

THE RELATIONSHIP BETWEEN ROLE STRESS AND
JOB-RELATED, INTERPERSONAL, AND
ORGANIZATIONAL CLIMATE FACTORS*

Auburn University; and Veterans Administration Medical Center, Tuskegee, Alabama

ARTHUR G. BEDEIAN, ACHILLES A. ARMENAKIS, SHIRLEY M. CURRAN

SUMMARY

Relationships between job-related, interpersonal, and organizational climate factors and experienced role stress (i.e., role ambiguity and role conflict) were examined on the basis of data drawn from 202 male and female nursing personnel. The job-related factors measured were satisfaction, tension, performance, and propensity to leave. Interpersonal indices included supervisory support, goal emphasis, work facilitation, and group interaction. Organizational climate was assessed using measures of communication flow, motivational conditions, decision-making practices, and human resource primacy. The moderating impact of organizational level on relationships of role stress with satisfaction and performance was also assessed. Both role ambiguity and role conflict were found to be significantly related to a number of the above-mentioned factors. These results suggest that consistent relationships exist between these factors and both role ambiguity and role conflict. No significant moderator effects for organizational level were isolated.

A. INTRODUCTION

During the past 25 years, the concept of work roles has increasingly attracted the attention of organizational theorists. The early research of Jacobson, Charters, and Lieberman (16) has led to a plethora of recent investigations. Evidence from these studies generally suggests that, as specific forms of role stress, both role conflict and role ambiguity are dysfunctionally associated with a multiplicity of work-related outcomes.

Degree of role ambiguity or role conflict has most frequently been shown to be correlated with job dissatisfaction and job induced tension. This

* Received in the Editorial Office, Provincetown, Massachusetts, on February 7, 1980. Copyright, 1981, by The Journal Press.

relationship has been found to hold true among technical workers, nurses' aides, school teachers and superintendents, managers, accountants, paramedical workers, and research and development employees. In addition, role conflict and role ambiguity have been shown to be associated with lower performance evaluations, unfavorable attitudes among peers, lower organizational commitment, inadequately perceived leader behavior, and propensity to leave an organization [see Van Sell, Brief, and Schuler (34), for a review].

Despite this fund of evidence, the development of role theory has suffered because of the piecemeal approach that has characterized this area of research. No attempt has been made to verify more than a select few of the reported research findings in a single study. It thus has been largely impossible to determine whether or not a consistency between relationships exists, or whether or not the results being reported are a singular aspect of the organization under study and bear no relationship to other phenomena. The present investigation is an attempt to fill this need.

The literature on complex structures in the Western world readily leads to the observation that, as social systems, organizations are characterized by a pervasiveness of both role ambiguity and role conflict. Organizations such as hospitals, prisons, business firms, and schools contain a wide range of social positions (role-sets) and role-standardizing forces. For instance, while it may be comforting to assume that the role-requirements of a hospital nurse are generally understood and agreed upon by a hospital's administrative staff, nursing authorities, and physicians, one of the most consistent and enduring findings in hospital research has been the lack of consensus concerning the proper role of the nurse (e.g., 5, 11). In the case of the mental hospital nurse, role conflict and role ambiguity often develop as a result of an internal inconsistency of role-norms. For example, the norm of developing self-expression in patients often conflicts with the norm of maintaining an "orderly ward." The deviant structure of most hospitals also contributes to role stress. Dual lines of authority generally exist between hospital nursing (medical) and administrative staffs. The problems of integration and coordination that result stem largely from the fact that while organizational discipline is defined by charter or by administrative authority (position power), professional norms are upheld by collegial review.

Given the prevalence of these and other similar problems, an American hospital setting was chosen to be the location for achieving the stated

purpose of the present investigation. It was felt that such a structure, with its special role relations, would provide an ideal arena for a broad study of the correlates of role ambiguity and role conflict.

B. HYPOTHESES

1. *Job-Related Factors: Hypotheses Ia-Ic*

a. Satisfaction. The most frequently reported finding in role stress research is the existence of a negative relationship between job satisfaction and both role ambiguity and role conflict. In a recent review of the literature, Van Sell, Brief, and Schuler (35) identified over two dozen studies reporting a negative relationship between either role ambiguity or conflict and work satisfaction. Other research, however, suggests the possibility that organizational level may serve to moderate this relationship (e.g., 10, 12, 27, 29, 31). Thus, the following hypotheses were constructed:

Ia. Role ambiguity and role conflict are negatively related to job satisfaction.

Ib. Organizational level will interact with role ambiguity/role conflict so that

- 1) the relationship between role ambiguity and satisfaction will be greater at the higher levels of the organization than at the lower levels of the organization; and
- 2) the relationship between role conflict and satisfaction will be greater at the lower levels of the organization than at the higher levels of the organization.

b. Tension. As with job dissatisfaction, one of the most thoroughly documented results of role ambiguity and conflict is job-related tension. Such tension reflects the extent to which an individual experiences psychological anxiety as a consequence of work-related matters. The Van Sell, Brief, and Schuler (35) literature review cites some 36 instances of a positive relationship being found between either role ambiguity or conflict and tension. On the basis of such overpowering evidence the following hypothesis was stated:

Ic. Role ambiguity and role conflict are positively related to job-induced tension.

c. Performance. The literature relating role ambiguity and conflict to performance may be best described as inconsistent. Several studies support the hypotheses that a negative relationship exists between role ambiguity and/or conflict and performance (e.g., 9). Other studies have reported mixed findings (e.g., 2, 21, 25, 32). In recognition of these conflicting results and the possible effect of method variance, the following nondirectional hypothesis was advanced:

Id. Role ambiguity and role conflict are related to performance as measured by supervisory appraisals.

In order to evaluate the impact of organizational level on the relationships of role stress with performance, as reported by some researchers (e.g., 25, 31) it was also hypothesized that

Ie. Role ambiguity and role conflict will vary in their relationship to performance (as measured by supervisory appraisals) according to organizational level.

d. Propensity to leave. It has been generally argued that the occurrence of role stress in the performance of job duties results in the increased attractiveness of extraorganizational alternatives and, consequently, an increased propensity or likelihood to leave a job or organization (e.g., 14). It has been similarly argued (20) that the perceived desirability of leaving an organization is largely influenced by employee job satisfaction. Dissatisfaction as a result of role ambiguity or conflict could, therefore, result in an increased propensity to leave an employing organization. Empirical evidence pertaining to these arguments is largely supportive. Most studies have obtained significant positive relationships between role ambiguity and/or conflict and the propensity to leave (e.g., 2, 6).

On this basis the following hypothesis was examined:

If. Role ambiguity and role conflict are positively related to the propensity to leave.

2. *Interpersonal Factors: Hypotheses IIa-IIb*

a. Supervisory leadership. The importance of the relationship between effective supervisory leadership and role theory has long been realized. Beehr (1), Caplan *et al.* (3), Rizzo, House, and Lirtzmann (24) and House and Rizzo (13) reported a significant negative relationship between the existence of role stress and numerous measures of leadership. Most notably, they obtained significant negative relationships between goal emphasis, teamwork facilitation, supervisory support, and both role ambiguity and conflict. On the basis of these findings, the following hypothesis was stated:

IIa. Role ambiguity and role conflict are negatively related to supervisory support, supervisory goal emphasis, supervisory work facilitation, and supervisory interaction facilitation.

b. Group process. Research on the relationship between group process and role stress is extremely limited. While it is generally realized that in

virtually all sustaining complex social groups interaction is accomplished through the sharing of role expectations, the implications of this interaction with regard to role theory have seldom been investigated. Laboratory experiments by Smith (28), Steiner and Dodge (30), and Raven and Rietsema (23) suggest that productivity, group satisfaction, group cohesiveness, and group hostility are each negatively related to ambiguous role expectations. Field studies by Caplan *et al.* (3), French and Caplan (8), and Kahn *et al.* (18) reported finding a negative relationship between trust, work group relations, and peer supportiveness.

A convergence of evidence thus suggests that poor relations among work group members are likely to occur under conditions of role stress. Accordingly, the following hypothesis was evaluated:

IIb. Role ambiguity and role conflict are negatively correlated with work group process: i.e., interaction.

3. *Organizational Climate: Hypothesis III*

The role of organizationwide factors—or organizational climate—as they affect role ambiguity and conflict has seldom been studied. While the behavioral literature is replete with theories and empirical studies focusing on the concept of organizational climate in the work environment [see Joyce and Slocum (17) for a review], there is an almost complete absence of systematic research with respect to the influence of organizational environment on role stress. Examples of climate variables include organizational emphasis on personal development, organizational decision-making practices, nature of organizational communication flow, and character of motivational forces. It may be generally stated that the work climate in which people operate is composed of the numerous organizational procedures and practices that occur within their job setting. To the extent that these procedures and practices are clear and consistent, it may be argued that role ambiguity and conflict will be minimized.

Evidence from the limited research available suggests that both role ambiguity and conflict are related to various indicators of organizational climate (e.g., 13, 15, 18, 35). On the basis of these findings, it was hypothesized that

III. Role ambiguity and role conflict are negatively correlated with communication adequacy, decision making practices, human resource primacy, and motivational conditions.

C. METHOD

1. *Research Site and Subjects*

This study was conducted in a Veterans Administration hospital of 1100 beds. An estimated 60% of the hospital's work load was devoted to the care of mental patients (both acute and long-term), with the balance of its activities devoted to acute and long-term medical and surgical patients. The hospital was divided into six services and 24 wards. At the time of the study there were approximately 980 inpatients and 6000 outpatients on the rolls.

The sample consisted of 202 respondents at five levels in the hospital's nursing service, each differing in formally prescribed authority, responsibilities, and rewards. The distribution included 93 nursing assistants, 36 licensed practical nurses, 56 registered nurses, eight nurse practitioners, and nine nurse administrators (i.e., department heads and program coordinators). All *Ss*, except nursing assistants and licensed practical nurses, were RNs. Employees who were temporary or part-time were not part of the sample. The sample included a representative cross-section of employees from all levels of the nursing hierarchy and from all departments.

Information pertaining to respondent sex, level of education, age, and date of beginning employment were provided by the hospital. Fifty-seven percent of the respondents were female. All had completed high school with 36% reporting a college background. Their ages ranged from 22 to 59. The mean and median age of the sample was 39. Average length of service was 14 years with a range of 1 to 37 years.

2. *Data Collection*

Questionnaires were administered to *Ss* under controlled conditions in small groups. To minimize demand characteristics and *E* bias, the study was identified as part of the established on-going research effort of the hospital's Nursing Service for Education staff. The questionnaire package was pretested on a representative group of *Ss* to determine the impact of factors such as test length and readability. All respondent queries were answered by using a predetermined standard response format. Any questions not anticipated in advance were handled in an identical manner. The confidentiality of results was stressed. Willingness to participate voluntarily was indicated by the signing of a consent statement.

Because of the hospital's staffing demands and to assure maximum

participation, questionnaire administrations were conducted over a five-day period at times convenient to each of the hospital's three shifts. Interviews with nursing personnel and hospital administrators were conducted prior to and after the administration of the questionnaire package. The interviews dealt with all aspects of the survey and provided insights into the internal operation of the hospital and the perceptions of various groups within the hospital.

3. Measures

Role ambiguity ($\alpha = .79$, $M = 2.02$, $SD = .60$) and role conflict ($\alpha = .89$, $M = 2.66$, $SD = .78$) were measured by using six- and eight-items, respectively, from the scales developed by Rizzo, House, and Lirtzman (24). Each scale was scored with the use of a five-point response mode ranging from "very false" to "very true," and by averaging across the relevant items. Both role ambiguity (reversed) and role conflict were scored so that the greater the score, the greater the perceived stress. These scales were chosen because of their established psychometric properties (26) and wide usage in role theory research. A factor analysis for the present sample confirmed the unidimensional structure of both scales.

Tension was measured by a nine-item index ($\alpha = .86$, $M = 2.58$, $SD = .76$) taken from Lyons (19). Developed from a longer list used by Kahn *et al.* (18), this scale was specifically constructed to determine the frequency with which respondents report feeling bothered by a variety of work-related factors. Response categories (coded from 1 to 5) were "never," "rarely," "sometimes," "rather often," and "nearly all the time." Items were averaged to yield a single tension score. A factor analysis of the nine-item index confirmed its unidimensionality as described by Lyons (19).

Propensity to leave was gauged with a three-item instrument ($\alpha = .83$, $M = 2.21$, $SD = .94$) developed by Lyons (19) for use with nursing personnel. Response alternatives to each item were coded from 1 to 5 and averaged so that the greater the score, the greater the propensity to leave.

Employee performance ($\alpha = .95$, $M = 3.63$, $SD = 1.03$) was gauged by having each supervisor rate his or her subordinates on five items representing the following factors (22): quality of work, quantity of work, dependability, knowledge of work, and overall performance. Response categories were labeled, "much less," "slightly less," "the same as," "slightly more," and "much more" (than his co-workers). Responses to each item were coded from 1 to 5 and averaged to yield a single performance score and

standardized in *Z*-score form. All correlations between component items were positive and highly interrelated (mean $r = .83$). Similar scales have been used in other role theory studies (31, 32).

All other variables were measured by using the Survey of Organizations [SOO (33)] questionnaire. Designed to be a "descriptive" measure of organizational practices and conditions, the SOO asks respondents for their perceptions of organizational reality. Response alternatives to most items range from "to a very little extent" (the least favorable response, scored 1) to "to a very great extent" (the most favorable response, scored 5). A few questions are interpreted by using a five-option Guttman scale with response alternatives which vary with individual items.

The SOO was selected for use because of its simplicity in administration, its wide use in a diversity of settings, and its established validity and reliability (7). It provides measures of 15 indices in a variety of work-related areas.

The means, standard deviations, number of items, and coefficient alpha reliability estimates of each index used in the present analysis are presented, in order and within parentheses, as follows: supervisory support (3.48, 1.10, 3, .91); supervisory interaction facilitation (3.35, 1.25, 2, .87); supervisory work facilitation (3.12, 1.21, 3, .90); supervisory goal emphasis (3.56, 1.06, 2, .84); human resource primacy (3.06, .84, 3, .80); communication flow (3.00, .82, 3, .73); motivational conditions (2.72, .75, 3, .70); decision-making practices (2.69, .88, 3, .74); satisfaction (3.76, .81, 6, .76); group processes (3.06, .67, 7, .89). All indices were averaged across items to yield a single score.

D. RESULTS

In order to evaluate the differential relationships of role ambiguity and role conflict with each of the variables being investigated, all hypotheses were tested by computing partial correlations, controlling first for role conflict and then for role ambiguity. Initially, simple correlations were computed; however, given the study's purpose and the significant correlation between role ambiguity and role conflict ($r = .38$, $p < .001$), partial correlations were deemed more appropriate for the intended analyses. The resulting partial-order correlations of the major variables which relate to the hypotheses of this study are presented in Table 1.

TABLE 1
ZERO-ORDER AND PARTIAL-ORDER CORRELATIONS BETWEEN ROLE PERCEPTIONS AND
JOB-RELATED, INTERPERSONAL, AND ORGANIZATIONAL CLIMATE FACTORS

| Category | Role stress | | | |
|---|------------------------|---------------------|------------------------|---------------------|
| | Role ambiguity | | Role conflict | |
| | Zero-order <i>r</i> | Partial <i>r</i> | Zero-order <i>r</i> | Partial <i>r</i> |
| Job related | | | | |
| Satisfaction | -.42 | -.30 | -.44 | -.34 |
| Tension | .41 | .22 | .69 | .64 |
| Performance ^a | -.05 | -.03 | -.08 | -.06 |
| Propensity to leave | .32 | .23 | .31 | .21 |
| Interpersonal | | | | |
| Supervisory support | -.38 | -.27 | -.42 | -.32 |
| Supervisory goal emphasis | -.45 | -.36 | -.38 | -.25 |
| Supervisory work facilitation | -.45 | -.33 | -.47 | -.37 |
| Supervisory interaction facilitation | -.41 | -.31 | -.38 | -.26 |
| Work group interaction | -.36 | -.28 | -.31 | -.20 |
| Organizational climate | | | | |
| Communication flow | -.30 | -.15 | -.45 | -.38 |
| Motivational conditions | -.38 | -.25 | -.48 | -.39 |
| Decision-making practices | -.30 | -.17 | -.39 | -.31 |
| Human resource primacy | -.32 | -.19 | -.43 | -.35 |

Note: $N = 202$. Zero-order correlations: $r_{.95} > .13$, $r_{.99} > .18$. Partial correlations: $r_{.95} > .16$, $r_{.99} > .21$. Decimals are omitted.

^a Two-tailed test.

1. Job-Related Factors

a. Satisfaction. As hypothesized in Ia, both role ambiguity and role conflict were shown to be negatively and statistically related to job satisfaction, $r_s = .30$, and $-.34$, $p < .001$, respectively (see Table 1). Moderated regression analysis (36) was used to assess the statistical significance of the moderating effect of organizational level upon the job satisfaction-role ambiguity/role conflict relationship. Statistical tests employed to compare the multiple correlation coefficients yielded in such analyses are covered by Cohen (4). Organizational level did not significantly interact with either role ambiguity or conflict. Hypotheses Ib-1 or Ib-2, therefore, did not receive support.

b. Tension. As anticipated in hypothesis Ic, the results presented in

Table 1 indicate that both role ambiguity ($r = .22, p < .01$) and role conflict ($r = .64, p < .001$) are related to job tension.

c. Performance. The results presented in Table 1 indicate that neither role ambiguity nor conflict are related to performance as measured by supervisory appraisals. As with *Ib*, moderated regression was used to test the hypothesized moderator effect of organizational level. No moderator effect was present for either role ambiguity or role conflict. Therefore, hypotheses *Id* and *Ie* are not supported.

d. Propensity to leave. As predicted in *If*, role ambiguity ($r = .23, p < .001$) and role conflict ($r = .21, p < .001$) are both significantly positively related to propensity to leave (see Table 1).

2. Interpersonal Factors

a. Supervisory leadership. The results presented in Table 1 indicate that the hypothesized relationships in *IIa*, between supervisory leadership and role ambiguity/role conflict, were supported. Role ambiguity and role conflict are significantly negatively related to supervisory support ($r_s = .27$ and $-.32, p < .001$), supervisory goal emphasis ($r_s = -.36$ and $-.25, p < .001$), supervisory work facilitation ($r_s = -.33$ and $-.37, p < .001$), and supervisory interaction facilitation ($r_s = .31$ and $-.26, p < .001$).

b. Group process. Further analysis of the results also presented in Table 1 reveals that work group interaction is negatively and highly significantly related to role ambiguity ($r = -.28, p < .001$) and role conflict ($r = -.20, p < .01$). Therefore, hypothesis *IIb* is supported.

3. Organizational Climate

Both role ambiguity and role conflict are significantly negatively correlated with each measure of organizational climate. Role ambiguity and role conflict are negatively correlated with communication flow ($r = -.15, p < .05$ and $r = -.38, p < .001$), decision-making practices ($r = -.17, p < .05$ and $r = -.31, p < .001$), concern for employee wellbeing—i.e., human resource primacy ($r = -.19, p < .01$ and $r = -.35, p < .001$)—and motivational conditions ($r = -.25, p < .01$ and $r = -.39, p < .001$). Therefore, hypothesis *III* is supported.

E. DISCUSSION

The finding of numerous significant relationships between role ambiguity/role conflict and a variety of job-related, interpersonal, and organizational indices not only corroborates and extends past research, but

also provides salient new information concerning the nature of role stress. In this regard, the finding that job satisfaction was significantly inversely related to both role ambiguity and role conflict (hypothesis Ia) was anticipated and is consistent with previously cited research. The failure of organizational level to serve as a moderator between satisfaction and role ambiguity and conflict (hypothesis Ib) is somewhat surprising in view of past evidence concerning the impact of that measure. While related findings (8) support the view that responsibility does increase as one moves up an organization hierarchy, the logic that role ambiguity increases as responsibilities increase, as suggested by Snoek (29) does not seem to apply in the present case. Neither does House's (12) speculation that at higher occupational levels job assignments are more often ill-defined, thus resulting in increased role ambiguity. One tentative explanation for the absence of the hypothesized moderator effect may lie in the fact that the sample employed did not reach far enough down the organization to capture the idea of differences in hierarchical level. What may be needed, as is suggested by Miles (21) (whose findings also failed to support the hypothesized moderator effect of organizational level), is a representative sample of Ss occupying those repetitive and monotonous roles that offer relatively little freedom of action or decision-making autonomy.

The significant relationships between role ambiguity/role conflict and both tension (hypothesis Ic) and propensity to leave (hypothesis If) were also anticipated on the basis of prior research. As mentioned earlier, it has been generally argued that both tension and the perceived desirability of leaving an organization are likely to be affected by dissatisfaction resulting from role ambiguity and/or conflict. With respect to the present sample, such an interpretation seems highly feasible given the marked negative correlations between satisfaction and both tension ($r = -.53, p < .001$) and propensity to leave ($r = -.52, p < .001$).

The findings that performance is only slightly related to role ambiguity and role conflict (hypothesis Id) and that organizational level fails to moderate this relationship significantly (hypothesis Ie) are not surprising given the inconsistent nature of past findings. Whether these results reflect method variance is not discernible from the present data. The data do suggest, however, that the ability/adaptability phenomenon advanced by Schuler (25) may be applicable to all levels of the S population presently under investigation. Since all the roles sampled were at least semiprofessional in nature, possibly professional or institutionalized avenues for minimizing ambiguities and conflict may have developed such that perfor-

mance was not hampered. The likelihood of such coping mechanisms developing is heightened by the fact that role expectations associated with occupational fields, such as nursing, are largely prescribed in professional ethics and standards determined by accrediting agencies and professional societies.

With respect to the relationships between interpersonal factors and role ambiguity and role conflict, the present findings reinforce past evidence suggesting that unclear and conflicting role expectations strongly influence social interaction (hypothesis II*b*). To the extent that role expectations are ambiguous and conflict, it may be expected that leader-member relations will be less favorable, resulting in detrimental group behavior in both task and social-emotional areas. Together with the research cited earlier, the present findings strongly suggest that role ambiguity and role conflict may be related to supervisory leadership in the areas of support, team building, work facilitation, group interaction, and goal accomplishment (hypothesis II*a*). In short, the data suggest that unclear and conflicting role expectations greatly influence both the quality of supervisory leadership and work group interaction existing within an organization.

Finally, the results of the analysis pertaining to organizational climate provide further information concerning the relationship of factors in the work environment to role ambiguity and role conflict. Following the views expressed earlier, the present findings suggest that to the extent that organizational practices and procedures relating to such concerns as adequate communication flow, motivational conditions, decision-making practices, and employee well-being (hypothesis III) are clear and consistent, role expectations which are ambiguous and conflicting will be minimized.

Overall, these results suggest that consistent relationships existed between both role ambiguity and role conflict and a variety of job-related, interpersonal, and organizational climate factors. By both corroborating and extending past findings, as well as uncovering new relationships, the present effort may serve to provide background for future investigations. In this regard, the results obtained not only reinforce past evidence pertaining to singular aspects of the role theory model, but serve to suggest a wide-ranging pattern of role ambiguity and conflict consequences.

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Department of Management
Auburn University
Auburn, Alabama 36849