

A STUDY OF COGNITIVE STYLE SIMILARITY, LEADER MEMBER EXCHANGE AND COMMUNICATION SATISFACTION AMONG BANK EMPLOYEES

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Abstract

Employee communication satisfaction has been an area of study by business and communication scholars primarily because satisfaction with communication has been found to be positively related to employee job satisfaction, job performance, and organizational commitment. Employee communication satisfaction refers to the employee perception on how much they are listened to, how much their managers respect and pay attention to their opinions and amount of support they receive. The purpose of this article is to investigate whether cognitive style similarity of managers and employees influence the employee communication satisfaction. Drawing upon the similarity-attraction paradigm, we propose that manager-employee cognitive style similarity will play a prominent role in improving employee communication satisfaction. The study further investigates cognitive style similarity and employee communication satisfaction by examining mediating role of Leader-Member Exchange (LMX), and Tenure. Cognitive style and communication satisfaction measures were collected from department managers and their direct employees in banks located in North Cyprus (175 dyads). Managers and employees also completed a measure assessing their perceptions of Leader-Member Exchange (LMX). Demographic data and information about length of employment and working with same manager were also obtained. The results of path analysis revealed that there was a significant relationship between cognitive style similarity and communication satisfaction. As cognitive style difference increases, i.e. the gap between cognitive styles is larger, the level of communication satisfaction decreases. On the other hand, insignificant relationship between cognitive style similarity and LMX was observed. Furthermore there was a significant relationship between LMX and employee communication satisfaction. The mediating effect of LMX and tenure (combined influence) on the cognitive style similarity and communication satisfaction relationship was not significant. This study shows that when cognitive styles are similar between manager and employee dyads, this leads to improved communication satisfaction. Also when Leader Member Exchange (LMX) is higher between manager and employee dyad; communication satisfaction is improved. These results should not mean that we need to match managers and employees with similar cognitive styles since managers generally do not have the opportunity of selecting employees who are congruent with their own cognitive style. The practical realities of the business world require that, managers and employees with different cognitive styles have to work together. Therefore, it is critical that the members of a dyad be aware of both parties' cognitive styles in order to improve communication satisfaction. This self-awareness will increase the ability to empathise with the other party and thus understand that there may be alternative ways of perceiving, processing and working with information. Organisations could gain from considering cognitive style as individual difference and provide training and self-development programs in order to facilitate this understanding. Specifically, managers need to develop strategies to work with employees that will have different cognitive styles in order to improve manager-employee communication satisfaction.

Keywords: Cognitive style, communication satisfaction, leadership, LMX, banking, North Cyprus.

1. INTRODUCTION

Understanding communication within organizations is crucial because it acts as the primary means for organizational members to process information, reduce ambiguity, and coordinate their actions. Thus it become an important challenge for managers to be self aware of their and others communication needs to be able to communicate with people whose expectations from communication is different in terms of mode and frequency. Communication provided by managers is not only important for improving employees' productivity and performance, but also for positive organizational outcomes (Clampitt & Downs, 1993).

1.1 Communication Satisfaction

Communication satisfaction is described by Hecht, (1978) as socio-emotional outcome resulting from communication interactions between individuals. Employee communication satisfaction (in organizations) is defined as an individual's level of satisfaction with all aspects of communication (Crino & White, 1981). Employee satisfaction with communication has been found to be positively related to many work outcomes such as, job satisfaction, motivation, job performance, organizational commitment, decreased role ambiguity and identification (Blau, Cook, & Tatum, 2005; Goris, 2007; Gupta & Sharma, 2008; Kropf, 1999; Lee & Jablin, 1995).

1.2 Cognitive Style

Cognitive style is defined as "consistent individual differences in preferred ways of organizing and processing information and experience" (Messick, 1976, p.5). In other words, Cognitive style is the information processing style of individuals and is usually seen as a dimension ranging from those who like to process information step by step to those that tend to take a more wholistic approach. Managers and employees not only differ in terms of their cultural and educational backgrounds and life styles, but also differ in terms of personality types and cognitive styles. Two individuals having different cognitive styles may process information differently and take different actions even when they are in similar circumstances.

1.3 Leader-Member Exchange

The quality of relationship among manager-employee in a working group is crucial for the overall organizational performance. Leader-Member Exchange (LMX) is defined as the quality of exchange relationship among dyads (Schriesheim, Castro, & Cogliser, 1999) and it has been characterized by mutual respect, trust and obligation (Graen & Uhl-Bien, 1995). Bauer and Green, (1996), have suggested that dyadic relationships and work roles are developed or negotiated over time through a series of exchanges or interactions between a manager and an employee. Eisenhardt, (1989) argued that when managers and employees engage in long term relationship, the information asymmetry between manager and employees will be lower which will trigger higher levels of LMX quality. Dansereau, Graen and Haga (1975) argue that managers differentiate among employees in work groups that is; some members of the group receive more attention and support while others receive less attention and support. This leads to two groups within the working group: in-group and out-group. Selected employees (in-group members) make more contributions that go beyond their formal job duties whereas employees who are not selected by the manager (out-group members) perform more routine and mundane tasks (Linden and Graen, 1980). Thus, we can argue that, differing quality of LMX relationship is prevalent in manager-employee dyads.

1.4 Aim of the Study

The primary purpose of the current study is to analyze the relationship between cognitive style similarity of managers and employees and their level of communication satisfaction. This study will investigate first, whether the level of satisfaction with communication between two individuals having similar cognitive style and two individuals having different cognitive style shows any variation. Secondly, study will investigate whether there is a relationship between congruent cognitive style and high-low LMX relationship among dyads. Third, study will look at relationship between LMX and communication satisfaction. The study also investigates how the level of LMX and tenure may mediate cognitive style similarity and communication satisfaction within dyads.

2. HYPOTHESIS DEVELOPMENT

According to similarity-attraction paradigm (Byrne, 1971), similar cognitive styles would lead to increased liking and therefore, higher quality dyadic relationships (Myers & Myers, 1980; Turban & Jones, 1988, Graen & Uhl-Bien, 1995). Myers and Myers (1980) suggested that the understanding of individual type is useful in human relations and refers specifically to dyads such as work colleagues and couples relationships. They proposed that two people alike in their perception or judgment can build good working relationships whereas when co-workers differ in both perception and judgment, they encounter problems. Similar cognitive styles have been found to be associated with mutual positive attitudes between parties in a relationship (Cooper and Miller, 1991), satisfaction with the relationship (Cooper and Miller, 1991, Handy, 1982), and effective interpersonal relations (Handly, 1982). As cognitive styles influence how precisely people perceive,

concentrate and how they behave in working towards the achievement of set targets (Sarmany-Schuller & Simuth, 2006), we can expect that managers and employees who look at issues from a similar perspective would be able to communicate more effectively compared to those who are dissimilar. Therefore, we suggest that similar cognitive styles between manager and employee will lead to better communication satisfaction.

Hypothesis 1: There is a positive relationship between cognitive style similarity between manager and employee and higher levels of satisfaction with communication.

Theoretical ground of LMX is based on ‘dyadic relationships and work roles’ among parties who are taking part in a relationship. Dansereau, Cashman and Graen (1973), suggested that, behaviors of leaders depends upon how leaders perceive their level of relationship with his/her particular members. Turban and Jones, (1988, p.233) observed that “subordinates who perceived the supervisor as similar to themselves and those whom the supervisor perceived as similar reported less role ambiguity, more confidence and trust in the supervisor, and greater influence over the supervisor”. Consequently, leaders form relationships of varying quality with different subordinates that is, some of these relationships will evolve into high-quality exchanges typified by high levels of mutual trust and respect, and others will be of lower quality (Bauer and Green, 1996, Erdogan and Enders, 2007). According to Fairhurst, (1993, p.321), “leadership relationships develop because there is mutual trust, internalization of common goals, extra contractual behavior and rewards, and mutual influence and support”. In line with LMX theory, we would expect to see better relationship to be built by managers with employees whom they perceive that they are behaving, acting similarly, as well as alike in their perceptions and judgments to same situation. So, cognitive style similarity of individuals may play prominent role in having high quality LMX relationship among dyads. Naturally people alike each other may spend more time together, understand each other better and may asses each other’s behaviour better, which might be the desirable outcome expected when achieving work outcomes at work. Therefore, we posit that:

Hypothesis 2: There is a positive relationship between cognitive style similarity between manager and employee and Leader-Member Exchange (LMX) quality.

Lee (1997), suggests that the higher the LMX quality, the more cooperative communication; the lower the LMX quality, the more competitive communication the members perceived in their interactions with their peers within a work group. Employees who are in high quality LMX relationship tend to communicate more with their managers as compared to employees who experience low quality LMX (Ramos, 2003, p.33). Information shared in high-quality LMX also has been found to be more frequent, personal, and less formal (Fairhurst, 1993; Fairhurst and Chandler, 1989; Krone, 1992; Scandura and Graen, 1984; Waldron, 1991). Employees who have high quality LMX relationship with their managers tend to be more comfortable expressing their ideas/views to their managers (Kassing, 2001). Kacmar, et.al., (2003, p.765) have argued that “the more frequently a subordinate in a high-quality LMX relationship communicates with his or her supervisor, the more reinforced the supervisor feels about the strong relationship that has been built”. Therefore, high quality LMX relationship between manager and employee should improve level of communication satisfaction among manager-employee dyads. Thus, we posit that:

Hypothesis 3: There is a positive relationship between Leader-Member Exchange (LMX) quality and communication satisfaction.

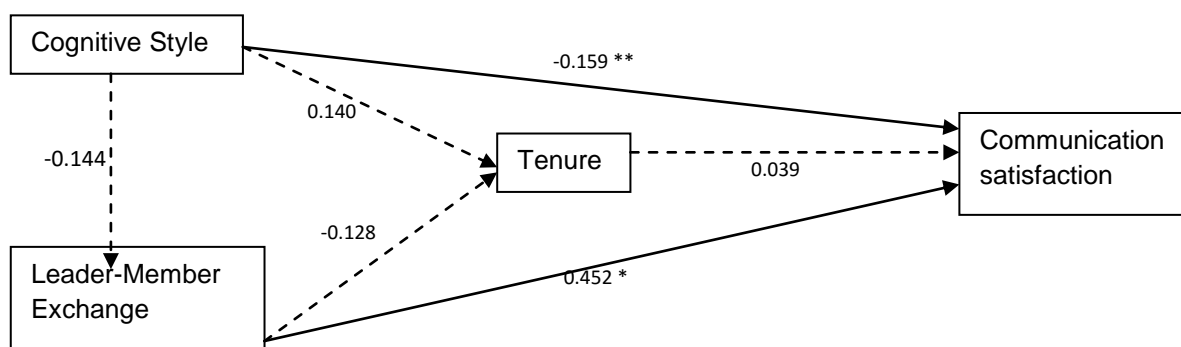


Figure 1. Conceptual and Measurement model.

Note: Standardized coefficients are used. Solid lines indicate significant paths and dashed lines indicated non-significant paths.

CFI=1.00, TLI=1.00, RMSEA= 0.000. **p<.05; *p<0.01

3. METHODOLOGY

Data were collected from 175 employees and 39 managers in 39 manager-employee groups who participated in this study. Size of groups ranged from 3 to 10 including manager. Average group size was 4.13, median 4 and mode 3. The sample consists of managers and employees from different banks located in different cities in North Cyprus. Both managers and employees were asked to fill out a set of questionnaires rating their cognitive styles, quality of relationship (LMX) and employees fill out communication satisfaction questionnaire measuring how satisfied they are with communication.

Table1. Means, Standard Deviations, correlations of Study Variables and Reliabilities (below Subordinate-above Supervisors).

		M	SD	M	SD								
	Variable	Subordinates		Managers		1	2	3	4	5	6	7	8
1	Age	39.74	5.55	31.16	6.95	1.00	-0.16	0.02	0.10	0.66**	0.47**	0.08	0.08
2	Gender	1.77	0.43	1.74	0.44	-0.26**		-0.49**	0.19	0.09	-0.01	-0.27	-0.09
3	Education level	1.59	0.72	1.76	0.68	-0.35**	-0.09		-0.30	-0.32*	-0.15	0.06	-0.05
4	Tenure in same organization	12.56	7.94	5.53	5.59	0.65**	-0.11	-0.37**		0.44**	0.24	-0.01	0.11
5	Tenure in same sector	16.44	6.91	6.54	6.22	0.72**	-0.02	-0.43**	0.85**		0.71**	0.23	-0.01
6	Years working with same supervisor/years of managerial experience	8.55	5.35	3.30	3.26	0.41**	-0.05	-0.21*	0.50**	0.55**		0.27	0.00
7	General Communication satisfaction	5.35	0.91	5.15	0.87	-0.03	-0.12	-0.19*	0.11	0.03	-0.14		0.34*
8	Leader member exchange	26.60	3.77	24.11	4.78	-0.06	-0.05	0.02	0.04	-0.04	-0.10	0.47**	
9	Cognitive style difference	0.23	1.52	8.19	6.36	0.08	-0.03	0.10	0.09	0.10	0.16	-0.22**	-0.14

Note: Subordinates' data are listed below and supervisors' data are listed above the diagonal. Mean and standard deviation scores for LMX are on a 5-point scale, cognitive style 3-point and communication satisfaction questionnaire are based on 7-point scale. N=175

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

4. MEASURES

4.1 Cognitive Style Index (CSI)

The Cognitive Style Index (CSI) (Allinson and Hayes, 1996), a self-report questionnaire designed to assess the intuitive-analytic dimensions of individuals, was administered to all participants in the study. The questionnaire consists of 38 items has a true-uncertain-false response mode, and scores of 2, for true, 1 for uncertain and 0 for false are assigned to each response, the direction of scoring depending on the polarity of the item (17 items having been reversed to control for acquiescence response bias) (Allinson and Hayes, 2000). The sum of the 38 items indicates the type of the respondent cognitive style. The nearer the total of score to the theoretical minimum of 0 (zero), the more intuitive the respondent, and the nearer to the theoretical maximum of 76, the more analytical the respondent. Reliability of the CSI is good with test-retest correlations ranging from 0.78 to 0.90 and Cronbach alpha coefficients ranging from 0.86 to 0.92 (Allinson and Hayes, 1996, Armstrong, 1999, Armstrong and Priola, 2001). The Cronbach alpha in the current study is 0.73.

In line with the method used by Allinson et al., (2001), in our analysis, difference score approach was utilized. Cognitive style difference was calculated by subtracting an employee's CSI result from the relevant manager's CSI result (see Table 2). If the difference is large, we would expect the manager and employee to be different in terms of cognitive style. Even if two individuals share an "analytic" cognitive style (e.g., higher than or equal to 49) the difference between the (actual) scores will show a more precise measure of their difference.

4.2 Leader-Member Exchange (LMX)

Leader-Member Exchange (LMX-7) scale was employed to measure the quality of exchange between managers and employees (Graen and Uhl-Bien, 1995; Scandura and Graen, 1984; Linden and Graen, 1980). Participants are asked to respond the seven items on the LMX-7 instrument to evaluate their perceptions of their working relationships with their managers or employees. While all questions have five

possible answers, the answers vary due to the nature of the questions asked. In our study, for both managers and employees, LMX scores were designated low (out-group) if they were <20 and in-group if they were ≥ 20 . The Cronbach alpha in the current study is 0.84.

4.3 Communication Satisfaction Questionnaire (CSQ)

In this study, a 46-item Communication Satisfaction Questionnaire developed by Downs and Hazen (1977) was adopted in order to measure the level of communication satisfaction among managers and employees. The questionnaire enables respondents to discuss their level of satisfaction with eight distinct dimensions on a 7-point Likert-type scale ranging from 7= Very Satisfied to 1 = Very Dissatisfied (the higher the score of CSQ, the more satisfied the participant about communication). The reliability of CSQ (Downs and Hazen, 1977) with test-retest correlation has been found to be .94 (Greenbaum, Clampitt, and Willihnganz, 1988). The Cronbach alpha in the current study is 0.93.

5. TRANSLATION OF THE INSTRUMENTS

The translations of questionnaires from English to Turkish were conducted following the procedure used in intercultural research. Questionnaires were translated into the local language using a back-to-back translation method (Brislin, 1986). First, the questionnaires were carefully translated from their original English versions into Turkish by the authors of this study. Second, a back translation of the instruments from Turkish to English by a bilingual person was performed. Third, an independent expert reviewed both the original English and the back translated English versions to ensure equivalence of meaning.

6. DATA ANALYSIS

Path analysis with Mplus statistical package (Muthen and Muthen, 1998-2010) was used to examine the direct and indirect hypothesized relationships among cognitive style, communication satisfaction, leader-member exchange and tenure. The major benefit of using path analysis in this study is that it can examine mediating and moderating effects by employing a single model instead of numerous regression equations (Baron and Kenny, 1986).

Model fit was evaluated with comparative fit index (CFI) and Tucker Lewis index (TLI), and root mean square error of approximation (RMSEA). Suggested criteria for good model fit are CFI and TLI above 0.95 and RMSEA below 0.05 (Muthen and Muthen, 1998-2010).

7. FINDINGS

Table 1 shows the means and standard deviations of all variables and the correlations among these variables. It is interesting to note that on average the cognitive style scores were higher compared to studies conducted in Western Europe and North America. Both managers' and employees' mean scores in the Cognitive Style Index were higher than the theoretical mean of 38. In our study mean was calculated as 49.

The path analysis results reveal that the proposed model had strong fit indices (CFI=1.00, TLI = 1.00) which implies that our model fits data very well. The value of RMSEA is 0.00, which also indicates a good model fit. (See Fig. 1)

Hypothesis 1 addressed the association between cognitive styles of manager and employee and communication satisfaction. Path analysis revealed that there is a significant relationship between cognitive style difference and communication satisfaction ($\beta = -0.159$, $p < .026$). As cognitive style difference increases i.e. the gap between cognitive styles is larger, the level of communication satisfaction decreases. Our results demonstrate the similarity effect on communication satisfaction that is when manager and employee, both having intuitive style or analytic style (where cognitive style score difference is at its minimum), improves employee communication satisfaction with their immediate manager. An analytic person would tend to be compliant, prefer a structured approach to decision making, apply systematic methods of investigation (Allinson, et. al., 2001). On the other hand, an intuitive person would tend to be relatively nonconformist, prefer a rapid, open-ended approach to decision making, rely on random methods of exploration (Allinson, et. al., 2001). In parallel, as Cooper and Miller (1991) observed that congruent cognitive styles are associated with mutually positive attitudes between the two parties in a relationship. In our study, significant relationships were observed between cognitive style similarity and employee communication satisfaction. Therefore, Hypothesis 1 is supported.

Hypothesis 2 tested the cognitive style similarity between manager and employee and Leader-Member Exchange (LMX) quality. The path analysis revealed that there is an insignificant relationship between cognitive style similarity and relationship build among manager and employees in terms of trust, liking and respect ($\beta = -0.144$, $p = 0.072$). LMX theory indicates that, because of limited amounts of social, personal and organizational resources (e.g. time, energy, role, and positional power) of managers, distribution of such resources depend on managers' judgments of selecting employees. Understanding, trust, respect and mutual support are factors that may affect a managers' judgment in a way that the manager may feel himself/herself more close to his/her employees. Manager and selected employees (in-group) engage in more information exchange and interact more when compared to other employees (out-group). In our study,

insignificant relationship was observed between similar cognitive styles of manager and employee and high quality of LMX relationship. Therefore, Hypothesis 2 is not supported. Perhaps, association between cognitive style similarity among manager and employee and high quality LMX relationship may be more complicated than we assumed. Some difference in cognitive style may be under some circumstances result in better LMX. While under other circumstances difference in cognitive style may result in poor LMX.

Table 2. Direct path analysis among cognitive style, LMX and tenure				Table 3. Mediation analysis		
Direct path analysis		β	2-tailed P-Value		β	2-tailed P-Value
Cognitive style	→	0.140	0.079	Cognitive similarity to Com sat. via LMX	-0.065	0.081
Cognitive LMX	→	-0.144	0.072	Cognitive similarity to Com sat. via Tenure	0.005	0.607
LMX	→	-0.128	0.108	Cognitive similarity to Com sat. via Tenure and LMX	0.001	0.624
Tenure	→	0.039	0.591			

Hypothesis 3 was related whether high quality LMX relationship between manager and employee results improved employees' communication satisfaction with their immediate managers. Our path analysis results demonstrated a significant and strong relationship between LMX and employees' communication satisfaction with their immediate managers ($\beta = 0.452$, $p < .001$). Employees' perceptions of communication satisfaction with their immediate manager were to some extent, is related with quality of LMX relationship. As a result, building high quality LMX relationship with manager appears to be strongly and positively related to how managers and employees build good and successful communication among themselves for information exchange.

In order to clarify and strengthen our findings, we intended to look for possible mediating variables that we think will be related to employees' perceptions of communication satisfaction. First, we add LMX as mediating variable to our model to see whether there is a mediating effect of LMX on the relationship between cognitive style and employees' communication satisfaction. The observation of path from cognitive style to employees' communication satisfaction via LMX was insignificant ($\beta = -0.065$, $p = 0.081$). Second, we add tenure, as mediating variable to our model to see whether there is a mediating effect of tenure on the relationship between cognitive style and employees' communication satisfaction. The observation of path from cognitive style to employees' communication satisfaction via tenure was again insignificant ($\beta = 0.005$, $p = 0.607$). Third, we add both tenure and LMX as mediating variable to our model to see whether there is a mediating effect of tenure and LMX on the relationship between cognitive style to employees' communication satisfaction. The observation of path from cognitive style and employees' communication satisfaction via tenure and LMX yet again was insignificant ($\beta = 0.001$, $p = 0.624$) (see Table 3).

The direct path analysis results revealed that there is significant relationship between cognitive style similarity and communication satisfaction. Similarly, significant relationship between LMX and communication satisfaction was also observed. However, when we analyzed possible mediating effect of LMX to cognitive style similarity and communication satisfaction, insignificant mediating effect was observed. In addition, when we add both LMX and tenure as a mediating effect to cognitive style similarity and communication satisfaction, no possible mediating effect was observed. In sum, direct path analysis for both cognitive similarity and LMX relationship to perceived communication satisfaction is much stronger than through mediating relationship with LMX and tenure.

8. DISCUSSION AND CONCLUSION

The results demonstrated that, in line with similarity-attraction paradigm discussed earlier, employees who have similar cognitive style with their managers reported high level communication satisfaction compared to employees who have dissimilar cognitive style. But, since managers are assigned to work with intact work groups, it is therefore critical that the members of a dyad be aware of both parties' cognitive styles and understand that there may be alternative ways of perceiving, processing and working with information. Miller, (1991, p.3) believes that "one can identify different cognitive styles". This self-awareness will increase the ability to empathise with the other party and thus, beside improved communication satisfaction, will also influence positive work outcomes, such as job satisfaction, motivation and organizational commitment. The manager should not assume that all employees will share their preferred way of dealing with information and managers need to develop strategies to work with employees that will have different cognitive styles. One

strategy can be to determine which tasks to assign to whom and the second strategy can be to adjust the way tasks will be performed based on different cognitive styles.

LMX theory indicates, as a result of limited amounts of social, personal and organizational resources (e.g. time, energy, role and positional power) of managers, distribution of such resources depend on managers' judgments of selecting employees. Understanding, trust, respect and mutual support are factors that may affect managers' judgment in a way that manager may feel himself/herself more close to his/her employees. Manager and selected employees (in-group) engage in more information exchange and interacting more when compared to other employees (out-group). Naturally we expect to see strong dyadic relationship to be built among manager and employee dyads in terms of trust, liking and respect whose cognitive styles are similar and poor relationship among manager and employee dyads whose cognitive styles are dissimilar. The path analysis revealed that there is no significant relationship found between cognitive style similarity between managers and employees and relationship build in terms of trust, liking and respect (LMX).

The findings of this study also indicate that there is a relationship with LMX and perceptions of employees' communication satisfaction with all aspects of communication. Naturally we expect to see more cooperative communication interaction between manager-employee dyads when there is high LMX relationship and more competitive communication interaction whose LMX relationship is lower. The LMX quality appears to be strongly and positively related to employees' communication satisfaction that is, selected employees (in-group) in general, are more satisfied with the way their managers are open to them and provides necessary information needed for them to do their work compared to out-group.

Mediation analysis results were insignificant for both LMX and Tenure, neither LMX nor tenure has a mediating effect on the relationship between manager-employee cognitive similarity and communication satisfaction. High quality relationship in terms of latitude, support and concern among manager-employee relationship do not have much of an influence on how satisfied an employee is from communication interactions with his/her manager. Similarly, tenure, length of time an employee spends with his/her manager, again do not promote to higher levels of communication satisfaction between manager and employee.

REFERENCE LIST

- Allinson, C.W., Hayes, J. (1996). The cognitive style index: a measure of intuition-analysis for organizational research. *Journal of Management Studies*, 33:1 January pp.119-135
- Allinson, C.W. and Hayes, J. (2000). Cross-national differences in cognitive style: Implications for management. *Human Resource Management*, 11:1 Feb., pp.161-170.
- Allinson, C.W., Armstrong, S.J., and Hayes, J. (2001). The effects of cognitive style on leader-member exchange: a study of manager-subordinate dyads. *Journal of Occupational Psychology*, Jun 2001, 74, pp.201-220
- Armstrong, S.J. (1999). Cognitive style and dyadic interaction: A study of supervisors and subordinates engaged in working relationships. Unpublished doctoral thesis, University of Leeds, UK.
- Armstrong, S.J. and Priola, V. (2001). Individual differences in cognitive style and their effects on task and social orientations of self-managed work teams. *Small Group Research*, Vol.32,
- Baron ,R.M., Kenny, D.A., (1986). The moderator-mediator variable distinction in social Psychological research: conceptual, strategic and statistical considerations, *journal of personality and social psychology*, vol. 51, 1173-1182.
- Bauer, T. N. and Green, S. G. (1996). Development of leader-member exchange: a longitudinal test. *Academy of Management Journal*, 39, pp.1538-1567.
- Blau, G., Cook, K. W., & Tatum, D. S. (2005). Correlates of peer, supervisor, and patient communication effectiveness satisfaction. *Journal of allied health*, 34(1), 40-46.
- Brislin, R. W., (1986). The wording and translation of research instruments. In W.J. Lonner & J.W. Berry (Eds.), *Field methods in cross-cultural research*. Vol. 8 (pp. 137-164). Beverly Hills, CA: 583.
- Byrne, D., (1971). *The attraction paradigm*. New York: Academic Press.
- Clampitt, P. G. and Downs C. W. (1993). Employee perceptions of the relationship between communication and productivity: A field study. *The Journal of Business Communication*, Vol. 30, No. 1, pp.5-28.
- Crino, M. D., & White, M. C. (1981). Satisfaction in communication: An examination of the Downs-Hazen measure. *Psychological Reports*, 49(3), 831-838.
- Cooper, S. E. and Miller, J. A. (1991). MT Learning style-teaching style incongruence. *Educational and Psychological Measurement*, 51, pp.699-706.
- Dansereau, F., Cashman, J., and Graen, G. (1973). Instrumentality theory and equity theory as complementary approaches in predicting the relationship of leadership and turnover among managers. *Organizational Behavior and Human Performance*, 10, pp.184-200.

- Dansereau, F., Graen, G., and Haga, W. (1975). A vertical dyad linkage approach to leadership within formal organizations: A longitudinal investigation of the role making process. *Organizational Behavior and Human Performance*, 13, pp.46-78.
- Downs, C.W. and Hazen, M.D. (1977). A factor analytic study of communication satisfaction. *The Journal of Business Communication*, 14(3), pp.63-73
- Eisenhardt, K. M. (1989). Agency Theory: An Assessment and Review. *Academy of Management Review*. Vol.14, No. 1, pp.57-74.
- Erdogan, B. and Enders, J. (2007). Support from the top: supervisors' perceived organizational support as a moderator of leader-member exchange to satisfaction and performance relationships. *Journal of Applied Psychology*, 92, pp.321-330.
- Fairhust, G.T. and Chandler, T.A. (1989). Social structure in leader-member interaction. *Communication Monographs*, vol.56, Sept., pp.215-239.
- Fairhust, G.T. (1993). The leader-member exchange patterns of women leaders in industry: discourse analysis. *Communication Monographs*, vol.60, Dec., pp.321-351.
- Goris, J.R. (2007). Effects of satisfaction with communication on the relationship between individual-job congruence and job performance/satisfaction. *Journal of Management Development*, 26(8), 737-52.
- Graen, G. B. and Uhl-Bien, M. (1995). Relationship-based approach to leadership: development of leader-member exchange (LMX) theory of leadership over 25 years: applying a multilevel multi-domain perspective. *Leadership Quarterly*, 6(2), pp.219-247.
- Greenbaum, H.H., Clappitt, P., and Willihnganz, S. (1988). Organizational communication- An examination of four instruments. *Management Communication Quarterly*, Vol.2 no.2, pp.245-282.
- Gupta, B., & Sharma, N. K. (2008). Compliance with bases of power and subordinates' perception of superiors: Moderating effect of quality of interaction. *Singapore Management Review*, 30(1), 1.
- Handley, P. (1982). Relationship between supervisors' and trainees' cognitive styles and the supervision process. *Journal of Counseling Psychology*, 29, pp.508-515.
- Hecht, M. L. (1978). Measures of communication satisfaction. *Human Communication Research*, 4(4), pp.350-68.
- Kacmar, K. M., Witt, L.A., Zivnuska, S., and Gully, S.M. (2003). The Interactive Effect of leader-member exchange and communication frequency on performance ratings. *Journal of applied psychology*, vol.88, No.4, pp.764-772.
- Kassing, J. W. (2001). From the looks of things: 'Assessing perceptions of organizational dissenters'. *Management Communication Quarterly*, Vol. 14, No. 3 Feb., pp. 442-470.
- Krone, K. J. (1992). A comparison of organizational, structural, and relationship effects on subordinates' upward influence choices. *Communication Quarterly*, Vol. 40, No.1, pp. 1-15.
- Kropf, M. B. (1999). Flexibility initiatives: current approaches and effective strategies. *Women in Management Review*, (14) no.5, pp. 177-185
- Lee, J. (1997). Leader-Member Exchange, the "Pelz Effect," and cooperative communication between group members. *Management Communication Quarterly*, vol.11, No.2, Nov. pp.266-287.
- Lee, J., & Jablin, F. M. (1995). Maintenance communication in superior-subordinate work relationships. *Human Communication Research*, 22(2), 220-257.
- Linden, R.C. and Graen, G. (1980). Generalizability of the vertical dyad linkage model of leadership. *Academy of Management Journal*, 23 (3), pp.451-465.
- Merrill, D.W., & Reid, R.H. (1981) *Personal styles & effective performance*. Randor, PA: Chilton Book Company.
- Messick, S. (1976). Personality consistencies in cognition and creativity. In S. Messick, & Associates, (Eds.) *Individuality in learning: 4-22*. San Fransisco, CA: Jossey Bass.
- Miller, A. (1991). Personality types, learning styles and educational goals. *Educational Psychology*, 11(3/4) pp.217
- Muthén, L.K. and Muthén, B.O. (1998-2010). *Mplus User's Guide*. Sixth Edition. Los Angeles, CA: Muthén & Muthén.
- Myers, I.B. & Myers, P. B., 1980. *Gifts differing*, consulting Psychologists Press, Palo Alto. CA.
- Ramos, D. (2003). Relationships among leader-member exchange quality, satisfaction with organizational communication, and creativity in entertainment organizations. Doctoral dissertation, the California school of organizational studies, Alliant International University.
- Sarmány-Schuller, I., & Simúth, J. (2006). Impact of students' cognitive style characteristics on the perception of barriers in online education*. *Studia Psychologica*, 48(3), 265.
- Scandura, T. A. and Graen, G. B. (1984). Moderating effects of initial leader-member exchange status on the

- effects of a leadership intervention. *Journal of Applied Psychology*, Vol.69, No. 3, pp.428-436.
- Schriesheim, C. A., Castro, S. L., & Cogliser, C. C. (1999). Leader-member exchange (LMX) research: A comprehensive review of theory, measurement, and data-analytic practices. *The Leadership Quarterly*, 10(1), 63-113.
- Turban, D.B. and Jones, A. P. (1988). Supervisor-subordinate similarity: Types, effects, and mechanisms. *Journal of applied psychology*, Vol.73, No.2, pp.228-234.
- Waldron, V. R. (1991). Achieving communication goals in superior-subordinate relationships: The multi-functionality of upward maintenance tactics. *Communication Monographs*, Vol.58, Sept., pp.289-306.