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DEVELOPMENT AND VALIDATION OF SOCIAL SUPPORT SCALE

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Abstract

Objective: The current study designates for the development of indigenous scale for social support in Urdu language and established psychometric properties of new develop scale. **Study Design: Place and duration of study:** Department of Psychology, University of Gujrat, from March 2020 to September 2020. **Methodology:** Item pool was generating by the help of experts, prior work and from individual's experience etc. 170 items were confirmed as the primary item pool. In the expert meeting response options were also settled. 4-point Likert scale was confirmed and range was 1 to 4. Later the assessment of professionals 7 items was eliminated and 6 were improved. For the pilot study 157 items were left behind. Sample of 450 (n=450) adult participants were selected from different areas of Pakistan including Kharian, Gujrat, Islamabad, Karachi and Lahore for administration of scale. For the selection of adult participants simple random sampling technique was used. For data scrutiny the EFA (exploratory factor analysis), confirmatory factor analysis (CFA) and reliability analysis were implied. **Results:** The significance of the model is displayed as value of p<.001. After the procedure and established of reliability and significance of items the 16 items were remaining for final scale. **Conclusion:** A scale to measure social support among people in Urdu language is completely established which have 16 items.

Keywords: Social Support, Development, Exploratory Factor Analysis, Confirmatory Factor Analysis, Reliability.

INTRODUCTION

Social support is a phenomenon in which person has support which provided by his family, friends and other members of family during the time of need. This support can be in term of emotions, instruments and finance. Social support is related with healthier psychological regulation, emotive well-being and permanency, and inferior levels of illegal drug usage between HIV persons (Bekele et.al. 2013). Social support as a procedure of communication in relationship which increased the survival, respect, belonging and ability done with real or perceived exchanges of psychological or physical means and these are characteristics of social support. By having social support people can improve their health and well-being. Actual support is that what individual has essentially received and what is done for that person. While perceived support can be defined as sensitivity of

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availability of support, individual has believed that support is accessible (Cohen et.al.2000).

There are following four types of social support as one is “Informational Support” which involves the providing of education, information or supervision for managing health related problems. Second is “Instrumental Support” provision of psychical help in form of labor, time, financial aids, materials goods or any type of direct help. This is also called ‘Tangible Support’. The third type is “Emotional Support” that involves the providing of love, empathy, trust, affection, listening and care from the individuals whose are present in someone’s social circle. The last form is “Appraisal Support” includes the amount of social relations an individual has with others that have shared interests. This kind of support also provides feedback and affirmation. (House, Landis and Umberson (1988).

Social support can also be defined as presence or convenience of people who tell an individual that they love, care and worth them (Sarason, Levine & Basham, 1983). The connection among mental well-being of person and social support is strongly recognized, absence of social support and lesser perceived acceptability of social support is linked with the indications of psychological distress. (Allgower, Wardle & Steptoe (2001),

It is broadly known that societal affiliation and relationship have a strong consequence on mental and physical health. (Berkman, Glass, Brissette and Seeman (2000). Many studies specified that social support showed a buffering part from problems of health or dangerous behaviors (Rueger et.al. 2016).

For this reason, different health professionals work to produce the knowledge among people that how social support effect the people especially those who are facing some physical and psychological issues. Lack of social support decrease the moral of people to doing something. While if individual received support from their surrounding then it increases his/her will-power.

The present study was conduct with had objective to develop a social support scale in Urdu Language. This scale will help to measure the social support among people who are living with or without social support.

METHODOLOGY

First phase of the study

The main purpose of this research was development and validation of Social Support scale. The objective of this section were following:

1) The development and validation of one native research instrument for social support
2) Find out the psychometric properties of the Social Support Scale.

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Steps 1: Item Pool Generation

A) Procedure

For the generating of item pool firstly, collected the information about all the feature of social support from the literature, theories, prior scales and articles each and everything related to it would be noted. For item generations following theoretical perspective of social support (Lakey & Cohen, 2000) was used. These theoretical perspectives are following:

1) The Stress and Coping Perspective
   a) Supportive Actions
   b) Appraisal
2) The Social Constructionist Perspective
   a) Social Cognition
   b) Symbolic Interactionism
3) The Relationship Perspective

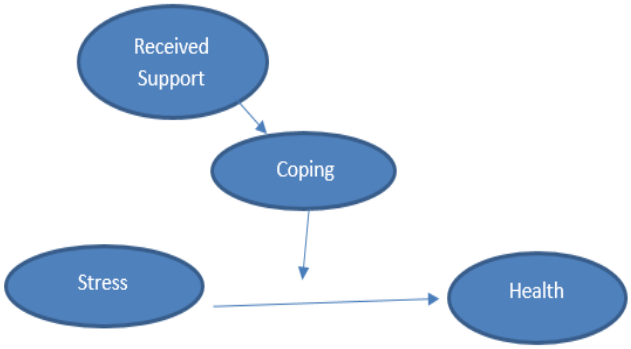

Figure 1: Supportive Action

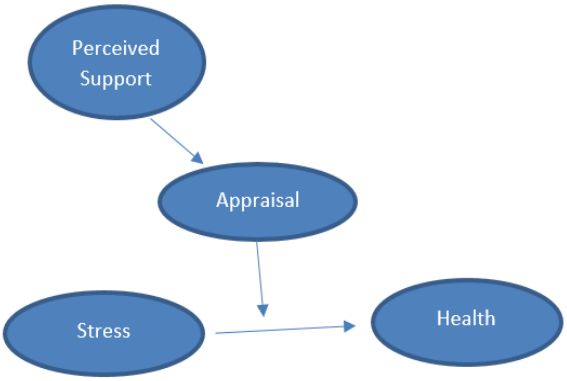

Figure 2: The Appraisal Perspective

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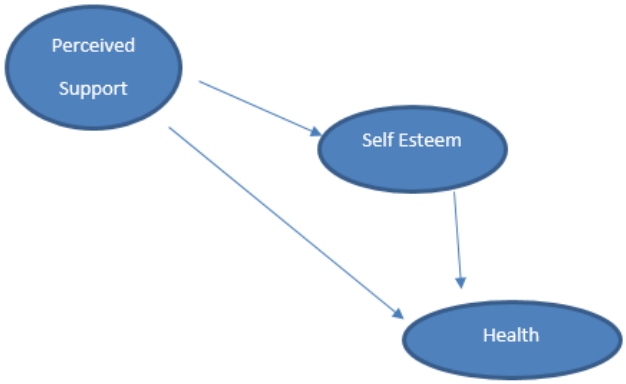

Figure 3: Social Cognition Perspective

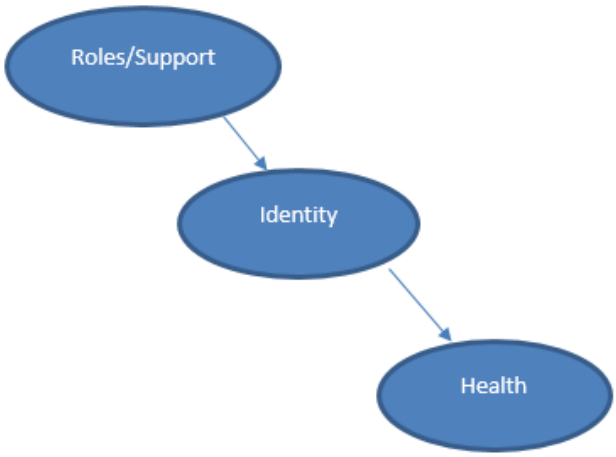

Figure 4: Symbolic Interactionism

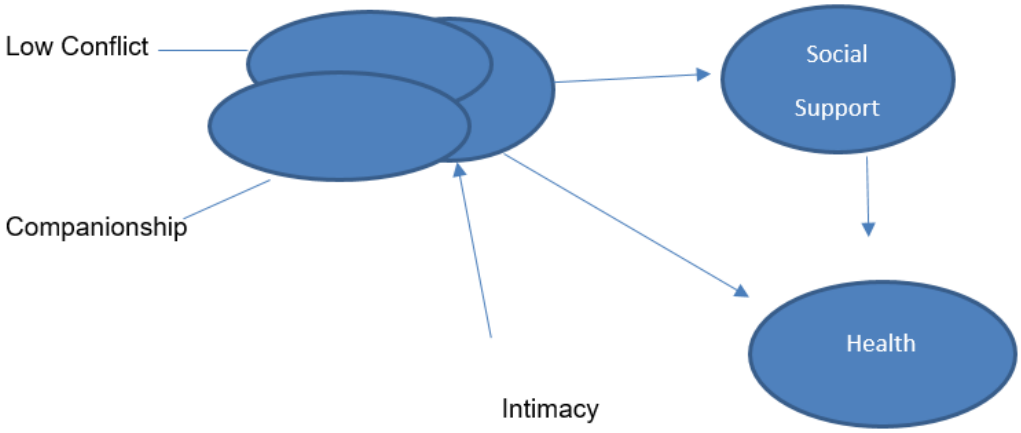

Figure 5: The Relationship Perspective

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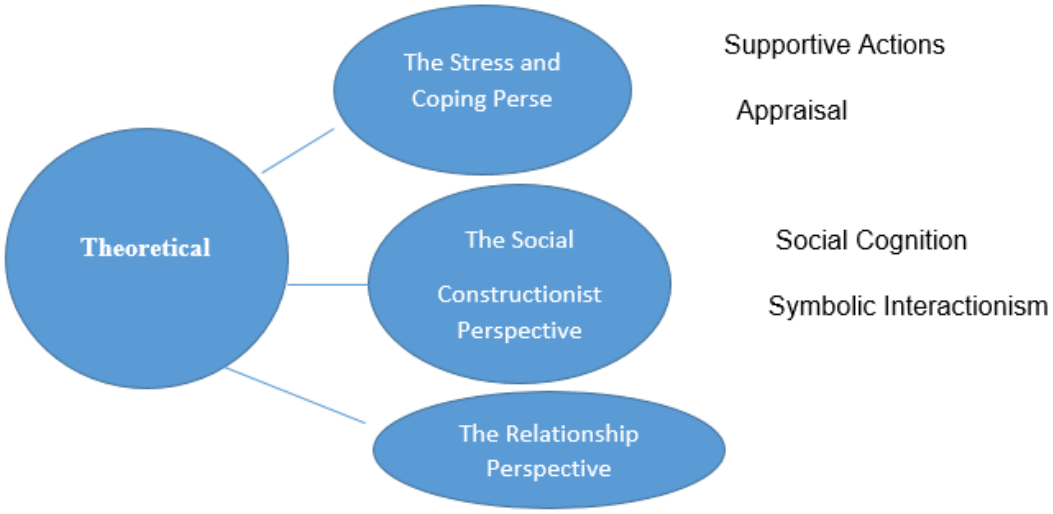
Furthermore, items were created according to the above mention perspective. For every thought or response one item was established. Item pool was generating by the help of experts, prior work and from individual's experience etc.

B) Results

170 items were confirmed as the primary item pool. According to cultural perspective Urdu language were used.

Theoretical Perspective Showing the Variance of perspectives:



There were 3 perspectives such as:

1. The Stress and Coping concerning to Supportive actions and Appraisal.
2. The Social Constructionist concerning to Social cognition and Symbolic Interactionism.
3. The Relationship Perspective.

Step 2: Expert's Evaluation of Items

A) Procedure

Content validation of item pool by expert panel was the next step. The selected professionals had comprehensive information related to questions that were under study. The panel of experts for meeting were consist of 3 PhDs and 5 MPhil scholars for evaluation of questions. Professionals were requested to evaluate items on their level of understanding and clarity. On the basis of suitability, ambiguity and content these items were judged.

B) Results

Items were either changed or excluded on the base of recommendation. In this expert meeting response options were also settled. 4-point Likert scale was confirmed and range

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was 1 to 4. Later the assessment of professionals 7 items was eliminated and 6 were improved. For the pilot study 157 items were left behind.

Step 3: Pilot Study

A) Sample

Sample of 450 (n=450) adult participants were selected from different areas of Pakistan including Kharian, Gujrat, Islamabad, Karachi and Lahore. Data was collected via online and face to interview. The age range of whole sample was from 18-50 years.

B) Sampling Technique

For the selection of adult participants simple random sampling technique was used. Simple random sampling is the kind of probability sampling technique. According to Taherdoost (2016) the simple random sample states that each individual of the population has an equivalent chance of presence in sample.

C) Procedure

In the data collection process the final scale which has 157 items was used. The questionnaire that was used in this study is self-reported or interviewed on the basis of understanding and qualification of the participants. From each respondent the inform consent and research form was taken. Information about the significance and objectives of the research study was given to individuals. Instructions were given to participants as read out the items and gives answer according to their understanding and respond according to their mental state. At the end respondents were appreciated for their collaboration.

D) Results

In this section the results of the data analysis of scale development are explained. The result is defined in table form. This part comprises the investigation, presentation and understanding of the finding resulting from this study

Step 4: Exploratory Factor Analysis (EFA)

To reduce the data exploratory factor analysis was run. There are two types of factor analysis as one is ‘explorative’ and second is ‘confirmative’. To reduce the set of variables EFA is used. It is also used for inductive purpose. To check the relationship among factors and for quality of factor by statistical significance confirmatory analysis is used (Hinkin et al. 1997).

On the data of 157 items exploratory factor analysis was completed to see the validation of factors and significance of items in the scale. Statistical Package for the Social Sciences (SPSS) volume 25 used for EFA (Exploratory Factor Analysis). AMOS (Analysis of a Moment structures) version 21 were used for CFA (Confirmatory Factor Analysis).

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RESULTS

Table 1: Frequencies of Demographic Characteristics of the Sample (N=450)

Characteristics	Frequencies	Percentage
	F	%
Gender		
Female	225	50.0
Male	225	50.0
Age		
18-30 years	216	48.0
31-40 years	169	37.6
41-50 years	65	14.4
Marital Status		
Married	256	56.9
Unmarried	194	43.1
Education		
Matric/F.A	128	28.4
B.A	109	24.2
M.A	136	30.2
M.Phill	77	17.1
Residential Area		
Urban	226	50.2
Rural	224	48.8

This table has displayed the demographic characteristics of population (N=450) in the procedure of scale development. Gender frequency was as follows male=225, female=225. Most individuals had age range from 18-30 years, 31-40 followed by 41-50 years. 56.9% individuals were married and 43.1% were unmarried. Education level showed that 28.4% individuals in matric/F. A level, 24.2% in B. A, 30.2% in M.A and 17.1% in M. Phil level. 5o.2% individuals were residents in urban and 48.8% were from different villages.

Table 2: Correlation Coefficient of 157 Items of Social Support Scale in Urdu (N=450)

Item No.	r	Item No.	R
1	.508**	28	.580**
2	.299**	29	.489**
3	.408**	30	.648**
4	.332**	31	.340**
5	.458**	32	.531**
6	.352**	33	.504**
7	.380**	34	.670**
8	.430**	35	.563**
9	.505**	36	.602**
10	.431**	37	.420**
11	.444**	38	.572**
12	.588**	39	.550**
13	.609**	40	.513**

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14	.539**	41	.470**
15	.559**	42	.521**
16	.509**	43	.320**
17	.591**	44	.524**
18	.197*	45	.572**
19	.483**	46	.675**
20	.564**	47	.604**
21	.545**	48	.527**
22	.390**	49	.426**
23	.385**	50	.411**
24	.464**	51	.614**
25	.398**	52	.530**
26	.585**	53	.561**
27	.469**	54	.542**
Item	**r**	**Item**	**R**
55	.614**	90	.498**
56	.453**	91	.624**
57	.451**	92	.592**
58	.624**	93	.690**
59	.690**	94	.582**
60	.493**	95	.537**
61	.589**	96	.596**
62	.411**	97	.535**
63	.370**	98	.606**
64	.491**	99	.575**
65	.520**	100	.500**
66	.651**	101	.594**
67	.623**	102	.631**
68	.401**	103	.692**
69	.595**	104	.577**
70	.475**	105	.647**
71	.518**	106	.544**
72	.566**	107	.590**
73	.556**	108	.588**
74	.589**	109	.582**
75	.556**	110	.571**
76	.650**	111	.613**
77	.626**	112	.583**
78	.584**	113	.533**
79	.546**	114	.600**
80	.603**	115	.576**
81	.575**	116	.524**
82	.615**	117	.591**
83	.660**	118	.642**
84	.477**	119	.549**
85	.525**	120	.576**
86	.570**	121	.552**
87	.599**	122	.557**
88	.584**	123	.622**

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89	.090	124	.57**
Item	**r**	**Item**	**R**
125	.510**	156	.609**
126	.448**	157	.545**
127	.431**		
128	.499**		
129	.277**		
130	.418**		
131	.343**		
132	.411**		
133	.447**		
134	.440**		
135	.379**		
136	.509**		
137	.432**		
138	.573**		
139	.292**		
140	.405**		
141	.446**		
142	.424**		
143	.418**		
144	.421**		
145	.520**		
146	.518**		
147	.486**		
148	.454**		
149	.468**		
150	.597**		
151	.319**		
152	.422**		
153	.459**		
154	.476**		
155	.576**		

Note: There is significant Correlation coefficient level of 0.01 (2-tailed).

Table 3: KMO and Bartlett's test for Sampling Adequacy of 157 items (N=450)

	KMO		**Bartlett's Test**	
		Chi-Square	***Df***	***Sig***
SS Scale	.820	35486.809	9730	.000

Note: SS means Social Support scale.

KMO value is significant at P<.001

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Table 4: Rotated Component Matrix of 115 Items of Social Support Scale using Varimax Rotation (N=450)

Sr. no.	Item no.	Component				
		1	2	3	4	5
1	1		0.465			
2	3		0.406			
3	5		0.429			
4	8		0.437			
5	9		0.444			
6	10		0.468			
7	11		0.587			
8	12		0.625			
9	13		0.673			
10	14		0.575			
11	15		0.582			
12	16		0.487			
13	17		0.481			
14	20		0.597			
15	21		0.461			
16	23		0.419			
17	24		0.512			
18	26		0.533			
19	27		0.537			
20	28		0.61			
21	29		0.493			
22	30		0.631			
23	32		0.551			
24	33		0.493			
25	34		0.59			
26	35		0.589			
27	36		0.622			
28	38		0.577			
29	39		0.475			
30	40		0.508			
31	41		0.481			
32	42		0.442			
33	44		0.42			
34	46		0.467			
35	47		0.447			
36	48		0.465			
37	50					0.401
38	51					0.468
39	52		0.483			
40	53					0.436
41	56				0.525	
42	58				0.516	
43	59		0.548			
44	60				0.554	

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45	61				0.535	
46	62				0.559	
47	63				0.44	
48	65		0.496			
49	67	0.438				
50	69					0.507
51	70					0.426
52	72	0.475				
53	73	0.459				
54	75	0.564				
55	76	0.563				
56	77	0.443				
57	79	0.523				
58	80	0.52				
59	81	0.557				
60	82	0.641				
61	83	0.545				
62	84	0.479				
63	87	0.405				
64	90	0.545				
65	91	0.646				
66	92	0.517				
67	93	0.568				
68	94	0.518				
69	95	0.525				
70	96	0.578				
71	97	0.569				
72	99	0.532				
73	100	0.552				
74	101	0.537				
75	102	0.493				
76	103	0.577				
77	104	0.518				
78	105	0.603				
79	106	0.591				
80	107	0.578				
81	108	0.624				
82	109	0.519				
83	110	0.511				
84	111	0.572				
85	113	0.449				
86	114	0.511				
87	115	0.58				
88	116	0.446				
89	117	0.488				
90	118			0.51		
91	119	0.514				
92	120	0.558				
93	123			0.403		

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94	125			0.425		
95	127			0.49		
96	128			0.496		
97	133				0.432	
98	136			0.611		
99	137			0.609		
100	138			0.615		
101	139			0.636		
102	143			0.648		
103	144			0.609		
104	146			0.542		
105	147			0.551		
106	148			0.539		
107	149			0.66		
108	150			0.684		
109	151			0.575		
110	152			0.587		
111	153			0.509		
112	154			0.444		
113	155			0.628		
114	156			0.565		
115	157			0.72		

Note: Suppressed value at < .4

Table 5: Model Fit Summary of Confirmatory Factor Analysis (N=450)

P Value	CMIN/DF	GFI	CFI	RMSEA	TLI	RMR
.000	2.701	.938	.909	**062.**	**884.**	**036.**

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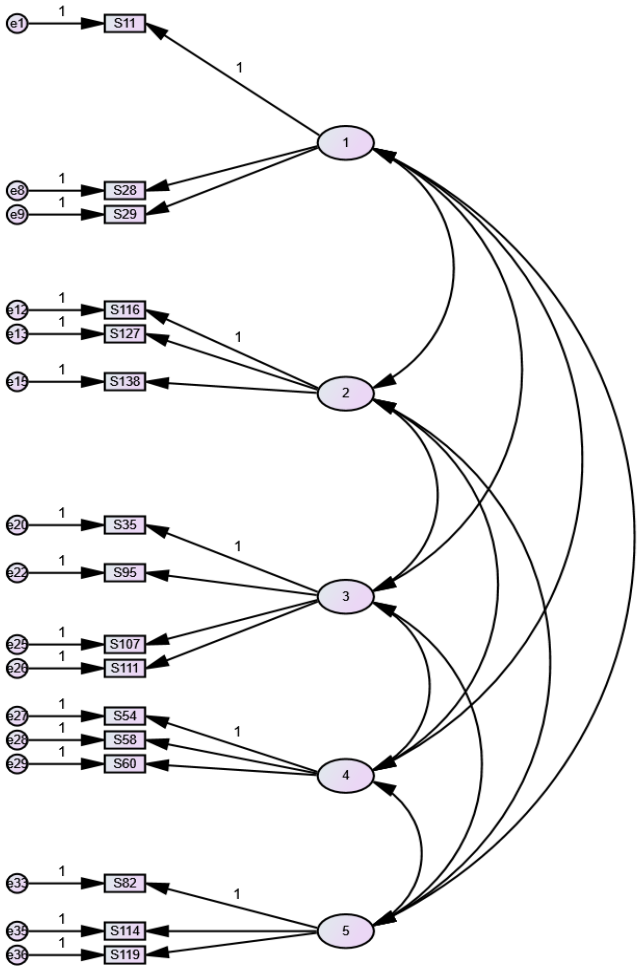

Figure 6: CFA Model Confirming the Factor Structure of the Domains of Scale of Social Support for Adults with 5 factors

Table 6: Reliability Analysis of Social Support Scale in Urdu (N=450)

Scale	Cronbach's Alpha	Sig
SSS	.840	0.01

SSS= Social Support Scale

DISCUSSION

The purpose of present was to develop and establish the psychometric properties of Social Support Scale. All steps of scale development were followed properly. Firstly, scale included 170 items which were lessened to 157 items after experts' evaluation. For item analysis Pearson Product moment correlation was run to assess the item total correlation.

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Items with the correlation of .4 and high were kept (Table 2). The remained 157 item scale was further used for final administration and exploratory factor analysis (EFA) through statistical procedure. In EFA the sample adequacy was tested using KMO and Bartlett's Test of Sphericity. KMO of 157 items was (.820). Significance of Bartlett's test was at ($p<.001$). Items with factor loading below .4 were discarded. This scrutiny resulted in 5 factors and 115 items were remaining with factor loading ranging from .401 to .673. High sample adequacy has been shown in the result of test. KMO value of 0.6 and above is suitable to affirm that there is sample adequacy (Pallant, 2013).

Further, in Test of Sphericity if the value of significance is less than 0.05 it means that the data does not have identity matrix. Hence, the data is considered as almost multivariate normal and can be accepted for further analysis. The test result in the current study has shown high sample adequacy (Table 3).

The scale was created on social support and theoretical perspective of social support. Statistical Package for Social Sciences (V. 21) was used for carrying out exploratory factor analysis which gives rise to three factors after varimax rotation including 115 items. Exploratory factor analysis was fixed to 5 factors on the basis of these. Rahn (2018) has stated that the adequate value of the factor loading should be at least 0.4. Exploratory factor analysis (EFA) displays there were 41 items in "factor 1", 39 items in "factor 2", 23 items in "factor 3", 7 items in "factor 4", 5 items in "factor 5".

Confirmatory Factor Analysis was run by using Analysis of a Moment Structure (AMOS) (version 21). In the present study the values are almost near to the standard value. CFI value is good if it is ranging between 0.90 to 0.95 (Hu & Bentler, 1999). Therefore, the usefulness of the scale was confirmed with the CFI value of .909. The significance of the model is displayed as value of $p<.001$. The model will be approximately fit if the value of RMSEA is less than .08 (Byrne, 2010). According to Tucker and Lewis (1973) the value of TLI less than 0.90 means that the model is inadequate fit. Model fit indices values of P, CMIN/DF, GFI, CFI, RMSEA and TLI were acceptable. A more modification index of covariance was adjusted for more model fit.

The CFI value on the final run was .909(Table 5) in the accepted limit. The remaining scale after deleting items became of 16.

According to Tavakol and Dennick (2011) Cronbach Alpha can be defined as it helps to measure the internal consistency of the test and its value should be between 0 to 2. The value of Cronbach Alpha of Social Support scale is significant at the .01 level (2-tailed). The table 6 has shown value of Cronbach's alpha (.840) for 16 items of Social Support scale which is high internal consistency. According to Mendi and Mendi (2015) the reliability value of .7 and above measured as appropriate. Any kind of research which is based on the measurement or values, its major emphasis will be the reliability and accuracy of measurement (Cronbach's, 1951).

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CONCLUSION

The finally indigenous 16-items reliable and valid scale of Social Support has found. This scale can be used by researchers, psychologists, psychiatrists for general population to measure the level of social support.

Limitation

Scale is developed in national Urdu language, so it will be difficult to understand the content of the scale who did not understand Urdu language.

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