

# **ASSESSING THE IMPACT OF GROUP BEHAVIOUR ON THE PERFORMANCE OF PUBLIC SECTOR GROUPS: A GROUP-LEVEL ANALYSIS**

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## **ABSTRACT**

*This paper investigates the impact of group behaviour on the performance of public sector groups working in head offices of public corporations of Jammu province. Census method was used to collect the data from the 1189 respondents of 18 J&K public corporations. Employees' individual responses were aggregated to get group response using rwg, ICC(1) and ICC(2) analysis. Exploratory factor analysis, confirmatory factor analyses and structural equation modelling was used to test the hypotheses. Study results revealed positive impact of group leadership, team member exchange, communication, cohesion, interdependence, flexibility, intimacy, potency and maturity of members on group performance whereas group conflict and politics were found to be negatively related to group performance. Besides the significant contributions, yet certain limitations have emerged which restrict its applicability. Future research is also discussed in the paper.*

**Keywords: Group Behaviour, Group Leadership, Team Member Exchange, Group Performance.**

## **INTRODUCTION**

The prevalence of groups and teams at the workplace makes it imperative to understand their effects on group members (Dunford & Melner, 1999; Beyerlein, Johnson & Beyerlein, 1995). In fact, organisations rely on work groups and teams within the workplace to achieve goals through task performance (Garrison,

Wakefield & Kim, 2010; Jackson, Joshi & Erhardt, 2003; Klein, Knight, Zeigert, Lim & Saltz, 2011; Mannix & Neale, 2005). Companies must address work group dynamics to meet performance goals with group members (Muethel & Hoegl, 2010). Working together in a group requires employees to generate or modify individual contributions e.g., physical effort, thoughts and ideas collaboratively and to integrate these contributions in such a way that is functional for high inter group, intra group and organisational performance.

Group behaviour through shared leadership, cohesiveness, participation in decision making, intimacy, potency, hedonic tone, viscosity, norms, interdependence, maturity and flexibility may bolster group members' beliefs, their actions and their performance outcome (Vaishali, 2017). It can foster employee performance, awareness and development by monitoring the progress of others, sharing the respective information with all the group members and by considering work load constraints of individual group members for task allocation. The growing use of work groups has impelled scholars & management theorists to analyse the factors that determine group performance and effectiveness. Several past researches have proposed and tested models showing the impact of group composition, structure and processes as significant antecedents of group performance and effectiveness (Ilgen, Hollenbeck, Johnson & Jundt, 2005; Tannenbaum, Beard & Salas, 1992; Hackman, 1987; McGrath, 1984).

## **LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT**

Group work refers to the set of interrelated thoughts, actions and feelings that each group member engages in to facilitate coordinated and adaptive performance (Goodman et al., 1982; Guzzo, & Dickson, 1996). Group work is defined by a common task requiring interdependent work and successive or integrative action (Hacker, 1998). Researchers have empirically investigated the positive impact of group work and group behaviour on group performance (Baninajarian & Abdullah, 2009; Newton & Levinson 1973). Collective behaviour is in fact one of the criteria that define group performance (Guzzo, R. A., & Shea, G. P., 1992).

Effective teams includes having clear purposes, control, informality, participation, listening, open communications, clear roles, equitable assignments, shared/transformational leadership, external relations, style diversity and self-assessment (Mohrman, Cohen & Mohrman, 1995). Campion and his colleagues, in their 1993 model, proposed that factors related to job design (participation, interdependence), group composition (flexibility, relative size), organisational context (training, managerial support and communications/cooperation between groups) and process (potency, social support, cohesion, workload sharing and communication within groups) are related to work group effectiveness. Conflict is a state of disharmony that can cause negative results in team activities (Jehn et al., 1999). When conflict is present within a team and between teams, it affects

decision-making. Conflict and team-level politics were negatively related to executives & member ratings of effectiveness, team effectiveness and organisational functioning (Amason & Sapienza,1997). Elron & Vigoda (2006) found that the prevalence of politics increases the level of detrimental conflicts in top management teams and lowers their performance. In the group affect and performance literature, several studies have provided preliminary evidence that hedonic tone/ group affective tone result in better team performance (George, J.M.,1990). Researchers also considered the influence of LMX at the group level (Truckenbrodt,2000).

Further, role differentiation and clarity among work group members and maturity of members have the potential to yield optimal group performance. Group size has been found to be an important input factor in relation to group outcomes such as group performance and group job satisfaction (Cohen & Bailey, 1997). Empirically, group intimacy and group flexibility are considered vital for promoting group awareness and group performance (McComb et al., 2007). The available literature has focused on transformational leadership & team performance, group size & group performance, flexibility & team performance, conflict & individual performance, politics & performance, cohesion & intimacy in private sector employee/stakeholders in universities, colleges, telecommunication, insurance-, software development companies, airport management services, banks etc. The present study integrates the fourteen dimensions of group behaviour on the group performance of functional public corporations in J&K state.

Based on the review of the aforesaid literature, the following conceptual model is proposed:

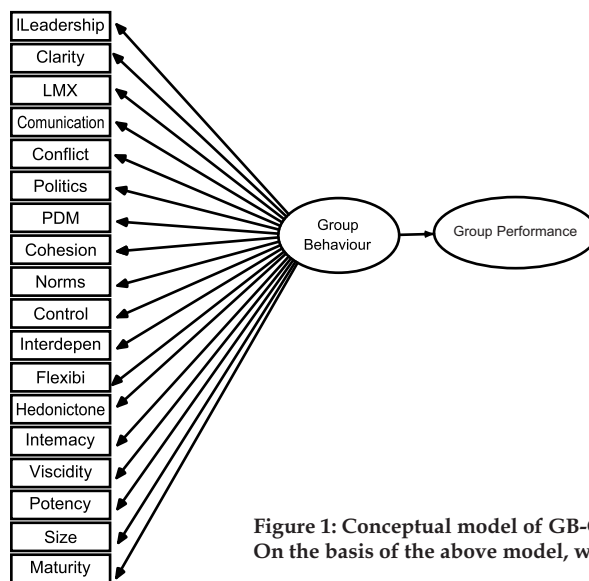


Figure 1: Conceptual model of GB-GP relationship  
On the basis of the above model, we hypothesised that:

**Hyp 1:** *Group behaviour significantly affects group performance*

**Hyp 1(a):** *Transformational leadership, role & goal clarity, leader-member exchange, communication, participative decision making and cohesion positively affects group performance.*

**Hyp 1(b):** *Norms, control, interdependence and flexibility positively affects group performance.*

**Hyp 1(c):** *Hedonic tone, intimacy, viscosity, potency, size and maturity of members positively affects group performance.*

**Hyp 1(d):** *Conflict and politics negatively affects group performance.*

## **RESEARCH METHODOLOGY**

### **Generation of Scale Items and Data Collection Forms**

Primary data based on the first hand information have been collected through self-modified and well-structured questionnaire. Survey was conducted from the employees of the head offices of J&K public corporations in Jammu. Secondary sources investigated were books, newspapers and relevant journals. The questionnaires consisted of three sections viz., demographic profile, items about various dimensions of group behaviour and group performance scale. The group performance is assessed using self-rated items. Items in the questionnaire were designed using a five-point Likert scale to facilitate measurement and scores of 5, 4, 3, 2, and 1 are used to represent the answers to mean ranging from 'Strongly agree' (5) to 'Strongly disagree' (1).

### **Collection of Data**

One of the problems of doing research with groups is that the term "group" is usually associated with an enormous variety of social and organisational forms. In this study, a contingency approach was adopted and groups were viewed as performing organisational units (Gladstein, 1984; Hackman, 1987). The organisational units/ section/ department were treated as groups in this study and the number of groups came to be 104. The groups fulfilled two criteria that is, they had a minimum of three members each and they work interdependently. The groups included management groups, supervision groups, supporting groups, mechanical section groups, legal section groups, finance section groups etc. The study is confined to the groups working in head offices of J&K public corporations of Jammu province. Census method was followed in contacting 1189 employees working in the head offices of all the eighteen J&K public corporations, out of which 902 employees responded. The size of the groups ranged from 3 to 30, with an

average of 8 (8.38) individuals per group. The average tenure of the groups was 3.6 years. Of these 104 groups, 86 groups (82.69%) included both male and female respondents whereas 17 groups (16.35%) included only male respondents and one group (0.96%) was comprised of only female respondents.

### **Level of Analysis**

Group-level phenomena can be measured in a variety of ways. In the organisational sciences, the most common approach is to collect individual survey responses and aggregate those to the group level (Klein, Conn, Smith, & Sorra, 2001). In this study, the group scores were obtained by aggregating the individual scores on each item within the groups. This aggregation was obtained by computation of means to allow comparisons across groups without variances in the sample size.

### **Analytical Strategy**

Although various constructs of the study were measured at the individual level, the statistical analysis was conducted at the group level by aggregating individual employees' responses within each group (Klein et al., 1994). James (1984) viewed intra class correlations (ICCs) as representative of the reliability between raters and recommended it as a criterion for aggregating individual responses. Inter rater reliability, referred to as ICC(1), compares between-group to within-group variances using the individual ratings of each respondent. The reliability of means, referred to as ICC(2), assesses the relative status of between-group and within-group variances using the average ratings of respondents within each group (Schneider et al., 1998). After obtaining ICC(1) and ICC(2) for various constructs, rwg statistics were computed which assesses the consistency of responses within groups, and higher consistency (i.e.,  $\geq 0.70$ ) suggests that responses represent the properties of the group or organisational unit and justify the aggregation within that group (Klein et al., 2000). The rwg value for various constructs of the study was above the conventionally acceptable value of 0.70 (James et al., 1984). On the basis of these results, we concluded that the aggregation of various constructs were justified and used it as group level variables.

## **EXPLORATORY FACTOR ANALYSIS AND SCALE VALIDATION**

After editing and coding, the multivariate data reduction technique of factor analysis was carried with Principal Component Analysis method along with orthogonal rotation procedure varimax for summarising the original information with minimum factors and optimal coverage. The statements with factor loading less than 0.5 & eigen value less than 1.0 were ignored for the subsequent analysis. Further, value of Kaiser-Meyer-Olkin (KMO) above 0.70 and significant Bartlett's test of Sphericity (BTS) is considered as an indicator of appropriateness of using exploratory factor analysis. The results of the EFA are shown in Table 1. The study

performed CFA with maximum likelihood estimation (MLE) to refine and evaluate the factor structure of all the scales. MLE is used as it improves parameter estimates by minimizing the differences between the observed and estimated covariance matrices and it is most frequently used iterative procedure.

Further, to assess fitness of all the measurement models, the study applied number of indices which include chi-square divided by degree of freedom ( $\chi^2/df$ ), root mean square error of approximation (RMSEA), normed fit index (NFI), comparative fit index (CFI), Tucker-Lewis index (TLI), relative fit index (RFI) and incremental fit index (IFI). Chi-square is a statistical test that provides discrepancy between sample covariance matrix and model covariance matrix.

Researchers consider discrepancy chi-square goodness-of-fit test as unrealistic standard wherein the null hypothesis is perfect fit and any statistically significant value is considered poor fit. Beyond having a poor model, chi-square will increase with larger samples and non-normally distributed data (Hair et al., 2008). Therefore, the study applied the ratio of chi square-to-degree of freedom as it is less stringent test as compared to chi square test. A rule of thumb regarding this criterion indicates model to be well-fit if its value is less than 2, acceptable if it is less than 3 and definitely not acceptable if greater than 5. The brief discussion about all other fitness indices and their acceptable range are given in the Table 2.

**Table 1 : Summary of Results From Scale Purification of Constructs Using Rotated Component Method**

Factor - Wise Dimension	Variance Explained	Alpha
<b>GROUP LEADERSHIP</b>		
F1:Supportive impact	28.851	.986
F2: Idealised impact	22.565	.750
F3: Inspirational impact	20.786	.838
<b>ROLE &amp; GOAL CLARITY</b>		
F1: Goal clarity	40.836	.898
F2: Job clarity	25.994	.757
<b>TEAM MEMBER EXCHANGE TMX</b>		
F1: Effective leader- member relationship	27.043	.721
F2: Mutual intimacy	13.418	.686
F3: Opportunity for growth	12.667	.691
F4: Positive attitude	12.288	.714
<b>COMMUNICATION</b>		
F1: Open and clear communication	30.476	.968
F2: Effective feedback	24.519	.989



**Table 2: Fitness Indices and Their Acceptable Range**

Fit Metric	Meaning	Acceptable range
RMSEA	It examines the difference between actual and predicted covariance, that is, residual.	Less than .08
NFI	It is a ratio of difference in the chi-square value of proposed model and null model divide by chi square value for the null model.	Close to or greater than .90
CFI	It is equal to the discrepancy function adjusted for sample size. It asks how well does the data fit better than the null model.	Close to or greater than .90
TLI	TLI is conceptually similar to CFI, but it is normed. It compares a proposed models fit to a null model. Additionally, TLI measures parsimony by assessing the degrees of freedom from the proposed model to the degree of freedom of the null model.	Close to or greater than .90
RFI	It compares a chi-square for the null model and proposed model.	Close to or greater than .90
IFI	It indicates how well the proposed model fits relative to null model.	Close to or greater than .90

## COMMON METHOD VARIANCE

In order to avoid the problem of common method variance, the study applies two methods namely Harman's single factor test and common latent factor method (Podsakoff et al., 2003).

In Harman's single factor test, the result indicates that no single factor emerged from this analysis nor is there a general factor which accounts for the majority of variance.

In common latent factor method, the variance obtained for various constructs ranged between 2.12% - 10.89%. Thus, the results obtained from Harman's single factor test and common latent factor methods denote that common method bias is not the subject of any concern in the study.

## Hypotheses Testing

The hypothesised relationships among observed and latent variables were analysed using structural equation modeling (SEM).

The goodness-of-fit index (GFI=0.995), adjusted goodness-of-fit index (AGFI=0.981), root mean square error of approximation (RMSEA=0.044) and standardised root mean square residual (RMR=0.021) were within the acceptable range.

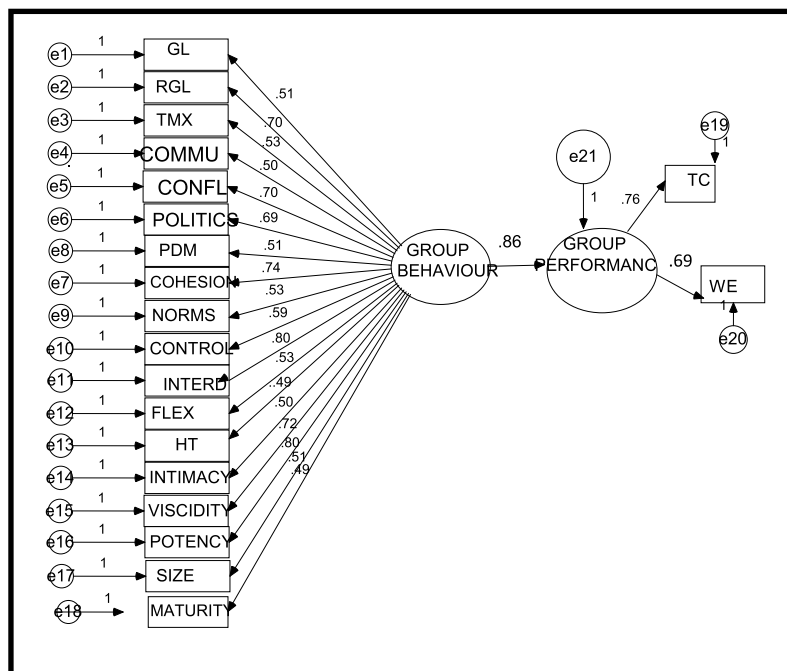
The other indices like normed-fit index (NFI), comparative-fit index (CFI) were above 0.9. The standardized regression weight between the group behaviour and group performance (SRW=.86,  $p < .01$ ) indicate significant relationship between the two, which confirmed the first hypothesis that group behaviour significantly affects group performance.



First-order model of dimensions of group behaviour and group performance proves that group performance is positively affected by transformational leadership, role & goal clarity, leader-member exchange, communication, participative decision making, cohesion, norms, control, interdependence, flexibility, hedonic tone, intimacy, viscosity, potency, size and maturity of members whereas the performance of public sector groups are negatively affected by conflicts and politics prevailing in their working environment (Figure 3). All standardised regression weights are close to or above 0.5 (P<0.001) which lead to acceptance of the hypothesis 1(a), 1(b), 1 (c) and 1(d).

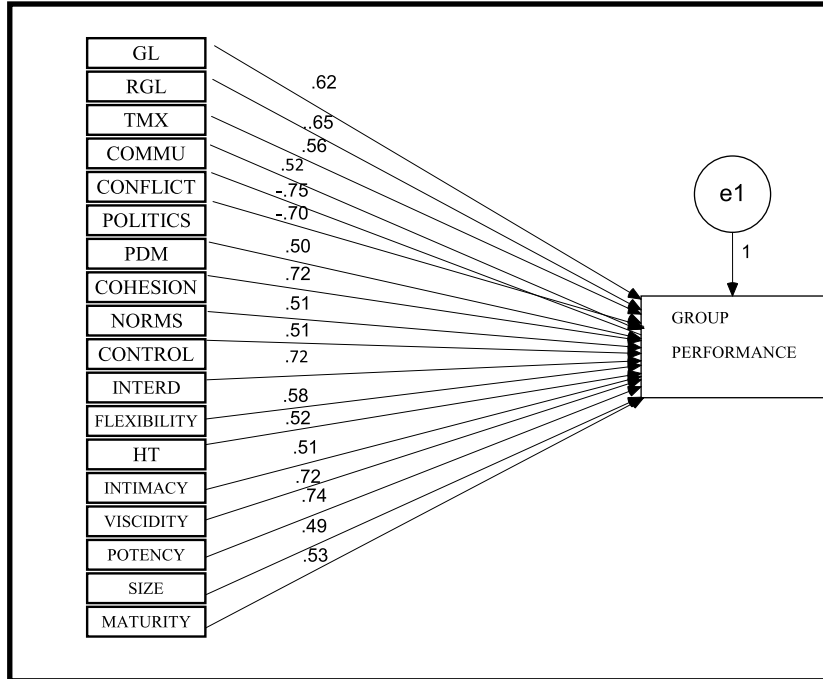
**Table 3: Overall Fitness**

Relationship	CHI-SQ	RMR	GFI	AGFI	NFI	CFI	RMSEA
GB---→GP	2.731	.021	.995	.981	.940	.959	.044
Dimensions of GB--→ GP	1.314	.003	.995	.993	.998	.998	.019



**Figure 2: Impact of Group Behaviour on Group Performance**

Key: e1-e20, are the error terms of manifest variables of Group Behaviour and Group Performance, e21 is error term of latent construct of Group Performance.



**Figure 3 : Dimension wise Impact of Group Behaviour on Group Performance**  
 Key: e1 is error term of manifest construct of Group performance.

**DISCUSSION**

This study investigated the impact of group behaviour and its dimensions on the performance of work groups. We found that while performing in a group, the performance of a member is the outcome of timely and correct contributions made by all the team members and their behaviour at the workplace. When group members are clear about group goals, pays attention to the details of its work, spends time in planning & discussing problems and have effective conflict-management strategies, it will enhance their overall group performance. However, lack of coordination and presence of conflicts & politics among group members can jeopardise the functioning of the workgroups as it creates negative attitudes and behaviour among group members such as lower level of trust, withholding of information, neglect of one's work, tardiness, absenteeism or turnover intentions which ultimately reduces the performance of groups. The study findings are in line with earlier studies conducted by Andotra et al. (2015), Andotra & Vaishali (2014), Sharma & Bajpai (2014) and Salas et al. (2008). The study makes number of academic and managerial contributions. The study advances an in-depth understanding of the significance of group behaviour in achieving enhanced group performance. The findings in this study showed that group performance in the

public sector is the outcome of various aspects or dimensions of group behaviour which depends on the working environment in which they operate. Since conflict and politics negatively affected group performance, managers as well as group leaders should devise ways to reduce conflict and politics so that the performance of the groups can be enhanced and targets can be achieved. They should therefore find the appropriate combinations of the various dimensions of group behaviour that would help in achieving the group goals together with the individual targets or objectives of the employees.

## **CONCLUSION AND STRATEGIC IMPLICATIONS**

The current study reaffirms the importance of working in groups while enhancing their performance at individual level as well as group level. Group behaviour through shared leadership, team member exchange, cohesiveness, participation in decision making, intimacy, potency, hedonic tone, viscosity, norms, interdependence, maturity and flexibility may bolster group member's beliefs, their actions and their performance outcome.

Researchers asserted that close relationship with team mates enhances group satisfaction and performance as it provides them opportunities to perform outstanding at the individual level as well as group level (Vaishali, 2017; Hsi and Nekodemus, 2017). This study makes several substantial contributions to group level theory and research. For ensuring successful group behaviour in public sector corporations, open discussions & interactions along with informal meetings must be encouraged among group members.

Further, work appreciation, suitable mechanism for receiving and redressing group members' grievances promptly & satisfactorily, group member's involvement in decision making, group reward system, learning culture, fairness in organisational activities, challenging & innovative work environment, work flexibility etc. are also required for encouraging employees to perform outstanding at individual level, group level and corporation level.

Besides the significant contributions, yet certain limitations have emerged which restrict its applicability. First, our model was tested on public sector groups and future researchers can test such model in service sector also. Second, our model was restricted to the influence of group behaviour on the performance of groups only and the impact of group behaviour can be explored on the performance of organisations in general and employee individual performance in particular. Third, the study is restricted to the public corporations operating in Jammu province only.

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