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Contextualized Validation Of Social Support Scale

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Abstract: ***The primary aim of this study is the contextualized validation of the "Social Support Scale" of Caplan, et.al.(1980) that it can administered to the secondary school teachers in India. Questionnaire's psychometric properties were analysed with a confirmatory factor analysis (CFA) using the version 23.0 of SPSS Statistics software. The sample of the consists of 309 secondary school teachers from various government and private secondary schools in the districts of Jalandhar and Kapurthala in the state of Punjab, India. Out of these 173 were retained after the EFA and CFA and the other 136 were dropped due to split loading and non-clarity in values. The instrument used was a seven point Likert scale with twelve items measuring three dimensions: i.e. the support that the teachers receive from their supervisors, co-workers, and family. The total variance explained is 84.677 which is much higher than the required 40. Thus it is very good. Weak reliability values forced the researcher to remove one each item from each of the three dimensions. CFA with the assistance from the version 23.0 of the SPSS AMOS software validated the factor structure of SSS. Scale's inner consistency analysis confirmed the reliability. The alpha value of the first dimension is .905, .875 for the second dimension and the third dimension has .903. It is found to be very good. The new contextually validated three-dimensional SSS with nine items has the necessary psychometrics that it can, suitably, be administered to the secondary school teachers in India.***

Keywords: Quality of school work life; Work-family roles, Social support, Scale development; Validity and reliability.

Introduction

Home life and work life are two elements that affect each other correlatively. This dual role of the persons can sometimes result in conflicts. Inter-role conflict arising from incompatible pressures from work and family roles causes friction between work-family realms which can happen in two directions: FIW & WIF. Family interferes with work (FIW) when a person's too much busy in long and fixed hours of work, person's work-related tensions, etc. deliver trouble inside the family domain; it may withdraw us from our family duties. Work interferes with family (WIF) when a person is too much involved in fulfilling the duties towards one's old parents or dependent children, etc. and it restricts his/her choice of job, realization of one's aspirations, and exerts adverse effect on their work involvement, job fulfilment, and intention to proceed with one's job.

When we apply this to the life of the teachers, we know that the teachers need to balance their school life and family life. In this process of balancing they can get a lot of social support from many other people like the school principal, colleagues, friends and spouse/family. All these factors could tell up on their quality of work life. When the teachers are able, with assistance from social support, to enjoy their life and work with satisfaction by maintaining equilibrium between their family and work, then we can say that the quality of their life is high. It will be seen in their performances both at family and at school.

Present research has a goal/objective of validating the scale to measure the degree of the impact of 'social support (SS)' on school educators at the secondary level while they try to maintain equilibrium between family and work. The current study attempts to validate, in the Indian context, the SS Scale developed by Caplan et.al. This present study has a double objective of proving both the construct's validity and the scale's internal consistency.

Review of Literature on Social Support

Operationally defined, social support can be seen as the support received and used by teachers for coping with stress and for enhancing one's own well-being. The teacher is not left alone but is supported, loved, esteemed and respected by principal, colleagues and family. When the things at school go tough for the teacher, then the principal, the co-workers, and the family members willingly listen to his/her problems and mostly they go out of their way to help the affected teacher.

Lam Bick-har (2019), in her study 'Social Support, Well-being, and Teacher Development', defines social support as the correspondence - could be with or without words - among beneficiaries and suppliers that can possibly decreases vulnerability about the circumstance, oneself, the other, or the relationship, and it enhances the impression of outlook of individual control as far as one experiences in life. While we consider the real circumstances in life, we can find that such human supports leave a great impact on people, and it contributes to the enhancement of health both at physical and mental levels.

Tuna and Aslan (2018) speak of the positive and low-level relationship between one's commitment to the institution and the perceived social support received by the members. They prove this fact through their research study on the educators who served in state-owned schools at both the primary as well as secondary levels. Only the educators who were in service, during the scholastic year 2014-2015, in the four districts of Samsun in Turkey were considered for the sample for the study. They opined that 3% of the change in organizational commitment was due to social support and the support the teachers received was mostly from their spouse.

Rajib Chakraborty's study (2017) titled "Validation of Academic Delay of Gratification Scale among Indian Professional Courses Students" tries to conduct factor analysis of the Academic Delay of Gratification Scale (ADOGS) for college students, with 10 items, prepared by Bembenutty and Karabenick (1998), on Indian professional courses students. SPSS Amos Ver. 23 was used to confirm the factor structure and establish within-network construct validity of the instrument using Fit index tests like Chi test p value, DF, CMIN/DF, TLI, CFI, IFI, NFI, RMR and RMSEA from the data of 125 students. There were sufficient evidences to establish that this instrument in its present form can be administered on Indian urban students.

A study by Md. Shahid et al. (2016) tried to explore the impact that the external support received by the educators leave on the process of maintaining a balance between the family and work life of the academicians who worked in the public higher educational institutions in Malaysia. They came out with the findings that there existed a constructive influence by the external backings received by the educators from their supervisors, colleagues or spouse. This backing helped them to maintain the equilibrium between family and school. The support received from one's own co-workers was found to be the notable factor.

Rajakala and Kumar (2015) did a research study with a sample that consisted of the educators who served in both the village as well as the city schools in the district of Tiruchirappalli. They came out with a finding that the external backings received by the educators did not have any connection with their gender or age or educational levels. But they speak about a positive relationship that social support maintains with marital status and income.

A study by Malik et al. (2010) proves the important and strongly positive relationship that existed among the Pakistani working women - the connection that 'work family balance' has with social backings and sense of work-fulfilment. They also speak about a moderate relationship between Social support (SS) and job performance. It was also found by their study that while compared to the public sector, the private sector working women had a different level/type of SS, job satisfaction and work family balance.

Marcinkus et al. (2007), through their research examination of social backings received by middle-aged women, come out with the idea that the social support that women generally received is more of personal as well as instrumental in nature. Personal social support is associated with job satisfaction and organisational commitment.

Academic emotion regulation questionnaire (AERQ) developed in 2016 by Buric, Soric and Penezic was contextually validated in India through a study by Rajib Chakraborty, and Dr. Vijay Kumar Chechi (2019) in which they had conducted the EFA using the version 23.0 of SPSS Statistics software. They found that their newly revised seven-dimensional version of AERQ with 30 items is psychometrically fit for administering to university students in India.

Having done this study of the review of literature on the topic, we get to know that social support (received either from principal/supervisors, colleagues or family) will assist the teachers to maintain a balance between their family life and school life and will influence and improve the quality of their life at the school realm. It gives them job satisfaction, spirit of sincerity in work and commitment to the organisation. Researchers and authors were of the opinion that social support helps in the management or eradication of stress among the teachers.

Sample

The subjects of the study comprised of 173 secondary school teachers from two districts (Jalandhar and Kapurthala) of Punjab, India. The sampling strategy of purposive selection was used to choose the teachers for the study, while the choice of the schools was done randomly.

Instrument : Social Support Scale [SSS]

Present research primary aimed at the contextualized validation of the "Social Support Scale" of Caplan, et.al.(1980) with the purpose of using it on the educators in India. Original questionnaire for the survey had three dimensions [support from supervisors, colleagues, and family] and each dimension had four items each. 'Supervisor' here may be understood as principal/Vice-principal/Co-ordinator/Subject Master Teacher, etc. The three dimensional scale with four items each (which makes a total of 12 items - Table .1) will show the degree of support that the participants receive. The seven-point Likert scale used here has ranges from 1-7 (1=strongly disagree, 2 -6 have no verbal labels assigned to, and 7= strongly agree).

Table-1 Items on the SSS

1	My supervisor goes out of his or her way to make my life easier for me.
2	It is easy to talk with my supervisor.
3	My supervisor can be relied on when things get tough at my school/work.
4	My supervisor is willing to listen to my personal problems.
5	My co-workers go out of their ways to make my life easier for me.
6	It is easy to talk with my co-workers.
7	My co-workers can be relied on when things get tough for me at work.
8	My co-workers are willing to listen to my personal problems.
9	My family go out of their ways to make my life easier.
10	It is easy for me to talk with my family.
11	My family can be relied on when things get tough for me at work.
12	My family are willing to listen to my personal problems.

Procedure

Permission to conduct a validation study on the SSS tool was sought and obtained from the main author R.D Kaplan through e-mail. After obtaining the consent of the heads of the schools (both government and private secondary schools), with their help the questionnaire was administered to the teachers during their free times. The purpose of the visit was explained to the teachers. The instructions on the filling of the responses were clearly provided to the subjects and their help in the gathering of the data was sought and it was well appreciated. The teachers took around fifteen minutes to fill the questionnaire and then they returned it to the researcher.

Table-2 Items –factor Loading - SSS Item Factor Loading

Item	Factor Loading	Dimension Loading	Inter-Dimension Loading
2	1.11	D^1 – 1.04	
3	1.06		$D^1 – D^2$ - .42
4	1.00		
6	.90		
7	1.14	D^2 - .81	$D^2 – D^3$ - .29
8	1.00		
10	.90		
11	1.14	D^3 - .45	
12	1.00		$D^1 – D^3$ - .42

Results

Here in this present study, 309 data entries from the questionnaire survey of secondary school teachers were used for the analysis. SPSS statistics was used. During the EFA and CFA, a split loading was found. So no clarity in the statistical result was found. CFA did not give appropriate values. Thus, on the basis of the analysis and the review of literature, the researcher removed 136 entries which did not have values more than 0.05 and the remaining 173 entries were retained. Outlier removal techniques in the SPSS /Mahanalobis distance were applied here. Then again EFA and CFA were conducted. Again a split loading was found. So clarity in the statistical result was again found inappropriate. Then the researcher, on the basis of the analysis and the review of literature, removed three items from the original scale [item numbers 1, 5, and 9] and retained other nine items – three each in each dimension. Then for a third time again EFA and CFA were used. Thus now we have the following statistical results:

Factor Analysis

According to Coakes (2013), factor analysis (FA), as an information decrease strategy, is utilized to lessen a major amount of factors into a littler/smaller set. It has an additional function of grouping together the variables with similar features. We need to use FA so as to find whether a typical factor or more than a singular factor is found in the collected responses to the items. As per the opinion of Hair et al. (2006), the three-fold works of FA are : a) to helps us to comprehend the fundamental structure in the information network named as ‘data matrix’; b) to assist us with identifying the most displaying set of factors; and c) to build up or establish the goodness of measures for testing the hypotheses.

While conducting FA, many statistical values like Bartlett’s Test of Sphericity, Measure of Sampling Adequacy (MSA), and Kaiser-Meyer-Olkin (KMO) will be observed. The anti-image correlation matrix will show the MSA value for the individual item and it should be above .50. Three-dimensional correlation table showed a perfect correlation as all items correlate with all items.

Meanwhile, the value of KMO needs to be statistically significant value; value which is >5 is acceptable and good. Here it is >5 and is good (table 2.4). The Bartlett's test of Sphericity or P value (by which the presence of significant correlations among variables is determined) needs to be < .001; and here it is very good as it is only .000. Once the value of these tests supersedes the acceptable level, then the factorability can be assumed . The KMO value, Bartlett's Test result, etc. of the present are given in table 3 below.

Table 3 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.813
Bartlett's Test of Sphericity	Approx. Chi-Square	1277.750
	df	36
	Sig.	.000

One among the several criteria that is used while determining which are the factors that are to be extracted from the analysis, is the value or worth of communalities that needs to be more than .50 (Table 4), and this worth educates us regarding extent of change/variance of every factor that can be clarified by the factures. In the present study the extraction values are much above the expected value and thus it is very good.

Table 4
Communalities

Item	Initial	Extraction	Cronbach's Alpha	Mean Value	Variance	Standard Deviation	Number of Items
I2	1.000	.841					
I3	1.000	.884	.905	17.8497	11.721	3.42366	3
I4	1.000	.816					
I6	1.000	.761					
I7	1.000	.906	.875	18.0809	8.342	2.88830	3
I8	1.000	.789					
I10	1.000	.858					
I11	1.000	.873	.903	19.8786	4.189	2.04662	3
I12	1.000	.892					

Extraction Method: Principal Component Analysis.

As indicated by Hair et al. (2006), 60.0% or more is set as the aggregate sum of difference or variance clarified or explained by each factor. In order to know the amount of total variance accounted by the factor, we need to look at the Eigenvalue of a factor. The total variance explained in this study is 84.677 (Table 5) which is much higher than the required 40. Thus it is very good.

Table 5 Total Variance Explained

Comp-	Initial Eigenvalues	Extraction Sums of Squared Loadings	Rotation Sums of Squared Loadings

onent	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.092	56.580	56.580	5.092	56.580	56.580	2.663	29.585	29.585
2	1.371	15.234	71.814	1.371	15.234	71.814	2.542	28.250	57.835
3	1.158	12.863	84.677	1.158	12.863	84.677	2.416	26.842	84.677
4	.507	5.636	90.313						
5	.271	3.007	93.320						
6	.201	2.230	95.550						
7	.166	1.841	97.391						
8	.131	1.461	98.851						
9	.103	1.149	100.000						

Extraction Method: Principal Component Analysis.

In order to interpret the factor, we use the Rotated component matrix (Table 6) for which we take only those items which has a loading of .50 or above on one factor. Here factor loadings are high with good values. Thus is very good.

Table 6 Rotated Component Matrix[a]

	Component		
	1	2	3
I12	.892		
I10	.862		
I11	.852		
I4		.872	
I3		.868	
I2	.345	.833	
I7			.912
I8			.825
I6	.337		.803

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.[a]

a. Rotation converged in 5 iterations.

Confirmatory Factor Analysis

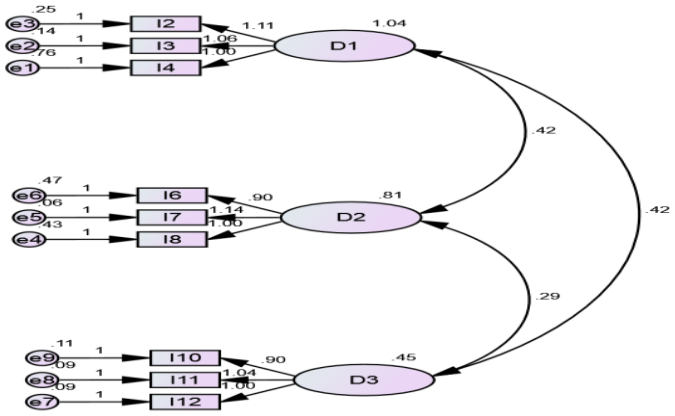

Figure 1 Factor Loading of Nine items on SSS using SPSS Amos Ver. 23

Table 7 The Fitness estimates of the Model are as follows :-

Measure	P value	CMIN/DF	RMR	RMSEA	GFI	IFI	TLI	CFI
Benchmark	**> 0.05**	**< 3**	**<0.08**	**<0.08**	**>0.90**	**>0.90**	**>0.90**	**>0.90**
Result	**.000**	**3.8**	**.061**	**0.12**	**0.89**	**0.94**	**0.92**	**0.94**

So by the above table -7 we can say that it's a moderate fit model.

Reliability Analysis

The degree to which a scale produces predictable outcomes can be determined by the researcher by conducting the reliability analysis. Sekaran & Bougie (2011) are of the opinion that if the alpha coefficient is closer to 1.0, then it is good and dependable. George and Mallery (2003) gives the following meter or range of the reliability coefficient worth: if the value is great than .9 then it is excellent, greater than .8 is good, >.7 is acceptable, >.6 is questionable, and >.5 is poor. But if it is less than .5, then it cannot be acceptable.

Cronbach's Alpha is the estimate of reliability, of internal consistency reliability and it is the indicator of consistency. Consistency in measurement is good. It can range from .00 to 1.0. It means ranging from 'no consistency in measurement' to 'perfect consistency in measurement'. Computation of Cronbach's Alpha for every dimension in the present study was done for reliability analysis. The following three tables [Tables 8, 9, 10] show the alpha value for all variables. Cronbach's Alpha for the first dimension is .905, .875 for the second dimension and the third dimension has .903.

Table 8 Reliability Statistics - Dimension 1

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.901	.905	3

Table 9 Reliability Statistics - Dimension 2

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.874	.875	3

Table 10 Reliability Statistics - Dimension 3

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.930	.930	3

Discussions

Here in this present study, 309 data entries from the questionnaire survey of secondary school teachers were used for the analysis. SPSS statistics was used. During the EFA and CFA, a split loading was found. So no clarity in the statistical result was found. CFA did not give appropriate values. Thus, on the basis of the analysis and the review of literature, the researcher removed 136 entries which did not have values more than 0.05 and the remaining 173 entries were retained. Outlier removal techniques in the SPSS /Mahanalobis distance were applied here. Then again EFA and CFA were conducted. Again a split loading was found. So clarity in the statistical result was again found inappropriate. Then the researcher, on the basis of the analysis and the review of literature, removed three items from the original scale [item numbers 1, 5, and 9] and retained other nine items – three each in each dimension. Then for a third time again EFA and CFA were used.

Limitations

The study sample size can be increased and teachers from other districts of Punjab state can also be included. One of the major limitations of this study was that it was conducted with mostly female teachers as the sample subjects. Reliability of certain scales in the tool can be improved.

Conclusion

The revised SSS tool needs to go through multiple investigations in a culturally diverse nation like India, on teacher subjects of different populations in various academic settings. However, the presence of such a tool in the Indian context is very useful to the researchers and educators involved in the understanding and promotion of social support system among teachers working at the secondary level.

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