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An Empirical Study to identify Workgroup characteristics with special reference to Women Self-Help groups

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AN EMPIRICAL STUDY TO IDENTIFY WORKGROUP CHARACTERISTICS WITH SPECIAL REFERENCE TO WOMEN SELF-HELP GROUPS

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INTRODUCTION

In Indian context, the idea of self-help groups' movement can be drawn back to the Gandhian Grama Swaraj movement, and also from the success of Grameen Bank, founded by Prof. Mohammed Yunus in 1976 at Bangladesh. These developments had a profound impact on the development of SHG movements in India. During its origin, SHGs concept was organized with an idea of cultivating importance of savings and thrift operation in the mind of poor people (Joy, Prema and Krishnan, 2008). According to National Commission for Women, India, report produced(National Commission for Women report, 2004) self-help group is about people coming together with others who are affected by a particular issue (experience, disadvantage, discrimination, etc.,) to support each other and to work together to change the disadvantage affecting them.

Self Help group (SHG) is a self-governed, peer-controlled small and informal association of the poor, usually from socio-economically homogeneous families who are organized around savings and credit activities. The funds for credit activities are raised through regular savings deposited by all of its members on a weekly or fortnightly basis. During the later stages of its SHG movement's growth, it encouraged downtrodden people to venture into income yielding economic activities like farming, agro-processing and other micro-enterprises. The concept of economic activity was also promoted by government and institutional stakeholders. Currently, the SHGs have progressed as an organized set up to provide microcredit to the rural women on the strength of the group savings without insisting on any collateral security for the purpose of encouraging them to enter in to entrepreneurial activities and for making them enterprising women (Gurumoorthy, 2000).

Review of literature

The numerous studies have been conducted on effectiveness on therapeutic SHGs like alcoholic anonymous, cancer self-help groups and other disadvantageous groups. The SHG Researches were also conducted in developmental studies such as empowerment and economic upliftment studies. Even though SHGs have emerged as an alternative developmental strategy to promote common interest of the vulnerable section of the society, an array of problems confronts the SHGs, including improper selection of group activities, lack of cooperation and zeal among the members of the group (Rao, 1999; Tatti, 1999; Reji,

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2002 and Anand, 2004) and most importantly, group dynamics issue which were causing negative impact on their performance.

In a study on SHGs points that the quality of team work was a critical component through mutual help, solidarity and joint responsibility of SHG functioning (Anand, 2002). On further review on existing literature with respect to SHG effectiveness, (Vashisht et.al. 2006), the constraints faced by group members as being member of the group were identified. The attributes like participation, decision-making, norms like discipline in maintaining the records, and task and maintenance functions have high influence on the team performance.

The process factors which depicts the interpersonal (Singh, et.al, 2007, Joy et.al 2008) attributes such as such team atmosphere, feelings, group cohesion, empathy, group leadership, team spirit have major stake on the team's effectiveness. Another significant study on women's SHG performance conducted by (Singh, Kaushal,. & Gautam, 2007) studied the performance of women's self help groups (SHGs) based on the research gaps identified in group process, group attributes, group performance, SHG empowerment, socio-personal characteristics.

In addition to above literature, a series of reviews were conducted on the work group researches that has been published between the years 1990 to 2012. Numerous researches had been conducted on the effectiveness of teams in the last decade (Sundstrom, McIntyre, Halfhill & Richards, 2000; Kozlowski & Bell, 2003; Nielsen, Salas, Stagl & Burke, 2004; Hollenbeck, Johnson & Jundt, 2005; Sundstrom & Halfhill, 2005; Gil, Alcover & Peiró, 2005; Ilgen,; Kozlowski & Ilgen, 2006;; Mathieu, Maynard, Rapp & Gilson, 2008; Goodwin et al., 2009). The reviews under the task design dimensions specific to work group characteristics such as self-management, participation, task variety, task significance and task identity. Another study (Moe, N. B., Dingsoyr, T., & Dyba, 2010), findings revealed that the team depends significantly on the trust and shared mental models to be of fundamental importance for the performance.

In the back drop of research reviews, the researchers could identify various workgroup characteristics and team attributes as a key to performance of the organizational group. However, a gap was identified in exploring workgroup characteristics appropriate to Self-help group involved in income yielding activities.

NEED FOR THE STUDY

The self-help groups in this research are groups of women who have joined together for their economic empowerment by engaging in enterprising activities. The women self-help group provides opportunities of earning through mutual interdependence, interacting socially, sharing common goals among the members which otherwise would not have been possible if they engage individually. The researches reveals that SHGs enhance the status of women as participants, decision-makers and beneficiaries in the democratic, economic, social and cultural spheres of life. However, to attain the above said outcome, significant principles such as group approach, mutual trust, organization of small and manageable groups, group cohesiveness, sprit of thrift, peer group pressure in repayment, skill training, capacity building and empowerment (Amutha, 2011) need to be adhered. These women self-help groups are self-governed and peer controlled group who were initiated and controlled by the

group members and support was also mutual. They will cease to exist without value derived members' abilities in the groups. (National Commission for Women report, 2004). It emphases the need for the SHGs to build group characteristics that would result in team effectiveness.

This research was an attempt to study the Women SHGs from the work design perspective and explore their workgroup characteristics.

Research Framework

This current research embraces the model developed by Campion et al.(1993). Campion and colleagues, in their study, identified workgroup characteristics for the organizational workgroup. The workgroup considered for their study was involved in clerical jobs. Their study's research framework captured five themes namely job design, interdependence, composition, context, and process. Those themes were measured by 19 characteristics which examined the Organizational workgroups. Besides the above themes, team effectiveness was measured using the measures namely manager's judgments, archival records of employee satisfaction and performance appraisals.

Further Campion et al. (1993) stated in their conclusion about the need for the further empirical research to be conducted based on their model in different team settings. They have also mentioned that a team behavior is influenced by the context, the nature, and various other internal factors of the team. To further explore their conclusion, the women's Self-help groups were studied to identify its workgroup characteristics through I-P-O (Input-Process-Output) framework.

Objective of the Study

On the basis of gap observed in the workgroup research review and based on the Campion et. al's (1993) scope of their study, the researchers have progressed to frame the objective.

The current study explores the work group characteristics that are relevant to Women's self-help groups.

Research Methodology

The study was conducted on the women SHGs that were involved in any Economic Activity (EA groups) in Coimbatore district of Tamil Nadu state. The Coimbatore district is the largest revenue district in Tamil Nadu and is divided into two revenue divisions and six taluks consisting of 295 revenue villages. In Coimbatore district, around 38,000 SHGs are operating under the guidance of various NGOs. Eight NGOs, in affiliation with Coimbatore collectorate department, promote women SHGs through two means: (a) Motivating savings within groups, and (b) encouraging them to involve in income-yielding economic activities like making coir, mop, bakery items, pickles and spices, etc.

The SHGs were selected through eight NGOs that were affiliated with Women's Welfare Program, a scheme under *'Mahalir Thittam*' Women's Welfare Project, Coimbatore District

Collectorate, Tamil Nadu, India. '*Mahalir Thittam'* is a women (*Mahalir*) plan (*Thittam*) of Tamil Nadu Corporation for Development of Women Ltd., (TNCDW) which aims at empowerment of women. At the time of data collection, there were approximately 464 members involved in 42 SHGs. Using multistage sampling, 210 active members were identified, and later among them, 120 were selected for the study using convenience sampling. Later on, 4 respondents were deleted due to errors. Thus, the total sample comprises of 116. The data was collected through a schedule which was translated into Tamil language. A pilot study was conducted on a sample of 40 members from eight economic activity SHG group, through "Mahalir Thittam" project office at Coimbatore Collectorate, were tested.

RESEARCH INSTRUMENT

The Work Group Characteristics Measures (WGCM) instrument was adopted from Campion et. al's study (1993) and was modified to measure the SHG's work group characteristics. The original instrument has five dimensions namely (a) Job design (b) Interdependence (c) Composition (d) Context and (e) Process with 19 variables measured by 54 items. These items were measured along the standard measurement scale (a five-point scale of Likert) ranging from "5" = strongly agree to "1"= strongly disagree. A reverse scoring was also taken care wherever it was needed. With regard to Feedback and Reward characteristics, the SHG do not receive any reward or incentive from superiors for their performance; however, they invest and earn from their group economic activities. Hence, reward element was removed from that construct while feedback was retained. Two constructs, namely managerial support and communication/cooperation between work groups, from the composition dimensions were removed. The SHGs are autonomous groups, they do not work under any supervision and independent in their performance without relying on any other group. Their stake on their input, process, and output were owned by them.

The reliability was ensured with the extent to an experiment, test or any measuring procedure yields the similar results on repeated trials (Carmines and Zeller 1979). For the current study, the reliability with Cronbach' alpha (α) score higher than 0.70 is considered (Nunnally 1978). The reliability process was tested on 17 constructs and out of which 15 constructs were selected for the instrument. Two constructs (Task identity and task significance) that had Cronbach's alpha value less than 0.7 were removed. The reliability co-efficient (Cronbach's alpha) of the items were between 0.7532 and 0.9376 which indicates the reliability of WGCM construct.

Team effectiveness was measured through team members' job satisfaction measures, the current research adapted survey instruments used by Gladstein (1984) and Van der Vegt, Emans & Van de Vliert (2001) and Eun J. Lynn Kwak (2004) which was originally adopted from Hackman and Oldham (1980).

The reliability co-efficient (Cronbach's alpha) of the job satisfaction measure was 0.8146. As the alpha value was greater than 0.70, the constructs of JSM had high reliability.

DATA ANALYSIS

An analysis was conducted with an objective to identify new workgroup characteristics for the self-help group through exploratory factor analysis. Various literatures cite that factor

analysis helps in bringing variables that are inter-correlated together. According to Rietveld & Van Hout (1993), “the goal of factor analysis is to reduce the spanned by a reduced number of new dimensions which are supposed to underlie the old ones”. While Campion et. al's model (1993) was proposed for the workgroups in organizations, the current study has adapted the same model for exploring various work group characteristics relevant to women self-help group characteristics. In the present context, a methodological analysis to restructure the data and reduce the number of variables appropriate for the study-in-hand was felt essential. Therefore, to identify input, process and output appropriate to women’s self-help group, an exploratory factor analysis was performed. Tabachnick and Fidell (2007) in their research, “as long as PCA (Principal Component analysis) and EFA (Exploratory factor analysis) are used descriptively as convenient ways to summarize the relationships in a large set of observed variables, assumptions regarding the distributions of the variables are not in force'. This data reduction was performed to discover either the linear combination of variables that accounts for a large percentage of the total variability or discover the variables reflect another "construct or latent variable" (Beaumont, Robin, 2012) for the proposed new model extracted from an existing model. Exploratory factor analyses can be conducted with at least 100 as sample sizes suggested by Gorsuch (1983), and (MacCallum, Widaman, Zhang & Hong, 1999). Therefore, with 116 as sample size in this study, the factor analyses was conducted for this study.

Two separate factor analysis using principal component analysis was performed on 15 work group characteristics variables (Self-management, participation, task variety, task interdependence, goal interdependence, interdependent feedback, heterogeneity, flexibility, relative size, preference for group work and training) having 31 input items. Second analysis was performed on 4 process work group process characteristics variables (potency, social support, workgroup sharing, and communication and coordination) of items.

DATA SCREENING

Data screening was conducted to ensure that data were not highly correlated.
It was examined by checking for singularity and multicollinearity. Repeated iteration was conducted to remove highly correlated variables. Sampling adequacy was also examined through repeated iterations.

Singularity and Multicollinearity

In the first iteration of factor analysis and over the examination of correlation table matrix, an association of 31 variables was noticed. It was also noted that determinant value was equal to “0”. The value of “0” for a determinant indicated that there is at least one linear dependency in the matrix (Field, 2009). It was reflecting a correlation between item skill and training quality which was causing extreme singularity. KMO and Barletts test score was also not displayed due to lack of identity matrix in the correlation table. In the subsequent iterations, after removal of two highly correlated items - skill and training quality, it was noted that the determinant value increased to 1.02 which is greater than 0.000001. The KMO and Barletts table displayed a test score value of 0.616 showing the presence of identity matrix in the correlation table. After removal of variables with singularity, multicollinearity (variable > .90) was also checked and found that no variable greater than 0.90 in the table.

Examination of Measure of Sampling Adequacy (MSA)

MSA values (Measure of sampling adequacy) were examined through anti-image correlation in the anti-image matrix table, eleven items below 0.5 were identified and eliminated. Over a sequence of six iterations, item by item individual elimination was conducted for improving the sampling adequacy in the anti-image matrices. On removal of first item the determinant level increased to 1.58 and the KMO and Barlett's score improved to 0.616. In the subsequent iterations following the removal of two more items on a step by step basis further improvement was noted in determinant level which increased to 2.51. The KMO and Barlett's score was also observed to be improved 0.627. On the removal of fourth item, improvement in MSA value to 0.518 and 0.547 was observed in the 10^{th} and 11^{th} items. The Change was noted both in the determinant value (5.97) as well as for the KMO and Barlett's score to 0.642. Further on the removal of $5^{th}$and 6^{th} items in a step-by-step basis, it has been noted that remaining 7^{th},8^{th},and 9^{th}items gained the acceptable score in the MSA value by increasing above 0.5 and met the standard measure of sampling adequacy as shown in the below mentioned table.

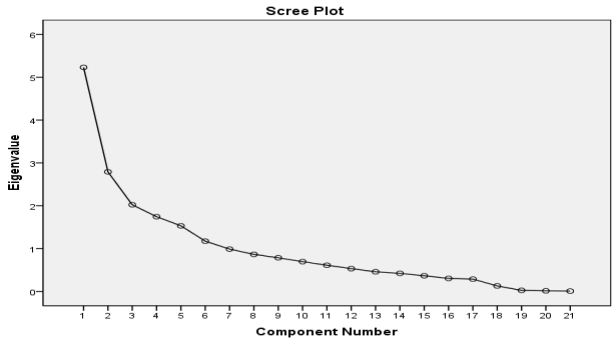
EXAMINATION OF ROTATED COMPONENT MATRIX

On examination of the rotated component matrix, it was noted that the item 14^{th} (training NGO) was not generated. Subsequent to its removal in the following iteration, when again examined, 22^{nd} item (joining) was not generated and further to its removal in the following iteration, the factor loading was found to be distributed among 21 items generating into six groups. Total variance explained by six items was 69.02%.

FACTOR ANALYSIS ON INPUT VARIABLES

A principal component analysis (PCA) was conducted on the 21 items with orthogonal rotation (varimax). The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis, KMO = .674 which is considered to be "mediocre" (Hutcheson & Sofroniou, 1999). And all the KMO values for individual items were > 0.5, which is considered to be an acceptable limit of 0.5 (Field, 2009). Bartlett's test of sphericity $x^2(210) = 1827.547$, $p<.001$, indicated that correlations between items were sufficiently large for PCA. An initial analysis was run to obtain eigen values for each component in the data. Six components had Eigen values over Kaiser's criterion of and in combination explained 69.023% of the variance. The scree plot (Figure-1) showed inflexions that justifies retaining the 6 components.

Figure – I Scree Plot



The factor loadings after rotation (Table – 1) showed following variables under factor 1, II, III, IV, V and VI: (a) Factor – I: - work distribution, decision making, participation, preference for team work, team work synergy. (b) Factor II:-Individual feedback and Performance evaluation. (c) Factor III:-Same set of members, flexibility in joining, Quality work, NGO's advice, Members' expertise. (d) Factor IV:- Sharing, Goal relevancy, and Task relevancy. (e) Factor V:- Learning, Task variety and Members' diverse skill support. (f) Factor VI:- Relative size, Team boundary, unrelated goal.

Table - 1

ROTATED COMPONENT MATRIX

S. NO	Items	Components					
		I	II	III	IV	V	VI
1	Work distribution	.929					
2	Decision making	.927					
3	Participation	.880					
4	Preference for team work	.849					
5	Team work synergy	.849					
6	Individual feedback		.950				
7	Performance evaluation		.948				
8	Same set of members			-.758			
9	Joining the team			-.596			

S. NO	Items	Components					
		I	II	III	IV	V	VI
10	Quality work			.577			
11	NGO advice			.569			
12	Expertise			.541			
13	Sharing				.706		
14	Goal relevancy				.650		
15	Task relevancy				.585		
16	Learning					.850	
17	Task variety					.723	
18	Members' diverse skill support					.578	
19	Relative size						.728
20	Team boundary						-.652
21	Unrelated goal						.586

FACTOR ANALYSIS ON PROCESS CHARACTERISTICS

DATA SCREENING

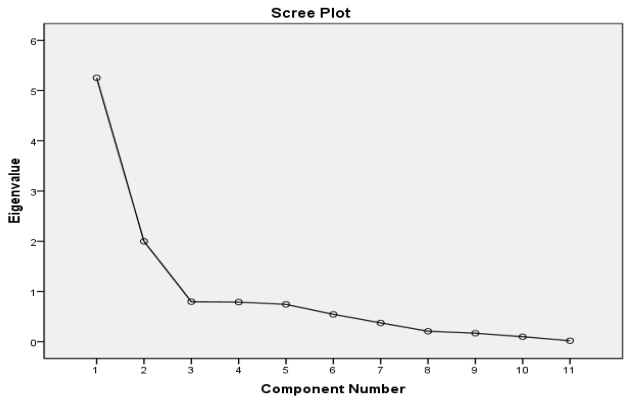
On examining the initial factor analysis result for the process variables, the determinant value in the correlation matrix was 1.18 (an acceptable range) which is above .00001. The KMO and Bartlett's score showed MSA score of 0.752. On the observation of anti-image matrices score, the value of 8th item (independent) was below 0.5. In the next iteration, after the removal of the 8th item, factor analysis result showed increase in determinant value to 7.12 (an acceptable range) which is also above .00001.

FACTOR ANALYSIS

A principal component analysis (PCA) was conducted on the 11 items with orthogonal rotation (varimax). The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis, KMO = .808 which is considered to be "good" (Hutcheson & Sofroniou, 1999). And all the KMO values for individual items were > 0.6, which is well above the acceptable limit of 0.5 (Field, 2009). Bartlett's test of sphericity x^2 (55) = 1055.259, P<.001, indicated that correlations between items were sufficiently large for PCA. An initial analysis was run to obtain Eigen values for each component in the data. Two components had Eigen values over Kaiser's criterion of 1 and in combination explained

65.920% of the variance. The scree plot (Figure: 2) showed inflexions that would justify retaining the two components.

Figure – 2 Scree Plot



The factor loadings after rotation (Table – 2) shows that component 1 represents conflicts, cooperation, information sharing, transparency, equal support, mutual help and team spirit. Component two represents member's confidence, potency, equal distribution of work, and equal contribution of work.

Table-2

ROTATED COMPONENT MATRIX

S. No	Items	Component	
		1	2
1	Conflicts	.908	

2	Cooperation	.870	
3	Information sharing	.862	
4	Transparency	.852	
5	Equal support	.831	
6	Mutual help	.784	
7	Team spirit	.735	
8	Self confidence		.740
9	Potency		.734
10	Equal distribution of work		.700
11	Equal contribution of work		.669

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

RELIABILITY ANALYSES

Cronbach's alpha was again performed to check the internal consistency among newly explored variables under the exploratory factor analysis.

(i) INPUT VARIABLES

Internal consistency among the items of first and second (0.944, 0.989) were excellent. Fourth and fifth (0.723, and 0.780 respectively) were in the acceptable ranges. The scores among the third and sixth items were below 0.6, therefore, they were removed. Consequently the four groups were named following labels as (i) Job design, (work distribution, decision making, participation, preference for team work and team work synergy), (ii) Feedback (Individual feedback, performance evaluation) (iii) Interdependency (Sharing, Goal relevancy, and task relevancy) (iv) Preference for task variety (Learning, Task variety, Members' diverse skill support).

(ii) PROCESS VARIABLES

The internal consistency among the two groups was within acceptable range. The Cronbach's alpha score of 0.932 for the first group and the second group score was 0.796 was noted. The scores of the first factors are considered to be excellent and scores of the second factors are considered to be mediocre. The two groups were labelled as Cohesiveness (Conflicts, Cooperation, Information sharing, Transparency, equal support, mutual help, and team spirit) & Belief & fairness in the group (Members' confidence, potency, equal distribution of work, equal contribution of work).

CORRELATIONS BETWEEN INPUT FACTORS AND PROCESS FACTORS

The correlation (table-3) was computed to find the relationship between the four input factors and two process factors. The computation of correlation between these variables are essential for examining input variables' predictive ability on the respective process factors.

TABLE: 3 CORRELATION

		Regression for Cohesiveness factor score 1 for process analysis 2	**Regression for Belief and fairness in the group factor score 2 for process analysis 2**
Regression Job design score 1 for analysis 1	Pearson Correlation	.693**	.205*
	Sig. (1-tailed)	.000	.014
	N	116	116
Regression feedback score 2 for analysis 1	Pearson Correlation	-.063	.183*
	Sig. (1-tailed)	.250	.024
	N	116	116
Regression Interdependency score 4 for analysis 1	Pearson Correlation	.118	.419**
	Sig. (1-tailed)	.103	.000
	N	116	116
Regression Members' preference for task variety score 5 for analysis 1	Pearson Correlation	.323**	-.056
	Sig. (1-tailed)	.000	.273
	N	116	116

**** Correlation is significant at the 0.01 level (1-tailed)**

***Correlation is significant at the 0.05 level (1-tailed)**

The Job design is positively correlated with both Cohesiveness in the group and Belief and fairness in the group with $p< .01$ and $p<.05$ respectively. Members' feedback is positively correlated with Belief and fairness in the group with $p<.05$ while Interdependency is positively correlated with Belief and fairness in the group with $p<.01$. The Members' preference for task variety is positively correlated only with Cohesiveness with $p<.01$.

Discussion and Conclusion

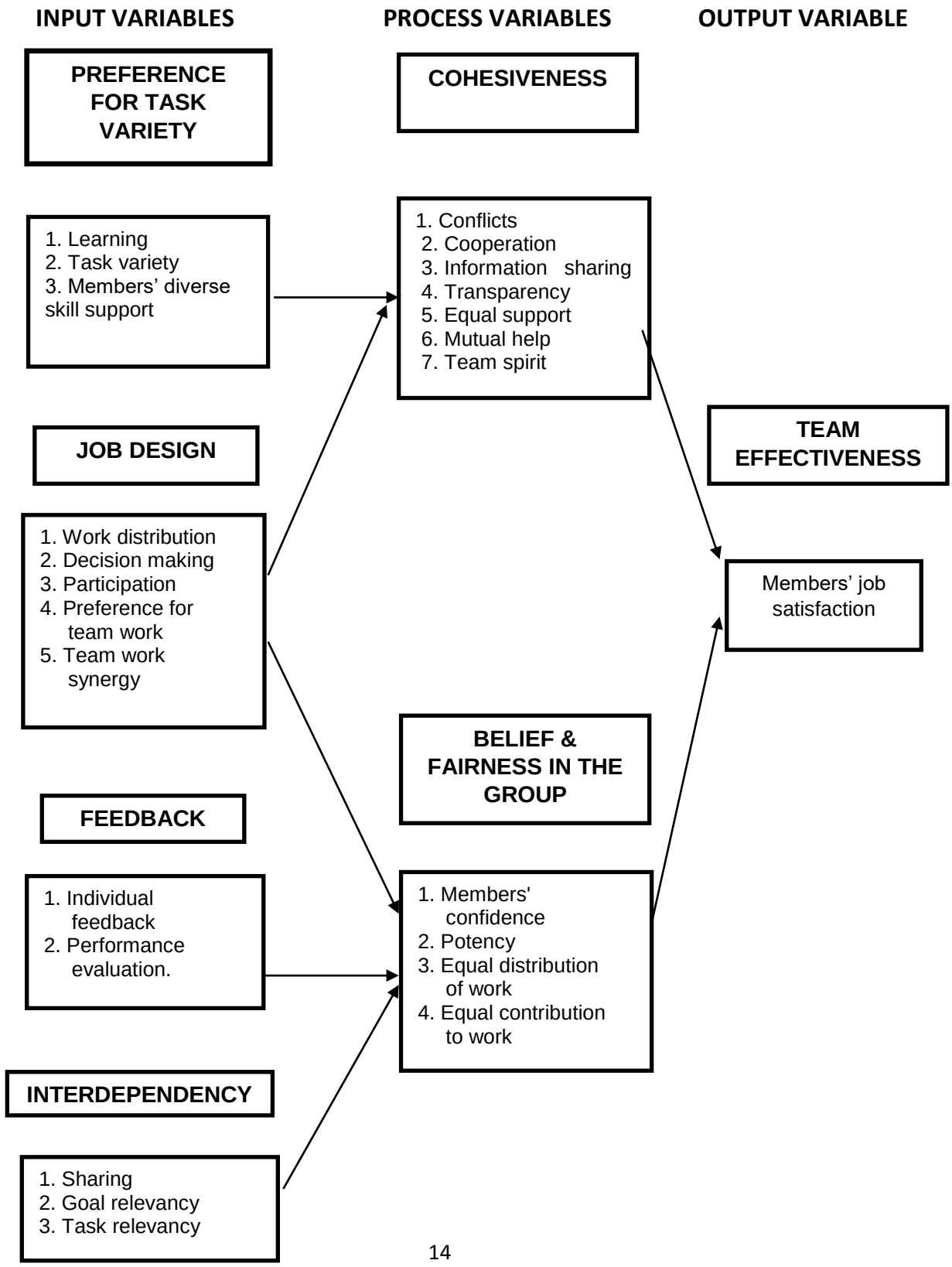
Though the exploratory factor analysis displayed six groups, the reliability test on those groups suggested only four dimensions (figure-3). The first dimension of workgroup characteristics were work distribution, decision making, participation, preference for team work and team work synergy. As the characteristics identifies with methods, structure, relationships of the group work, the dimension is named as Job design (Buchanan, 1979). Second dimension of the workgroup characteristics were individual feedback and performance evaluation. The women's self-help group does not have a formal performance evaluation, they rely on qualitative feedback on each of their performance. The feedback and performance evaluation are incomplete without one another, the dimension was named as Feedback (Cohen, S. G., & Ledford, G. E., 1994, Saavedra, R., & Kwun, S. K. 1993). The third dimension of the workgroup characteristics were identified namely sharing, goal relevancy and task relevancy (Langfred, C. W., 2007, Alper, S., Tjosvold, D., & Law, K. S., 2000, Bell, B. S., & Kozlowski, S. W., 2002). Sharing the resources, having relevant goal and task are essentials of the workgroup characteristics. Hence, the characteristics are identified with a common theme interdependency which describe the interdependency (Mathieu et.al., 2001) for the SHG workgroup characteristics. Three workgroup characteristics were identified in the fourth dimension namely, learning, task variety and members' expertise and skill support (Sundstrom,E., De Meuse, K. P., & Futrell, D., 1990). The workgroup comprises of members to support the group with their diverse skills. They indulge in variety of task which simultaneously involves in continuous learning. Hence, the fourth dimension was named as members' preference for task variety, again.

With respect to exploration of process factors in the workgroup characteristics, two dimensions were identified (figure-3) namely (a) Cohesion within group members and (b) Members' belief and fairness within the group. Under the Cohesion within group members, seven process characteristics were grouped namely conflicts, cooperation, information sharing, transparency, equal support (an opportunity free of discrimination), mutual help (voluntary and reciprocal exchange of help), and team spirit (Yeatts, D. E., & Hyten, C., 1998, De Jong, A., De Ruyter, K., & Wetzels, M., 2005). Under the second dimension Members' belief and fairness within the group, four process characteristics were grouped namely, members' confidence, potency, equal distribution of work, and equal contribution to the work (De Jong, A., De Ruyter, K., & Wetzels, M., 2005, Edmondson, 1999)

Identification of the input characteristics that influence the SHG effectiveness mediated by the process variables could be informative to NGOs. To larger extent, attention was given to the performance and group structure of small groups (Levine & Moreland, 1990). Though, it has been traditionally pointed that groups generally have both task and social/emotional components (Bales, 1950), however, significance was primarily given for understanding these tasks than the interpersonal factors. The sustainability of the groups could be challenging if less importance is given to the storming part in the group development stage. To add further, the most difficult part of mentoring SHGs could be identification of process factors. Therefore, the women SHGs primarily being self-managed ones, the recognition of the group processes could be significant for effectiveness.

While this study had attempted to provide a SHGs' workgroup characteristics framework, further scope could be to understand the predictive relationship among input-process on the output variables.

Figure -3 Input-Output-Process Characteristics with latent variables after Exploratory Factor Analyses



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