of these findings, women represented only 22.1% of elected members of the parliament globally(The IPU reported ,2015) whereas, by the end of year 2012 , only 20 out of 193 head of states were found women word wide(Markham , 2013).

Similarly, for a long time women in Pakistan were either not present or their representation was very low in formal politics at national and local level. Although, constitution of Pakistan encourages the political participation of women as voters or as candidates, but women's presence at the national level remained beyond 10% from 1947 to 2000.However, in 2001,women of Pakistan were given 33 percent seats in local government and 17 percent in the national, provincial assemblies and senate through legislation (Tabasum et al., 2015). Remarkably, substantial increase in women participation was observed in 2013 election as voters 45 % and as candidates; many filed papers on general seats than ever before, but representation of only few in the national and provincial assemblies revealed the existence and gender gap (UNDP, 2013).

Pakistan has been committed to ensuring the protection of women's rights under various national and international initiatives (Constitution articles 25, 32 & 34; CEDAW & GRAP). Contrary to this, number of enlisted women voters have been low, even though they comprised more than half the

country's population. The gender gap in the voter registration was nearly 11 million in 2013 as declared by the Election Commission of Pakistan with women comprising just 43.6 % of enlisted voters. ECP report additionally marked FATA as an area which had the lowest women registered voters while Islamabad had the highest (UNDP, 2013). According to the UNDP (2013) causes of low number of registered women voters were lack of male interest in getting women registered and lack of knowledge about political rights among women. Additionally, mobility restriction, low literacy, absence of ID cards, exclusion from political parties and decision making positions were also considered as barriers for women's disengagement from politics. Women even who joined political parties usually confined to the women's wings due to patriarchal structure in parties and electoral process. Other studied barriers which are still operational against women's political participation are: low interest negative views about political participation in women include household responsibilities, security issues, frustration with the political system, and socio-cultural constraints (WPAF, 2008; Khan, 2012; Hunt, 2007; Lawless and Fox, 2012). Furthermore, previous researchers studied various variables which could influence the women's participation in politics. In this regard, education and its level, socioeconomic status, residential area, age, religion and marital status of the respondents are supported by many researchers as important variables in determining women's attitude towards politics (Jenlink, 2009; Perrin, 2006; Janda, et al., 2012; Wong, 2006; Kim, 2008 & Losindilo, 2010). According to Wekkin and Whistler (2008) males' interest in politics was found higher than females whereas Lopez et al. (2005) found college educated young women more politically and civically active than men. Political consciousness is also viewed as essential component for women's individual and collective autonomy and viable strategy to bring changes in politics (Bari, 2005). Additionally, it is believed to be important and effective in making the country's leadership accountable and promoting the true spirit of democracy (Kizilbash, 2010). Galson (2001) stated that levels of political learning influence the recognition of democratic values and political behavior. Strate (1989) expressed that youth are not involved in the politics because they are least concerned about it. Their main focus is to get education and then pursue their career. Consequently, they do not have that level of political information which



senior settled contemporaries have. Endeavor to comprehend the political attitude of individuals has long been central concern of political and social researchers. Politics is considered a platform through which individuals convey and administer their political views and manage political structure of the community.

However political behavior might be influenced by several factors as discussed above and the civil society and policy maker make use of these variables for ensuring the women's participation in politics. Responses to the query, what influences women's behavior to participate in politics, this article examines the various factors that influenced political attitude and its implication for future generation in Pakistan.

#### Objectives:

- To understand the attitude of educated urban women towards politics by examining their knowledge, belief and behavior.
- To reveal the extent of attitude and involvement of educated women to present.
- To explore the factors which might influence the attitude of educated women towards politics.
- To prepare the set of recommendation for future

#### **Review of Literature**

In modern times, democratic societies need a political culture containing residents who are concerned about community affairs, have awareness about critical decisions and events and take part in political and public matters in order to promote the culture of democratic values (Huber & Harkavy, 2007; Sargent, 2008). In this regard, women as citizen of any country need to ensure their active participation in politics not only in terms of improving their status, but also in guaranteeing that women's perspective and needs are incorporated in all community policies. This necessitates the de jure and de facto conditions to participate in all political procedures and arrangements which has slowly become the global perception (Inquiry Commission Report, 1997; Box, 2007; Flores, 2005; UNDP, 2005).

Conversely, comprising about half of the world's population, women representation are still low as elected parliament members, political leaders and even as voter. In this circumstances where half of the population are absent from politics democracy cannot produce tangible benefits for its citizens (The National Democratic Institute, np).

Pakistan also took various initiatives for the political empowerment of women but more is needed. The MDG Report for Pakistan (2010) declared women's participation rate 22.2% in the national assembly advanced than many Asian countries and even developed countries as Pakistan political history witnessed a female prime minister, a foreign minister and parliament speaker (Khan, 2012).

However, women's participation in politics has long history of many ups and downs in Pakistan. For instance women's participation was considered important during Bhutto's period whereas during Zia's era political participation rate was turned down. However, this was again on rise when

Musharraf's government increased the reserved seats for women at the local and national level (Shami, 2009).

So, overall more women are brought into politics but unfortunately less work is done to change the patriarchal setting of institutions (NCSW, 2010).

By highlighting the restrictions on women's political participation, Shvedova (2007) explored three main types. The first one is masculine image of politics which resultant in to nonexistence of party assistance, voting procedures and lack of collaboration between women's organizations; the second is conceptual and mental which is related to gender roles, media, absence of confidence, and negative views about politics, the third and the important one is socioeconomic condition which in this case is associated with low level of education, political experience and poverty.

Researchers also studied various variables which can possibly determine the women's political participation. For instance educated people is found more political active and they are more likely to protest against state policies (Jenlink, 2009; Perrin, 2006). Similarly socio economic position is believed to be an important determinant in shaping political behavior. Researchers validated that folks with more education and higher incomes are mostly well aware of the effect of state politics on their

lives and have knowledge of the lawful tactics to build pressure on government, so they participate more in politics (Janda, et al., 2012; Wong, 2006; Kim, 2008, Schroeder, 2008).

However, Mushtaq et al., (2011) found a passive behavior of all income groups toward politics. Moreover, role of level of education, age, religion, matrimonial status and residential are also found significant (Losindilo, 2010). Marital status influences the political participation (Edlund & Pande, 2002) as Smith (2008) cited the GSS report and found that married people are more likely to vote in every presidential election than the single.

Contrary to above mentioned facts, some researchers found that single women are getting more political aware and emerging as strong voters. For instance, 2004 and 2012 elections in USA witnessed the huge voting turnout from young single women voters (Traister, 2016; Lopez et al., 2005).

Similarly researchers also studied the effect of employment on political participation of women. Schlozman et al. (1999) & Coffé et al (2010) found that women's employment does not significantly increase their political participation.

Previous researches illustrated youth as disappointed with, and isolated from the politics (Henn et al., 2006; Kimberlee 2002). Furthermore, many studies stated that young people are not much interested in politics, so they possess less level of political knowledge than senior generation (Pattie et al. 2004; Park 2004 & Henn et al., 2012).

Likewise, youth in Pakistan had never been politically active in the elections until the phenomenon of PTI emerged (SDP, 2013). Huge turnout in the May 2013 general election experienced the active political participation of new generation in politics (Jinnah Institute, 2013). However, women turn to be more sensitive toward their potential political role than their young male (Lopez et al., 2005). Residential area has also been studied as an important factor determining the people's political attitude (Gallego et al., 2016). Academic discipline was also studied as an important factor influencing the political behavior in students. Many researches revealed that students of social science students are more politically aware than the students of

natural sciences (Sing, 1998; Hillygus , 2005) whereas Kaur (2000)& Abonu (2013 ) explored lower level of political knowledge in students of arts and social sciences..

In Pakistan caste is the most powerful element in politics and it is considered the basis of the voting behavior in Pakistani society (Shahwar & Asim, 2012; Wilder, 1999). Ahmad (2004) found that folk use their votes in order to maintain the survival of their caste. By highlighting the dominance of caste system after local government election, Ahmad et al, 2005 discovered the dominance of Rajput caste in Northern Punjab whereas Central and Southern Punjab was occupied by Jutts. Arains were visible in Central Punjab while large part of Southern Punjab was dominated by Balochs.

Parents play a vital role in the political socialization of their children (Jennings, Stoker, & Bowers, 2001). The impact of parental guidance is visible in children's attitude and behavior. & They transfer their political knowledge, interests, values and norms to their children (Valentino & Sears, 1998). Additionally, parents with strong socioeconomic position also share their voting choices with their children (Plutzer, 2002). Similarly, variable of family size was also related to the political participation. For instance, people with small family size are more likely to engage in politics than those with a large family size (Ajiboye, 2015).

Researchers explained various institutional, social and personal factors which are responsible for women marginalization in political arrangements and procedures in diverse social settings (Hunt 2007; Lawless and Fox, 2012). Furthermore, women's political participation has become the issue of conservative and modern democracies (Hunt 2007; Lawless and Fox, 2012). It is, therefore, imperative to critically analyze those paradigms which impose restriction on women's effective political participation. This study intends to validate the impact of these variables on educated women's attitude towards politics in Lahore.

## **Rationale**

This paper examined the attitude of educated women towards politics with a purpose to reveal the extent of attitude and magnitude of involvement of educated women to present politics in Pakistan.

Focusing on knowledge, attitudes and behavior helps to understand important conditions required for the participation in democracy. Furthermore, it is considered important for women to know about political institutions and processes, as well as opportunities for participation in the decisions that are made for the future of their communities (UNDP, 2010).

Moreover, it is also aimed at identifying some demographic factors that can influence women's attitude towards politics. This study can be a source of information for educated women to know about political processes as well as opportunities for participation in politics in future.

## **Method**

The present study used survey method to examine the attitude of educated women towards politics. The current study was conducted in Lahore the capital of Punjab Province. Decision to select the above district was made mainly on the convenience to get data from women having different socioeconomic background. Data for this survey was collected conveniently from 472 respondents (bearing age in between 18 to 29 years) who either had completed their education or still enrolled in different disciplines in different universities and were eligible for voting

.Majority of the respondent were the residents of Lahore, while 47 were the inhabitants of other cities of Pakistan. Demographic information about the respondents included academic status (enrolled or completed education), family size, family income, caste, educational discipline (Natural, Applied, Management Sciences and etc), current status (professional, students or at home), marital status, residential area, and parents' education. Data was collected from respondents after giving assurance of confidentiality.

According to Hogg, & Vaughan (2005), attitude is a comparatively enduring composition of beliefs, feelings, and behavioral trends towards groups, occasions, signs and objects which is socially considered important. So attitude towards politics was measured through two categories, belief and behavior. For this purpose a five point Likert scale comprised on 21 items (18 positive and 3 negative) were created and their scoring is from 5 to 1 ranging from strongly agreement to strongly disagreement. Additionally, questions related to knowledge about political leaders, parliament

and about local government and constituencies were also created to assess the interest and knowledge of respondents about politics. A five point Likert scale was used in this study, as it is considered widely used tool in the social sciences now a days due to easy construction and high reliability than other scales (Torkizadeh et al, 2001).

## **Results**

The questionnaires were given to 500 individuals out of whom 472 responded positively. Ttest, ANOVA and Correlation were used for analysis .Demographic information revealed; of the 472 respondents 90% were from Lahore whereas only 10% were found the residents of other cities of Pakistan. The sample comprised individuals across different academic disciplines 34% were related to Humanities ,31% were from Social Sciences, 11% from

Management and 8 % from Natural Sciences, remaining respondents were associated with Applied, Natural and Medical sciences. The sample also represented a wide range of caste based groups living in Pakistan; 21% were Rajput, 18% Arian and 10 % were Jutt while the rest of the respondents were Butt, Pathan, Malik ,Syed ,Sheikh , Hashmi, Mughal and others. Overall, 85% respondents were still enrolled in universities whereas 15% completed their education; similarly 87% of the respondents reported their marital status as single.

A substantial portion of the sample 80% reported their status as students, 5 % as a professional and the rest of the respondents revealed their status as at home. Finally, the sample comprised a diverse array of socioeconomic backgrounds. The majority (43%) of the responded reported their monthly family income of 51,000 and above (rupees) whereas 70% respondents had 5 to 7 family members in their home. There was not much variability noticed in respondents' parents' education; 50 % of the respondents' fathers while 45% of respondents' mothers had a bachelor's degree. Furthermore, 39% of the respondents' fathers and 38% of respondents' mothers had a Masters or above degrees. The most encouraging finding of this study was that 60 % respondents reported that they cast their votes, whereas out of 39% who didn't cast their votes in previous election mentioned the reason of not having ID cards.

Additionally, results showed that more than half 66.10% of the respondents had moderate level of knowledge about present political system, whereas only 23.09% had high level of knowledge. Similarly, more than three quarter, 89.61% of the respondent had moderate behavior towards politics whereas 89.19% of the respondents' belief on political participation was found high. The range of scores of knowledge about present politics was 1-11 against a possible range of 0-11 and the mean score is 5.89 with standard deviation 2.01, range of score of behavior towards politics was 14-42 against a possible range of 0-49 with mean 23.30 and Standard deviation was 4.74 and the range score of belief about politics was 13-49 against a possible range of 0-49 with mean 27.59 and standard deviation 4.11

**Table 1**

Independent sample t-test measuring the difference in political knowledge, Behavior and Belief test scores of women

Factor		Mean	SD	t	p
Area	Lahore	5.75	1.94		
	Others	7.12	2.12	-4.52	.000*
Academic Status	Enrolled	25.50	4.66	2.12	.034*
	Completed	24.21	5.04		
Marital Status	Married	36.29	4.21		
	Single	37.78	4.07	-2.59	.010*
*Significance					

The analysis shows that the mean of the respondents living in other cities of Pakistan is greater than the respondents living in Lahore with the significance level of .000  $p < .01$ , which indicates the real difference between two groups on the bases of their knowledge . This illustrates that the respondents living in other cities are well informed about politics, whereas no differences were observed in belief and behavior towards politics among the residents of Lahore and other cities of Punjab. In case of educational status, mean of the respondents who are enrolled in universities is greater than the



respondents who have completed their education with the significance level of .034,  $p < .05$ , which indicates the real difference between two groups. This result indicates that the behavior of the enrolled respondents in universities towards politics is found better than those who have completed their education. However, significant differences did not find on bases of knowledge and belief toward politics between these groups. Similarly, mean of the respondents who reported their status as single is greater than the married respondents with the significance level of .010,  $p < .05$ . This reveals that difference existed only in belief towards politics in respondents who were single than the married. The finding of ANOVA reflected no significant difference in scores of respondents with the five levels of mothers' education. The scores of respondents in knowledge, belief and behavior towards politics were not found to be significant across the five educational levels  $F = (4,467)$

$= .993$ ,  $p > .05$ ,  $F = (4,467) = 1.43$ ,  $p > .05$  and  $F = (4,467) = 1.76$ ,  $p > .05$ . However, respondents' scores of behavior towards politics differed significantly across the five educational levels of fathers  $F(4,715) = 2.41$ ,  $p < .05$ . This was further analyzed in the post hoc Tukey's HSD comparison. The results indicated that the respondents whose fathers had twelve years of education ( $M = 26.90$ ,  $SD = 4.38$ ) were found to be better in their behavior towards politics than the group of respondents whose fathers had below ten years of education ( $M = 22.57$ ,  $SD = 3.64$ ). Other comparisons between groups did not yield any statistical differences at  $p < .05$ . The knowledge, belief and behavior towards politics scores of respondents did not show any significant difference across the three levels of family income  $F = (2,469) = 1.67$ ,  $p > .05$ ,  $F = (2,469) = 1.06$ ,  $p > .05$  and  $F = (2,469) = 1.87$ ,  $p > .05$ .

Additionally, significant differences discovered in the behavior and knowledge scores of respondents who reported their status as students, professional and at home  $F(2, 469) = 3.46$ ,  $p < .05$  and  $F(2,469) = 3.93$ ,  $p < .05$ . The post hoc Tukey's HSD comparison revealed that behavior of students were found to be better in politics ( $M = 25.48$ ,  $SD = 4.62$ ) than respondents at home ( $M = 23.92$ ,  $SD = 5.10$ ). Similarly professional respondents scored better in knowledge ( $M = 6.92$ ,  $SD = 2.52$ ) than students ( $M = 5.81$ ,  $SD = 1.95$ ).

The behavior and knowledge scores of respondents differed significantly across the eleven groups of caste  $F(10, 461) = 2.11, p < .05$  and  $F(10, 461) = 2.29$ . This was further analyzed in the post hoc Tukey's HSD comparison. The results indicated that the respondents related to Sheikh Caste ( $M = 27.23, SD = 4.80$ ) scored higher in their behavior towards politics than the respondents from Rajput family ( $M = 24.33, SD = 5.08$ ). Whereas LSD test revealed that respondents from Malik group scored higher ( $M = 6.14, SD = 1.83$ ) in knowledge compared with Syed ( $M = 5.03, SD = 2.13$ ) and respondents of Jutt group ( $M = 6.70, SD = 2.05$ ) scored high in knowledge than Rajput, Butt, Syed, Mughal and Arian. Other comparisons between groups did not yield any statistical differences at  $p < .05$ .

Respondents' knowledge about politics differed significantly across the six categories of the academic discipline  $F(5, 466) = 3.887, p < .05$ . This was further analyzed in the post hoc Tukey's HSD comparison. The results indicated that the respondents of Natural Sciences ( $M = 6.92, SD = 1.76$ ) were found to have more knowledge about politics than the respondents who studied Humanities and Arts ( $M = 5.50, SD = 2.00$ ). Other comparisons between groups did not yield any statistical differences at  $p < .05$ . Correlation was used to measure the relation of respondents' family size with their belief, behavior and knowledge about politics.

**Table 2**

The Pearson Correlation between Family Size, Behavior, Knowledge and Belief ( $N = 472$ )

Variables	Family Size	Behavior	Knowledge	Belief
Family Size	.140**			
Behavior	.178**	.126**		
Knowledge	.092**	.126**		
Belief				

\*  $p < .05$ , \*\*  $p < .01$

The results showed the positive correlation between family size and respondents' belief about politics. Furthermore, results revealed the positive correlation between behavior and belief and knowledge about politics. Positive correlation was also found between knowledge and behavior and knowledge and belief about politics.

## **Discussion**

In this study, political attitude of the respondents was measured by using three variables, knowledge, belief and women's behavior towards politics. Demographic data about respondents was also collected to measure the differences between various variables (Family income, Parents' education, current status, academic discipline, Family size, Caste and marital status).

It was assumed that women's attitude varies toward politics on the bases of their marital status.

This study verified the findings of previous researches and revealed the differences in case of single women who have their belief more on politics and political system than married women (Rotolo, 2000; Gupta 1999&Sayer 2005;Traister, 2016). This might be due to the reasons explained by various researchers as family responsibilities of women, parenthood, media's role in portraying women leaders negatively (Gupta 1999; Sayer 2005; Lawless and

Fox 2012 & Rotolo, 2000).

Additionally, the respondents' political behavior enrolled in universities was found to be better in politics than those who had completed their education. This study further revealed that students were found to be more active in their behavior towards politics than those who are at home which verifies the findings of Jinnah Institute, 2013 and Lopez et al., (2005) .According to SDPI (2013) phenomenon of PTI (Pakistan Tehreek-e-Insaf) a new political party on name of youth, and many youth development schemes initiated by PML-N (Pakistan Muslim League Nawaz) like Laptop, loan schemes for students might be the possible influential factors behind this finding. However, in case of having knowledge about politics, respondents who marked their status as professional scored better than students which somehow seems to be true with the findings of Pattie et al. (2004) and (Park 2004) as researchers found young people alienated and less interested in politics

(Henn et al. 2006; Kimberlee 2002). The most possible explanation of this finding might be as stated by Michael and Carpin (2000) that young adults are less likely to read a newspaper or watch the news. The level and type of participation in politics can be explored further in future because their level of political participation may impact their ability to involve in other activities (Dalton 2008; Norris & Curtis 2006).

It was assumed in this study that residential area influences the political attitude of respondents. Finding revealed that the knowledge of those respondents who were the residents of other cities of Punjab was found better than the respondents of Lahore which is also supported by Gallego et al., (2016). However, no differences were observed between two groups' belief and behavior, so individual's political interest or background might be a possible factors of this finding which can be explored further in future.

In the present study, it was expected that respondents' political attitude would be different across the parental socioeconomic status. The finding of this hypothesis contrasted in case of mothers' education and no significant differences found in the scores of respondents across the educational level of their mothers. However, significant differences were found in political attitude of respondents across the educational levels of father. The distinctive discovery of this study was that respondents whose fathers had twelve ten years of education were found to be better in their behavior towards politics than those respondents whose fathers had less than ten years of education. This result is also supported by Plutzer, (2002). As politics is still considered the male dominated area (Hunt, 2007) so in this regard their role seem to be important in transmitting their political awareness and interests to their children (Valentino & Sears, 1998) compare to the traditional role of their mothers and household duties might be a most conceivable explanation of this finding It was also assumed that people with higher income tend to participate more in politics because they are more aware of the effect of government political policies on their lives (Janda, et al., 2012; Wong, 2006; Kim, 2008, Schroeder, 2008). But the finding of this study did not notice any significant difference in political attitude of educated women

on the bases of their family income which seems to be consistent with the finding of Mushtaq et al., 2011 & Losindilo, 2010 and inconsistency with Janda, et al., 2012; Wong, 2006; Kim, 2008, Schroeder, 2008). This might be due to the reason that majority of the respondents in this study were students. Additionally, academic discipline's impact on political attitude of respondents was also measured in this study. It was postulated that students of social sciences are more political aware than natural sciences. While results indicated that the respondents of natural sciences were found to have more knowledge about politics than the respondents who studied humanities and arts which is conflicting with the findings of Sing, 1998; Hillygus , 2005&Ahmed et al., 2015 whereas supported (2000) & also Abonu (2013 ) .The most plausible reason behind this result would be personal interest in politics. Other possible factors can be the respondents 'family background or media's influence.

The hypothesis of cast as a determinant of political attitude revealed significant differences in the behavior and knowledge of women respondents across various caste groups. The result showed that the respondents' behavior from Sheikh Caste was found better towards politics than the respondents from Rajput family. However, respondents from Malik group found to be more political aware than Syed respondents. Additionally, respondents of Jutt group scored high in knowledge than Rajput, Butt, Syed, Mughal and Arian. This result is parallel to the findings of Ahmad et al, (2009) &Wilder, (1999) .

Beside socioeconomic status of family, the variable of family size was also measured with the political knowledge, behavior and belief of women respondents. It was proposed that the family size can impact the political attitude of respondents. This study reinforced the previous research (Ajiboye, 2015) and indicated that family size and political beliefs of respondents are positively correlated.

## **Conclusion and Recommendation**

Results revealed that that women as students are more likely to involve in politics. Furthermore, family size, father's education, cast, academic discipline, residential area and marital status revealed as important factors in determining the political attitude in women. Additionally, positive correlation between knowledge, belief and behavior emphasized the importance of political education which can lead to the improvement in political participation of young educated women. Women's equal participation in politics is essential for the development of a democratic society.

In colleges and universities, awareness raising campaign on importance of female's students' participation in politics should be launched by conducting seminars and sharing the case studies of successful young political leaders. In this regard electronic and print media can also play their roles by conducting dialogues between students and women political leaders. Additionally, Government should design and initiate special programs for the dissemination of political knowledge and capacity building trainings of young female political activists and students in order to promote their participation in civil and political processes. The situation is not helped in the absence of affirmative steps that are required from the government and political parties to establish and institutionalize women's participation in politics.

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## **Development of Sleep Disorders Scale through Expert Opinion**

Nudra Malik \* Amina Muazzam\*\*

## Abstract

The purpose of this study was to develop an indigenous Sleep Disorders Scale for identifying the symptoms and prevalence of sleep disorders among Pakistani population. Beginning with an extensive review of the literature, the symptoms of the sleep disorders were identified. Interviews with sleep specialists and sleep disorders' patients were also conducted. An initial pool of items based on the symptoms list obtained from both the sources was generated. Four focus groups were carried out to identify symptoms and general sleep disturbances. Finally, a scale consisting of 81 items was developed. Four experts were then asked to examine the developed scale. Using expert opinion, the items were revised according to their fidelity to the relevant construct and the scale was finalized. A pilot study was conducted and the Cronbach's alpha of the scale was highly reliable ( $\alpha = .94$ ). There is no such scale in use in Pakistan which identifies the symptoms of all main categories of sleep disorders. This scale could be used to screen individuals for sleep disorders and treat them timely.

**Keywords:** sleep disorders scale, scale development, focus groups, expert opinion

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## Introduction

Sleep is a universal human need, and we spend about a third of our lives asleep. Sleep and sleep related disorders have an essential role in relation to health. Sleep is an intricate, multidimensional state of existence and not just an absence of wakefulness. The amount and quality of sleep an individual gets has an impact on the quality of life throughout the daytime. Even though most of the people tend to fall asleep effortlessly and wake up feeling refreshed and revitalized in the morning, many do not (Gradinger, 2011). Lack of sleep, partial or total, acute or chronic, can significantly bring about a change in an individual's behaviour and thinking, and adversely impact the physical, mental, and emotional health (Cappuccio, Cooper, D'Elia, Strazzullo, & Miller, 2011).

Sleep-wake disorders are a group of syndromes characterized by a disturbance in an individual's amount, timing, or quality of sleep, and in behaviours or physiological conditions related with sleep. For the diagnosis of a problem as a sleep disorder, the condition needs to be persistent, cause an individual considerable emotional suffering, and interfere with or hinder his/her occupational and/or social functioning substantially (Chokroverty, 2009). There are different kinds of sleep disorders usually marked by one of these symptoms: problems falling asleep and staying asleep, problems staying awake, problems sticking to a fixed sleep schedule, and unusual behaviors during sleep (American Academy of Sleep Medicine, 2014).

In the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), sleepwake disorders encompass 10 disorders or disorder groups: insomnia disorder, hypersomnolence disorder, narcolepsy, breathing-related sleep disorders, circadian rhythm sleep-wake disorders, nightmare disorder, rapid eye movement (REM) sleep behavior disorder, non-rapid eye movement (NREM) sleep arousal disorders, restless legs syndrome (RLS), and substance/medication-induced sleep disorder. Individuals experiencing any of these disorders usually present with complaints of dissatisfaction regarding the timing, quality, and duration of sleep. As a result, the patients experience daytime distress and impairment which are seen to be core features of all sleep-wake disorders. (American Psychiatric Association, 2013).

Disorders of the sleep are prevalent and common, and have numerous economic, social, occupational and health consequences. Whether the cause for disturbed sleep is quality, quantity, or timing, it could have several adverse effects on health. Cognitive functioning and mood get affected prominently in addition to fatigue, which is an overall outcome of poor sleep. It is a documented fact now that sleep disorders are a risk factor for developing certain mental conditions as well as medical diseases. Moreover, sleep disturbances can also be a signal for the presence of medical problems like chronic obstructive pulmonary disease, cardiovascular disease, diabetes, Parkinson's and/or Alzheimer's disease (Doghramji, 2004). It is essential to screen out individuals for the presence of any sleep disorders as they can be unaware of any disorders surrounding their sleep at night and inadequate sleep has been observed to have negative impact on health and wellbeing. Sleep affects immune function, metabolism, cognition, mood and overall quality of life. Usually sleep problems are attributed to problems that occur during everyday life and not to the sleep disorder itself. Though when the sleep disorders are described, their prevalence rates, diagnosis and symptoms are of utmost relevance but of equivalent significance is the fact that how does a sleep disorder manifests itself in the lived experience of the persons having it (Young, 2004). Empirical evidence has shown that sleep loss as well as sleep disorders have a variety of long term detrimental health consequences like a greater risk of depression, obesity, hypertension, stroke, diabetes, and heart attack for the individual. Hence, several years of extensive research has confidently formulated the case that sleep loss and disorders exert a profound influence on an individual's health (Kryger et al., 2002; Stores, 2007). The directly visible consequences of sleep disorders like automobile accidents and errors in judgment are damaging, occur shortly after sleep loss and hence, are easy to be linked to the sleep disorders. However, there are less observable consequences of sleep problems too, like obesity and hypertension, which develop gradually over months and years of inadequate sleep, aren't associated directly to the sleep disorder, but are found to be more prevalent and take a toll on one's health (Colten & Altevogt, 2006). A comprehensive assessment for diagnosis could include detailed patient history, sleep diary record, clinical testing and self-report questionnaires (Chokroverty, 2009).

The current study aimed to develop an indigenous sleep questionnaire in Urdu for use with adults (18 and above) for general Pakistani population. The existing scales assess one or a

few sleep disorders but no scale is focusing on assessing all the major categories of sleep disorders. Secondly, current scales which assess different disorders are quite lengthy. SDS is concise and developed according to cultural norms of Pakistan. One example could be, that existing scales which assess hypersomnia usually ask if individuals go to sleep while travelling in a public transport or after lunch. However, this is a usual behavior of the public to doze off while in a public transport or after lunch. Hence, it is highly needed to develop an indigenous tool and to validate it on Pakistani population. There is no such scale in use in Pakistan that addresses or attempts to identify the symptoms of all main categories of sleep disorders. Sleep disorders are under recognized in Pakistan and mostly go untreated. The use of this scale both in general and patient care settings could help to identify individuals who could be at risk for a sleep disorder or the ones with high scores on a specific disorder. By identifying individuals with sleep disorders more readily would help to timely treat them and therefore reduce their risk of developing other diseases and improve their day to day functioning.

## **Literature review**

Ample work has been done in the area of sleep disorders in the developed countries including the European region and North America and has focused on its risk factors, treatment and consequences (Leger et al., 2000; Mehra, Stone & Blackwell, 2007). These studies have helped to increase understanding and awareness of sleep problems and their impact on health and well-being both among general people and health care providers. However, the situation is not the same in the developing countries where there is lack of awareness about sleep disorders and a scarcity of health resources too. Sleep disorders are common, however, according to foreign data, sleep disorders often remain undiagnosed, and the situation is likely to be similar in Pakistan.

Research work has not been done in Pakistan to assess the presence of sleep disorders in

the general public or specific samples. Just a few studies have been carried out on student population (Kidwai & Ahmed, 2013; Pasha & Khan, 2003; Surani et al., 2014) and either on



sleep quality or insomnia. One survey was conducted on 1488 adults to find out the prevalence of insomnia in urban communities of Karachi, Pakistan and to assess its related factors and the use of sleep medicines. The results were based on self-reported information gathered from the study respondents and revealed 31.3 percent as having insomnia out of which 30.2 percent were found to be using sleep medicines. Individuals who reported psychological distress and health-related issues had higher rates of insomnia than those without distress or health-related problems. These findings are one of the very few in Pakistan and indicate a need for more planned research studies in this area (Kidwai & Ahmed, 2013).

Senthilvel, Auckley, and Dasarathy (2011) conducted a study which emphasized the need for the health care providers to screen patients for the presence of sleep disorders. The use of validated sleep questionnaires for screening was able to identify greater number of patients at risk for the presence of a sleep disorder or its symptoms as compared to the number of diagnoses made by health practitioners. The study was carried out to examine if primary care providers screen their new patients for sleep disorders during their clinic visits, and compare their assessments to the results obtained through validated questionnaires. Adult patients (n = 101) aged 18-65 years completed three validated sleep questionnaires. Excessive sleepiness was found in 28% of the patients and obstructive sleep apnea (OSA) was present in 33%. Probable diagnosis of insomnia was suggested in 30% patients and RLS in 22%. In screening by physicians, insomnia was the most prominent sleep complaint and it was found in 7% sample whereas no patients were diagnosed with symptoms of RLS. This study documented the fact that sleep disorders like insomnia, OSA, and RLS are common but they usually go undiagnosed and untreated because of lack of screening by primary care providers which seems to be a pervasive problem. Validated questionnaires are able to efficiently identify patients who are at risk for sleep disorders in the primary care settings. Sleep disorders have an impact on the overall well-being or quality of life of an

individual. Sleep problems and disorders affect not only the night time sleep but also affect the

daytime activities. A study by Lee, et al. (2009) examined the association between sleep disturbances and health-related quality of life (HRQoL). This cross-sectional study measured

sleep disturbances namely difficulty initiating sleep, maintaining sleep, nocturnal awakenings, and daytime tiredness. HRQoL was assessed and information about current medical conditions was recorded too. The results revealed that individuals with sleep disturbances had poor quality of life and as the severity of sleep complaints increased, HRQoL decreased further. Moreover, the adverse association between sleep disturbances and declined quality of life persisted independently even after adjusting for different demographic variables and co-morbidities like diabetes, arthritis, coronary heart disease, and hypertension. Sleep problems themselves have the capacity to impact quality of life and proper management of sleep disorders could have a positive influence on overall well-being of an individual.

#### **Method Objective of the study**

The purpose of this study was to develop an indigenous Sleep Disorders Scale (SDS) for identifying the symptoms and prevalence of sleep disorders among adult Pakistani population.

#### **Stages of scale development**

The development of SDS went through a series of steps. Items were developed through review of literature, focus groups, and interview with the sleep specialists

#### **Step I: Item generation**

Beginning with an extensive review of the literature, International Classification of Sleep Disorders- Third edition (ICSD-3) (2014) and DSM-5 (2013), the symptoms of the various types of sleep disorders and general sleep problems were identified and enlisted. Items from the well-established scales of sleep disorders (Pittsburgh Sleep Quality Index, Sleep Disorders Questionnaire, Bergens Insomnia Scale, the Stanford sleepiness scale, National Sleep Foundation's Sleepiness Test, MOS Sleep Scale, Epworth Sleepiness Scale) were also reviewed and analyzed thoroughly to explore the strengths and limitations of these scales for their administration on indigenous population.

Two practicing sleep specialists were interviewed to get expert advice on symptoms of various sleep disorders which they observe in their clinical practice to be included in the scale. The experts gave detailed answers to open-ended questions about the symptomatology of the different disorders and their sub-categories. An initial pool of items based on the symptoms list obtained from the above

mentioned sources were generated. Four focus groups were carried out to identify symptoms of sleep disorders and general sleep disturbances from adults. The first two were conducted with 8 men and 8 women respectively without the diagnosis of any sleep disorder age ranging from 21-60 years to identify the general sleep problems. The other two focus groups were carried out from patients of insomnia, hypersomnia, breathing-related sleep disorders, circadian rhythm sleepwake disorders, parasomnias, and restless legs syndrome with the purpose to find out the symptoms experienced by them. The focus groups were conducted to determine if the items generated were considered appropriate by the patients about their experiences with sleep and sleep disorders. Probing questions were asked too for gaining in-depth information about broad categories of sleep disorders. The participants of all the groups were asked to share their experiences of sleep freely and sleep disturbances with specific reference to sleep quality and quantity and additional items were generated. On the basis of interviews, focus groups and literature review, items were generated and a scale consisting of 81 items was developed.

### **Step II: Item endorsement**

Two sleep specialists, one psychiatrist and one psychologist were then asked to examine the developed scale thoroughly. Every item was evaluated for relevance to construct and relevance to clarity. Using expert opinion, the items were revised according to their fidelity to the relevant construct, clarity and redundancy. Items having endorsement between 20-80% from sleep specialists were retained. As a result of the feedback from the experts, eight items were deleted and four items were rephrased.

### **Step III: Pilot study**

A pilot study was conducted on a sample of 100 individuals without any diagnosed sleep disorder (men=50, women=50) selected through area sampling with age ranging from 18-65 years

( $M=32.83$ ,  $SD=12.32$ ). Informed consent was taken and the participants were requested to carefully fill out the scale by choosing one option out of the five responses which they consider most appropriate about their sleep. Items having  $<20$  and  $>80$  endorsements were removed from the scale after carefully reviewing them. Feedback of the sample concerning the scale's items clarity, redundancy, and comprehensibility was incorporated to make the needed changes and a revised version of the scale with 58 items (five point Likert scale) was finalized. The items in the scale were divided into following categories based on DSM-5: Insomnia, Hypersomnia, Sleep-related Breathing Disorders, Circadian Rhythm Sleep Disorders, Parasomnias, and General sleep. The Cronbach's alpha of the scale was highly reliable ( $\alpha = .94$ ).

### **Convergent Validity of Sleep Disorders Scale (SDS)**

The convergent validity of the Sleep Disorders Scale (SDS) was established by correlating the scores on this scale with a highly established measure, Pittsburgh Sleep Quality Index, Urdu translation (Hashmi et al., 2014). Both the scales were administered to 100 individuals ( $M=45.6$ ,  $SD=6.37$ ) selected randomly through area sampling. The results showed a significant and positive correlation of .67 ( $p<.000$ ) between the two scales.

### **Discussion**

Sleep Disorders Scale is the first indigenous tool developed for assessing sleep disorders in Pakistani adult population. Unrecognized and undiagnosed sleep disorders have been associated with medical illnesses, impairment in social activities, reduced quality of life, and less productivity at work. After validation, SDS can be used in various settings to screen people for symptoms and presence of various sleep disorders and sleep difficulties which could lead to timely diagnosis, treatment and management of the problem. There is low awareness among general public, health care professionals as well as policy makers regarding sleep problems and sleep disorders. It not only is a health burden but also pose a threat to general well-being of the individuals and hence require well-coordinated strategies on

the larger scale to improve sleep awareness and control its negative consequences. It requires proper and timely diagnosis and treatment of sleep disorders and for this purpose, need of the hour is to educate and train health professionals for proper surveillance of the general population (Colten & Altevogt, 2006).

Usually the diagnosis of a sleep disorder is done after an overnight polysomnographic study which is a time consuming and costly technique. Self-report questionnaires including SDS are an easy to use way of detecting sleep disturbances in children, adults, elderly, or any specific population. SDS has the potential to detect the symptoms of a sleep disorder and could be an easy and cost-effective method to assess a wide range of sleep parameters in various contexts and provide unique subjective information. Then, if needed, screened individuals could be referred for an objective assessment of sleep for specific diagnosis and intervention.

### **Conclusion**

The purpose of the current study was to develop an indigenous sleep questionnaire for adults. There is no such scale in use in Pakistan that addresses or attempts to identify the symptoms of all main categories of sleep disorders. The validation of SDS is in process and after that it could be used in multiple settings and with various populations to screen individuals who could be having an undiagnosed sleep disorder or the ones at risk for developing a disorder. It will also have the potential to assess individuals with disturbed sleep generally so that timely help be provided to them and their quality of life could be enhanced.

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