AN EXAMINATION OF THE VALIDITY OF THE DOWNS AND HAZEN COMMUNCATION SATISFACTION QUESTIONNAIRE

JIM DECONINCK, Western Carolina University
JULIE JOHNSON, Western Carolina University
JAMES BUSBIN, Western Carolina University
FRANK LOCKWOOD, Western Carolina University

This study examines the validity of the Downs and Hazen (1977) measure of communication satisfaction through confirmatory factor analysis of data from a sample of retail store buyers. Results failed to support both the convergent validity and discriminant validity of the original seven-factor structure. The results indicated that some of the 35 items should be deleted and that three of the scales (Communication Climate, Media Quality, and Coworker Communication) could be collapsed into one factor.

INTRODUCTION

Surveys indicate that employees want more communication with their managers (Argenti 1998). This issue is important since employees' satisfaction with the level of organizational communication has been linked positively to job satisfaction (Pettit, Goris and Vaught 1997; Pincus 1986) and organizational commitment (Varona 1996). However, several studies have reported that employees are dissatisfied with the degree of organizational communication they receive from management (Clampitt and Downs 1993; Gray and Laidlaw 2002).

Downs and Hazen (1977) developed the Communication Satisfaction Questionnaire (CSQ) to investigate the relationship between communication satisfaction and job satisfaction. Since the development of the CSQ, multiple studies have used the instrument to evaluate communication satisfaction in organizations (e.g., Clampitt and Downs 1993; Gray and Laidlaw 2002; Varona 1996). While the CSQ has been used in many studies, few efforts have been made to validate the eight factor solution proposed by Downs and Hazen (1977). The research of Downs and Hazen (1977) and Crino and White (1981) are often cited by researchers as evidence of the validity of the CSQ. However, since both of these studies employed exploratory factor analysis rather than confirmatory factor analysis to assess the validity of the CSQ, the discriminant validity and convergent validity of the constructs are questionable. Only one study has investigated the validity of the CSQ using CFA (Gray and Laidlaw 2004). Given the widespread use of the CSQ, additional work is needed to validate its factor structure. Thus, the purpose of this study is to examine the validity of the CSQ using confirmatory factor analysis.

ORGANIZATIONAL COMMUNICATION

Before development of the CSQ, organizational communication was viewed as a unidimensional construct. However, development of the CSQ changed the perspective of organizational communication from being a unidimensional construct to a multidimensional construct (Clampitt and Downs 1993). Employees are not either satisfied or dissatisfied with communication. Rather they may be satisfied with one aspect of communication and dissatisfied with another aspect. While several measures of communication satisfaction have been

The Marketing Management Journal
Volume 18, Issue 2, Pages 145-153

developed (Downs and Hazen 1977; Hecht 1978; Roberts and O'Reilly 1973), the CSQ has gained the most widespread use in scholarly research (Gray and Laidlaw 2004).

The Communication Satisfaction Questionnaire

Downs and Hazen (1977) developed the CSQ in an effort to analyze the association between job satisfaction and communication. They developed a questionnaire containing 88 items and administered it to a sample of 225 employees working for a diverse group of organizations from the military, government agencies, universities, hospitals, and professional organizations. Only items that had a loading of .40 or above on a factor were retained. A principle-components factor analysis yielded eight stable factors. Five items were selected to measure each factor.

The authors administered the new questionnaire to four dissimilar organizations (96 participants of a managerial training program, 151 workers of an equipment plant, 182 workers of a manufacturing plant, and 81 workers of an international company based in the United States). For the most part, the subsequent study found support for the eight – factor solution. However, for two of the firms (equipment plant and cannery) items for the media quality and communication factors merged. A similar occurrence was found for items of the Personal Feedback and Organizational Integration factors. The results from questionnaires completed by employees of the international firm and equipment plant indicated that items from these two factors merged. Downs and Hazen (1977) did not report the correlation among the eight Communication Satisfaction factors. The eight factors are presented in Table 1. A description of the eight factors is presented below (Clampitt and Downs 1993, pp. 7 – 8).

Communication Climate reflects communication on both the organizational and personal level and includes items such as the extent to which communication in the organization motivates and stimulates workers to meet organizational goals and estimates of whether or not peoples' attitudes toward communicating are healthy in the organization.

Supervisory Communication includes both upward and downward aspects of communicating with superiors (e. g., extent to which my subordinates anticipate my needs for information).

Organizational Integration revolves around the degree to which individuals receive information about the immediate work environment such as personnel news and information about departmental plans.

Media Quality is the extent to which meetings are well organized, written directives are short and clear, and the degree to which the amount of information is about right.

Co-worker Communication is concerned with the extent to which horizontal and informal communication is accurate and free flowing.

Corporate Information deals with the broadest kind of information about the organization as a whole. It includes items on information about the organization's financial standing and notification about changes.

Personal Feedback is concerned with workers' need to know how they are being judged and how their performance is being appraised.

Subordinate Communication focuses on upward and downward communication with subordinates. Only supervisors respond to these items.

Validation of the CSQ

The original study by Downs and Hazen (1977) and the results of a study by Crino and White

(1981) often are cited as evidence supporting the validity of the CSQ. Crino and White (1981) investigated communication satisfaction with 137 supervisors from five textile mills. They reported an eight factor solution using principal components analysis with an eigenvalue cutoff of 1.0. However, examining the factor loadings indicates that not all items loaded on the anticipated scale. For only one of the factors (Relation with Supervisor), did all five items load as predicted. For example, with respect to items that were supposed to load on the Personal Feedback factor, no factor loading was higher than .49 for any of the eight factors. In addition, three of the items appear to load on more than factor. Factor one consisted of three of the Communication Climate items, one item from the Coworker Communication scale, and four items from the Media Quality scale. The results also indicate that factor eight consists of one item (item 5 from the Organizational Integration factor). Factor seven was composed of four items from four of the eight communication satisfaction scales. Thus, the eight factor solution proposed by Downs and Hazen (1977) is not supported by results of the Crino and White (1981) study. The findings do not indicate either discriminant validity or convergent validity for the CSQ. Another disturbing finding from the Crino and White (1981) study was the high correlation between some of the factors. The correlation between factors five and seven was .81. The correlation between factors two and seven and two and five was .78 respectively.

The results of other studies that have used the CSQ raise concerns about the multidimensional nature of the CSQ. For example, Mueller and Lee (2002) examined the relationship between communication and leader-member exchange using 192 employees from four non-profit companies. The authors did not attempt to validate the CSQ, but rather cited the Downs and Hazen (1977) and Crino and White (1981) studies as evidence of the questionnaire's validity. However, an examination of the correlation matrix indicates that most of the factors are highly correlated. The Personal Feedback factor had a very high correlation with three other factors: Organizational Integration $r = .85$; Communication Climate $r = .84$; and Media Quality $r = .80$. Both Media Quality and Communication Climate had a correlation above .70 with all of the other factors of the CSQ. Furthermore, Mueller and Lee (2002) grouped the seven factors according to three dimensions (interpersonal, group, and organizational contexts).

Some support for the multidimensional nature of the CSQ can be found when examining the relationship between the eight factors and other variables. For example, one study reported that dimensions of the CSQ impacted productivity differently. Clampitt and Downs (1993) analyzed the relationship between the CSQ and productivity using a sample of employees from two companies. The findings indicated that some communication dimensions had a more significant impact on productivity than did other dimensions. For example, the Personal Feedback dimension was a significant predictor of productivity in both organizations while Media Quality, Communication with Coworkers, and Corporate Information had less of an influence.

The results from two other studies, however, generally did not support the multidimensional nature of the CSQ. Pincus (1986) used the CSQ in a study of nurses and their supervisors. The purpose of the study was to investigate the relationship between communication and job satisfaction and job performance. The results indicated that all of the communication satisfaction measures had significant correlations with job satisfaction for the sample of nurses while two of the factors (Supervisor Communication and Communication Climate) were related significantly to job satisfaction for the supervisory group. These same two variables were significantly related to job performance for the nurses. However, no significant correlation was found between communication satisfaction and job performance for the nurses. For the most part, these results do not indicate that all dimensions of the CSQ are distinct constructs.

Varona (1996) collected data from three Guatemalan organizations using the CSQ. A composite measure of the communication satisfaction factors was a significant predictor of organizational commitment. However, when analyzed individually, few communication satisfaction factors were predictors of employees' organizational commitment. These results tend to indicate that the dimensions of the CSQ are not separate constructs.

One study used confirmatory factor analysis to assess the psychometric properties of the CSQ (Gray and Laidlaw 2004). These authors surveyed 127 Australian retail employees. Because the sample consisted of employees in non-supervisory roles, the Subordinate Communication factor, which is completed by supervisors, was omitted.

Gray and Laidlaw (2004) summated the items for each of the seven factors and then tested a series of congeneric measurement models. As was found in previous studies, the correlation between some of the factors was above .70, which may indicate that the dimensions are not separate constructs (Communication Climate and Media Quality, r =.81, Communication Climate and Personal Feedback, r =.77, Organizational Perspective and Organizational Integration, r =.74, and Organizational Integration and Personal Feedback, r =.73).

The authors concluded that the seven factors comprised a second order factor model consisting of two factors. The first factor, Informational Communication, describes the degree to which employees are provided information concerning their job assignments or organizational activities. The dimensions of Communication Climate, Organizational Perspectives, and Organizational Integration comprise this second-order factor. The other second-order factor, Relational Communication, is composed of the dimensions of Media Quality, Personal Feedback, Coworker Communication, and Supervisory Communication. Relational Communication was defined as personal satisfaction obtained by communication with or to someone. Gray and Laidlaw (2004) concluded that the results "substantiates the CSQ as a valid instrument for measuring communication satisfaction and supports the distinct nature of the seven dimensions investigated" (p. 442).

Several issues appear to exist with the assertion that the results indicate seven distinct measures. First, using composite factors does not allow for inspection of individual items. Little information was provided concerning the factor pattern coefficients for each item. One item was deleted from the Organizational Perspective, Organizational Integration, Personal Feedback, and Supervisory Communication scales respectively due to an insignificant t value. In addition, for three of the composite factors, at least one factor loading was lower than .36. Two of these factors were ones in which one item had been deleted (Organizational Perspectives and Organizational Integration). Therefore, not all of the items are good measures of the hypothesized dimensions.

Second, no information was provided concerning if items loaded significantly on a different factor than the one hypothesized or loaded on more than one factor. Both discriminant validity and convergent validity for individual items are more difficult to assess without this information. This situation is particularly important considering the high correlation between the factors. For example, are Communication Climate and Media Quality distinct constructs considering that the correlation was .81? If they are not distinct constructs, can some the items or one of the scales be deleted to shorten the questionnaire?

A review of the literature has indicated concerns with the few attempts to replicate and validate the CSQ. Since the CSQ is the most widely used measure of communication satisfaction, a need exists to further examine the original factor structure as proposed by Downs and Hazen (1977). Should some of the CSQ items be deleted? Is a more parsimonious explanation available than the one proposed by

Downs and Hazen (1977)? This study will attempt to answer these two questions.

METHOD

Participants and Procedure

A probability sample of 800 retail store buyers employed by both small and larger retailers dispersed throughout the United States was chosen from *Sheldon's Retail Directory*. This directory contained the names of approximately 33,000 retail buyers. A letter was sent to the 800 retail buyers selected informing them of the purpose of the study and requesting them to participate. The procedure that was used to obtain respondents was as follows:

1. An introductory letter was sent stating the purpose of the survey and asking the buyers to participate in the study.
2. One week later the survey accompanied with a cover letter was sent to the sample of 800 buyers.
3. Two weeks later a second copy of the survey along with a cover letter was sent to the sample of buyers.
4. Three weeks later a reminder letter was sent to the sample of buyers.

A total of 204 buyers returned the survey (26 percent). The response rate was similar to another study involving retail buyers (Keaveney 1992). In order to determine if nonresponse bias was a problem, a telephone call was made to every tenth buyer who had not completed the questionnaire (60 buyers). The reason for contacting only ten percent of the buyers who had not returned a survey was due to cost considerations. The purpose of the telephone call was two fold. First, an effort was made to determine if the retail buyers listed in the directory were still employed with their respective firms. Based on the telephone calls, seven of the 60 buyers contacted were found to be no longer employed at their respective firms or no longer in a position as a buyer. Assuming that these seven buyers were representative of the total sample, a conclusion was made that 70 buyers of the sample of 800 were no longer employed as buyers. Excluding these buyers reduced the population from 800 to 720. Each buyer who was contacted was asked to return a survey. Nine of them returned a survey after the telephone call increasing the response rate to 213 (27 percent).

The second reason for talking to the buyers was to determine the extent to which nonresponse bias was a problem. Demographic information gathered from the sample of buyers who did not wish to participate in the study did not reveal any significant differences regarding demographic variables (e.g., age, tenure, marital status) with retail buyers who did participate ($p < .01$). Thus nonresponse bias does not appear to be a significant problem.

The average age of the buyers was about 37; they had worked for their present employer an average of 9.2 years; most of the buyers were Caucasian (200 buyers – 94 percent); slightly more than half were males (111 – 52 percent) and the average household income was almost $92,000.

Analysis

The data were analyzed using confirmatory factor analysis with the LISREL 8 program (Joreskog and Sorbom 2005). Confirmatory factor analysis can be used to assess both convergent validity (the extent to which particular items load jointly on their hypothesized constructs) and discriminant validity (the extent to which allegedly distinct constructs are capable of being distinguished from each another). Convergent validity of the CSQ can be determined by examining the factor pattern coefficients of the items for each measure while discriminant validity can be determined by examining if the dimensions are distinct (Judge 1993).

Four measures of model fit were used: The goodness-of-fit (GFI), adjusted-goodness-of-fit (AGFI), the Comparative Fit Index (CFI), and the root mean square error of approximation (RMSEA) (Browne and Cudeck 1989). Values of approximately .9 or above are recommended

for the GFI, AGFI, and the CFI while a value of below .08 is considered good for the RMSEA statistic (Hair, Anderson, Tatham and Black 1998).

Measures

The questionnaire items appear in Table 1. The CSQ was included as part of a larger data collection. Each item was introduced with wording consistent with that reported by Downs and Hazen (1977). Because this study involved non-supervisory employees, the eighth dimension was deleted, since it is completed by only supervisors. Global job satisfaction was measured using five of six items ($\alpha = .88$) from the scale developed by Price and Mueller (1986). Affective organizational commitment was measured using the 6-item version of the scale developed by Meyer, Allen and Smith (1997) (a = .87). *Withdrawal cognitions* (a buyer's intent to search and/or leave their job or the profession) were measured using three items developed by DeConinck and Bachmann (2005) (a = .90).

TABLE 1
Study Measures
Communication Satisfaction Questionnaire[1]

Organizational Integration
1. Information about my progress in my job
2. Personnel news
3. Information about departmental policies and goals
4. Information about the requirements of my job
5. Information about benefits and pay

Supervisory Communication
6. Extent to which my supervisor listens and pays attention to me
7. Extent to which my supervisor offers guidance for solving job related problems
8. Extent to which my supervisor trusts me
9. Extent to which my supervisor is open to ideas
10. Extent to which the amount of supervision given to me is about right

Personal Feedback
11. Information about how my job compares with others
12. Information about how I am being judged
13. Recognition of my efforts
14. Reports on how problems in my job are handled
15. Extent to which superiors know and understand the problems faced by subordinates

Corporate Information
16. Information about company policies and goals
17. Information about government action affecting my company
18. Information about changes in our organization
19. Information about our organization's financial standing
20. Information about accomplishments and/or failures of the organization

Communication Climate
21. Extent to which the organization's communication motivates and stimulates an enthusiasm for meeting its goals
22. Extent to which the people in my organization have great ability as communicators
23. Extent to which the organization's communication makes me identify with it or feel a vital part of it
24. Extent to which I receive in time the information needed to do my job
25. Extent to which conflicts are handled appropriately through proper communication channels

Horizontal and Informal Communication (Co-worker Communication)
26. Extent to which the grapevine is active in our organization
27. Extent to which horizontal communication with other employees is accurate and free flowing
28. Extent to which communication practices are adaptable to emergencies
29. Extent to which my work group is compatible
30. Extent to which informal communication is active and accurate

Media Quality
31. Extent to which my company's publications are interesting and helpful
32. Extent to which our meetings are well organized
33. Extent to which written directives and reports are clear and concise
34. Extent to which the attitudes toward communication in the organization are basically healthy
35. Extent to which the amount of communication in the organization is about right

Withdrawal Cognitions
36. Within the next six months, I intend to search for another job.
37. Within the next year, I intend to leave this profession.
38. Within the next six months, I would rate the likelihood of leaving my present job as high.

Job Satisfaction
39. I find real enjoyment in my job.
40. I like my job better than the average worker does.
41. I am seldom bored with my job.
42. Most days I am enthusiastic about my job.
43. I feel fairly well satisfied with my job.

Organizational Commitment

44. I would be very happy to spend the rest of my career in this organization.
45. I really feel as if this organization's problems are my own.
46. I do not feel like "part of the family" at my organization. (R)
47. I do not feel "emotionally attached" to this organization. (R)
48. This organization has a great deal of personal meaning for me.
49. I do not feel strong sense of belonging to my organization. (R)

[1]The eighth factor, Subordinate Communication, is not included since only supervisors complete this scale.

RESULTS

A sequence of nested models was used to investigate the dimensionality of the CSQ. Before conducting a confirmatory factor analysis, tests were conducted to assess normality of the data set. With respect to the data set, only one variable (Supervisor Communication 2) displayed a significant departure from normality. Based on these results, a confirmatory factor analysis appeared warranted and was performed on the CSQ.

First, the null model was compared to the hypothesized model, Model 1 (i.e., the CSQ dimensions). A significant difference was found between the null model and the hypothesized model (Dc2 (56, N = 213) = 3166.31, $p < .001$). Next, a single-factor model was estimated (Model 2). This model provided a poor fit to the data (c2 = 2399.56, df = 560, RMSEA = .12, GFI = .61, AGFI = .56, CFI = .77). Next, the single factor model was compared to the hypothesized model as proposed by Downs and Hazen. The hypothesized model provided a better fit to the data than did the single-factor model Dc2 (21, N = 213) = 1521.70, $p < .001$). Overall, however, the model hypothesized by Downs and Hazen provided an average fit to the data (c2 = 877.86, df = 539, RMSEA = .054, GFI = .81, AGFI = .78, NFI = .92).

The next step was to examine the standardized residuals and the modification indices to ascertain if the model could be respecified (i.e., items deleted) to provide a better fit. Five items (OI1, SP5, PF3, MQ5, and CC3) that either loaded on more than one factor or had significant standardized residuals with other variables were dropped. (See Table 1 for an explanation of these specific items).

The data were analyzed again with the deletion of these five variables. The revised model (Model 3) provided a better fit than did the hypothesized model Dc2 (155, N = 213) = 355.88, $p < .001$). Even after deleting these five items, a high correlation between some of the scales was still present. For example, three of the scales appear to highly correlated among themselves (Communication Climate and Media Quality, phi = .88; Media Quality and Coworker Communication, phi = .84, and Communication Climate and Coworker Communication, phi = .83). Because of the high correlation among these three scales, two additional models were tested. First, a six factor model (Model 4) combining the Communication Climate and Media Quality scales was tested against the revised model with the five items deleted (Model 3). The results indicated that Model 4 provided a worse fit to the data than did Model 3 Dc2 (6, N = 213) = 46.92, $p < .01$), providing some support for the discriminant validity among these two factors. However, the parsimonious normed fit index (PNFI), a measure of differences between models, was identical for both models. Thus, the model with six factors (Model 4) appears to be a better model than Model (3). Next, a five factor model (Model 5) where Media Climate, Communication Climate, and Coworker Communication were combined was tested against the six factor model (Model 4). The difference in chi-square test indicated that Model 5, the five factor model, did not provide a better fit than did the six factor model (Model 4), (Dc2 (5, N = 213) = 84.33, $p < .001$). However, further inspection of the results indicated that the PNFI was identical between the two models. Except for one item, the structure pattern coefficients were high. Examining the standardized residuals and the modification indices indicated that eliminating two variables (Communication Climate items 2

TABLE 2
Goodness of Fit Indices

	c^2	*df*	GFI	AGFI	RMSEA	CFI
Model 1	877.86	539	.81	.78	.054	.92
Model 2	2399.56	560	.61	.56	.12	.77
Model 3	521.98	384	.86	.83	.041	.96
Model 4	564.60	390	.85	.82	.046	.95
Model 5	644.76	395	.83	.80	.055	.93
Model 6	505.68	340	.85	.83	0.48	.95

and 5*)* would improve the model fit Dc2 (55, *N* = 213) = 139.08, $p < .001$). The data were analyzed again with these two items eliminated. overall, this model (Model 6) provided a good fit (c2 = 505.68, *df* = 340, RMSEA = .048, GFI = .85, AGFI = .83, CFI = .95). In addition, reducing these two variables had little effect on the scale's reliability ($\alpha = .92$ to $\alpha = .90$). The results appear in Table 2.

The final model included four items in the Organizational Integration scale ($\alpha = .88$), four items in the Supervisory Communication scale ($\alpha = .91$), four items in the Personal Feedback scale ($\alpha = .87$), five items in the Corporate Information scale, and 11 items in the scale combining Communication Climate, Media Quality, and Coworker Communication ($\alpha = .92$). The factor pattern coefficients for the three scales ranged from .72 to .84 for feedback, for planning .80 to .87, for recourse .57 to .89.

The last step was to examine the correlation between the dimensions of the CSQ and a global measure of job satisfaction, organizational commitment and withdrawal cognitions. The purpose of this analysis was to ascertain the degree of difference between each CSQ dimension and employees' job attitudes. Each of the job attitudes dimensions was correlated significantly with the revised CSQ. With respect to job satisfaction, the correlations ranged from .34 for Organizational Integration to .47 for Supervisory Communication. The correlations ranged from .51 (Organizational Integration) to .63 (combined scale) for organizational commitment and .35 (Corporate Information) to .47 (Feedback) for retail buyers' withdrawal cognitions.

CONCLUSIONS

This study examined the validity of the Communication Satisfaction Questionnaire (CSQ) developed by Downs and Hazen (1977). The results did not support the seven factor structure as proposed by Downs and Hazen (1977). A five factor solution provided the best model fit. Although the results indicated only partial support for the validity of the original CSQ, the results indicated significant correlations between the revised five dimensions of the CSQ and job satisfaction, organizational commitment and withdrawal cognitions. Communication satisfaction does appear to be an important variable influencing retail buyers' job attitudes. However, more research is needed to determine the validity of the CSQ in studies analyzing marketing employees' communication satisfaction and its relationship to various behaviors and job attitudes.

REFERENCES

Argenti, P. A. (1998), "Strategic Employee Communications," *Human Resource Management*, 37, 199-206.

Browne, M. and R. Cudeck (1989), "Single Sample Cross-Validation Indices for Covariance Structures," *Multivariate Behavioral Research*, 24, 445-455.

Clampitt, P. G. and C.W. Downs (1993), "Employee Perceptions of the Relationship between Communication and Productivity: A Field Study," *The Journal of Business Communication,* 30, 5-28.

Crino, M. D. and M.C. White (1981), "Satisfaction in Communication: An Examination of The Downs-Hazen Measure," *Psychological Reports*, 49, 831-838.

Cudeck, R. (1989), "The Analysis of Correlation Matrices Using Covariance Structure Models," *Psychological Bulletin*, 105, 317-327.

Downs, C. W. and M. D. Hazen (1977), "A Factor Analytic Study of Communication Satisfaction," *The Journal of Business Communication*, 14, 63-73.

Gray, J. and H. Laidlaw (2004), "Improving The Measurement of Communication Satisfaction," *Human Communication Quarterly*, 17, 425-448.

Hair, J. F., Jr., R. E. Anderson, R. L. Tatham and W. C. Black (1998), *Multivariate Data Analysis*, Prentice-Hall: Upper Saddle River, NJ.

Hecht, M. L. (1978), "Measures of Communication Satisfaction," *Human Communication Research*, 4, 350-368.

Jöreskog, K. G. and D. Sörbom (2005), *LISREL 8: Structural Equation Modeling With the SIMPLIS Command Language*, Scientific Software International, Chicago, IL.

Judge, T. A. (1993), "Validity of the Dimensions of the Pay Satisfaction Questionnaire: Evidence of Differential Prediction," *Personnel Psychology*, 46, 331-365.

Keaveney, S. M. (1992), "An Empirical Investigation of Dysfunctional Organizational Turnover Among Chain and Non-Chain Retail Buyers," *Journal of Retailing*, 68, 145-173.

Konovsky, M. A. (2000), "Understanding Procedural Justice and Its Impact on Business Organizations," *Journal of Management,* 26, 489-511.

Mueller, B. H. and J. Lee (2002), "Leader-Member Exchange and Organizational Communication Satisfaction in Multiple Contexts," *The Journal of Business Communication*, 39, 220-244.

Pettit, J. D., J. R. Goris, and B.Vaught (1997), "An Examination of Organizational Communication as a Moderator of the Relationship between Job Performance and Job Satisfaction," *The Journal of Business Communication*, 34, 81-98.

Pincus, J. D. (1986), "Communication Satisfaction, Job Satisfaction, and Job Performance," *Human Communication Research*, 12, 395-419.

Roberts, K. H. and C. A. O'Reilly (1973), "Measuring Organizational Communication," *Journal of Applied Psychology*, 59, 321-326.

Varona, F. (1996), "Relationship between Communication Satisfaction and Organizational Commitment in Three Guatemalan Organizations," *The Journal of Business Communication*, 33, 111-140.