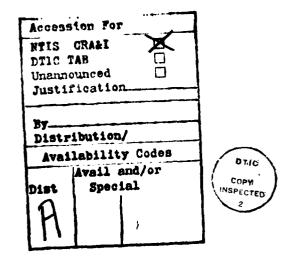


AN ANALYSIS OF ROLE CONFLICT AND AMBIGUITY SCALES: A REPLICATION STUDY OF THE PSYCHOMETRIC PROPERTIES AND AN ASSESSMENT OF THE ROLE OF SOCIAL DESIRABILITY BIAS

Fred Luthans
Stuart A. Rosenkrantz
University of Nebraska-Lincoln



Send Correspondence to:

Fred Luthans
Department of Management
University of Nebraska
Lincoln, Nebraska 68588
Phone: 402-472-2324/3915

REPORT DOCUMENTATION PAGE	READ INSTRUCTIONS BEFORE COMPLETING FORM
1	3. RECIPIENT'S CATALOG NUMBER
5 AD-4112613	
4. TITLE (and Subtitle)	S. TYPE OF REPORT & PERIOD COVERED
An Analysis of Role Conflict and Ambiguity Scales: A Replication Study of the Psychome-	Interim
tric Properties and an Assessment of the Role of Social Desirability Bias	6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s)	8. CONTRACT OR GRANT NUMBER(0)
Fred Luthans and Stuart A. Rosenkrantz	N00014-80-C-0554
9. PERFORMING ORGANIZATION NAME AND ADDRESS	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
Department of Management University of Nebraska Lincoln, Nebraska 68588-0400	NR170-913
Organizational Effectiveness Research	February, 1982
Group-Office of Naval Research (Code 442)	13. NUMBER OF PAGES
Arlington, VA 22217	30
14. MONITORING AGENCY NAME & ADDRESS(II different from Controlling Office)	15. SECURITY CLASS. (of this report)
	Unclassified
•	154. DECLASSIFICATION/DOWNGRADING
16. DISTRIBUTION STATEMENT (of this Report)	<u></u>
Approved for public release; distribution unlimit	
whole or in part is permitted for any purpose of	the V.S. Government,
	1,047,3
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, If different fre	m Report)
	Newsperrie
18. SUPPLEMENTARY NOTES	LE ALLINA
ϵ	1 2 2 V
19. KEY WORDS (Continue on reverse elde II necessary and identity by block number)	• • • • • • • • • • • • • • • • • • •
Role Conflict, Measuring Role Ambiguity, Role Ambiguity, Role Ambiguity, Measuring Role Conflict, Measuring	
ambiguity scales (RCA) developed by Rizzo, House according to the factor structures, means and sconsistency reliability, and discriminant validagree with earlier studies reporting positive reof social desirability bias, which was not spectudies, was found to be present in the role amabsent from the role conflict (RC) responses.	e and Lirtzman were analyzed tandard deviations, internal ity and were found to generally esults. However, the analysis ifically assessed in previous

AN ANALYSIS OF ROLE CONFLICT AND AMBIGUITY SCALES: A REPLICATION STUDY OF THE PSYCHOMETRIC PROPERTIES AND AN ASSESSMENT OF THE ROLE OF SOCIAL DESIRABILITY BIAS

Abstract

"Utilizing five diverse samples (N=540), the psychometric properties and role of social desirability response bias were assessed on the role conflict and role ambiguity scales (RCA) developed by Rizzo, House and Lirtzman (1970). In particular, the factor structures, means and standard deviations, internal consistency reliability, and discriminant validity were assessed and found to generally agree with earlier studies reporting positive results on these psychometric properties. However, the analysis of social desirability bias, which was not specifically assessed in previous studies, was found to be present in the role ambiguity (RA) responses, but absent from the role conflict (RC) responses in this study. It is recommended on the basis of the results of this study that the Rizzo et al. scales can be justifiably used to measure role conflict and ambiguity, but that a social desirability measure, such as the Marlowe-Crowne instrument, be included.

AN ANALYSIS OF ROLE CONFLICT AND AMBIGUITY SCALES: A REPLICATION STUDY OF THE PSYCHOMETRIC PROPERTIES AND AN ASSESSMENT OF THE ROLE OF SOCIAL DESIRABILITY BIAS

Role conflict and ambiguity have received increasing attention and empirical research in the field of organizational behavior. In particular, considerable effort has recently been devoted to the theoretical meaning of the constructs (Tracy & Johnson, 1981) and to their use as both intervening and as dependent variables in empirical studies (Abdel-Halim, 1980; Bedeian & Armenakis, 1981; Brief & Aldag, 1976; Ford, Walker, & Churchill, 1975; House & Rizzo, 1972; Johnson & Stinson, 1975; Keeley, 1977; Keller, 1975; Miles, 1976; Randolph & Posner, 1981; Schuler, 1975, 1977; Szilagyi, Sims, & Keller, 1976; Weed & Mitchell, 1980). In addition, several studies have given attention to the development of a reliable and valid measure of role conflict and role ambiguity. In particular, Rizzo, House, & Lirtzman (1970) developed an instrument that has been widely used to measure these constructs (e.g. in 1979 alone there were at least nine published articles, all by different researchers, that used one or both of the Rizzo et al. scales, Tracy & Johnson 1981). Although some attention has been devoted to assessing the psychometric properties of this instrument (Schuler, Aldag, & Brief, 1977), its wide use and dependence as a measure require that replications be made and further analysis be conducted. The purpose of this paper is to report the results of such a

replication study that analyzes the psychometric properties of the Rizzo, et al. instrument and assesses the role that social desirability response bias (Crowne & Marlowe, 1960) may have.

The analysis of the impact that social desirability (SD) response bias may have on popular instruments such as the Rizzo et al. role conflict and ambiguity (RCA) scale seems extremely important but largely overlooked. SD is commonly described as a response style in taking questionnaires which reflects the subject's need for social approval and the belief that this can be attained by means of culturally acceptable and appropriate behaviors (Marlowe & Crowne, 1961). This bias is usually defined operationally as response to the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960). Any transparent instrument such as the Rizzo et al. RCA scales which asks employees for self-disclosure opens the possibility of biased responses due to a desire on the part of the subject to appear capable and well-adjusted to the organization.

As Rizzo et al. describe role ambiguity, coping behavior by the individual may include attempts to avoid the sources of stress, or defense mechanisms which distort reality. The possibility that an employee would distort his or her estimate of the work environment is clearly there. Thus, the RCA instrument is relatively transparent with regard to its purpose, making it easy for a respondent to dissemble in any way he or she might choose. Arnold and Feldman (1981) give cause for caution when they report in a recent study that high SD persons tend to overstate the importance of job characteristics such as autonomy

and opportunity to use skills and abilities and to understate the importance of pay and fringe benefits, when asked to evaluate these as criteria of job choice. Role conflict and ambiguity may be similarly distorted. Nunnally (1978) does point out that self-report measures (such as the RCA) should not be unduly influenced by SD, if the anonymity of subjects is well protected. Such anonymity is usually a condition for participation in studies using the RCA. Nevertheless, there still may be a problem; not in the ethical sense of violating anonymity, but rather in the employees/subjects finding it credible that anonymity really will be preserved and how the results will be used. To the extent that SD and RCA responses share common variance, it may be said that they are dependent upon one another and thus detract from the value of the RCA questionnaire as an effective measure. This study tests for the presence of such dependence.

METHOD

Sample

Data were collected from five heterogeneous organizations which provided a pooled sample of 540 employees. A brief profile of the organizational groups follows:

Financial Institution. A representative sample of 257 employees, including some nonexempt personnel but mostly first line supervisors, and middle and top-level managers, performing all functions was taken from a relatively large financial institution. Their median age was 36; 41 percent had completed

college; 6 percent held graduate degrees; and the median tenure with this organization was 8 years.

Manufacturing Plant. A representative sample of 88 employees, including rank-and-file employees but mostly first line supervisors, and middle and top-level managers performing all functions, was taken from a medium sized manufacturing facility. Their median age was 36; 22 percent had completed college; 75 percent were high school graduates and 3 percent had not completed high school. The median tenure of these employees was 10 years with the company.

State Agency. A representative sample of 79 employees, including some nonexempt personnel but mostly first line supervisors, middle and top level managers performing all functions, was taken from a relatively large agency of state government. Their median age was 35; 44 percent had completed college and 6 percent held graduate degrees; median tenure with this organization was 4 years.

Campus Police Department. Seventy-three employees from the chief on down to the operating personnel in this relatively large university's police department were used. Their median age was 46; 18 percent had completed college and 1 held a graduate degree; median tenure with the department was 12 years.

Army and Navy ROTC Units. All (N=43) members of the Army and Navy ROTC departments of a relatively large university were used in this study. Their median age was 34; 21 percent were college graduates and 19 percent held graduate degrees; median tenure in the military service was 10 years.

Measures.

Questionnaires were filled out and collected during working hours at each participant's work location. The questionnaires for this study included the Role Conflict and Ambiguity Scale or RCA (Rizzo, House, & Lirtzman, 1970; Schuler, Aldag, Brief, 1977), Social Desirability Scale or SDS (Marlowe & Crowne, 1960), and the Job Description Inventory or JDI (Smith, Kendall, & Hulin, 1969).

RESULTS

In order to assess the psychometric properties of the RCA scale, and replicate as much as possible previous studies of the instrument (Rizzo, House, & Lirtzman, 1970; Schuler, Aldag & Brief, 1977) several analyses were made. Specifically, means and standard deviations, internal consistency reliability, factor structure and discriminant validity were assessed. To go beyond the previous studies, the potential for social desirability bias was also assessed.

Means and Standard Deviations

Tables I and II, summarize the distribution of responses to the Role Conflict and Role Ambiguity scales for each of the five sampled organizations. Although a 7-point Likert scale was used in the original RCA scale, it was modified in the present study to a 5-point scale. Thus, the scale mid-point for both the Rizzo et al. analysis and for the Schuler et al. analysis is a "4". However, a linear transformation was performed on means and standard deviations reported in this study, to permit direct

comparison with the Rizzo et al. and the Schuler et al. data, part of which is included in the tables. The mean scores and standard deviations of the present study are consistent with the comparison studies. The examination of response distributions indicates that the full range of scores was used. There is an acceptable dispersion within each sample.

Insert Tables I and II About Here

Internal Consistency Reliability

Coefficient α , item analysis, and factor analysis were used to assess the internal consistency of the RCA instrument. Tables I and II report coefficient α for the five separate samples and for the pooled sample ranging from .43 to .77 for RC and from .73 to .84 for RA. Except in one case (the Campus Police had a relatively low α of .43 on the RC scale) these results are quite positive and within the range reported by the comparison studies.

Table III shows item-total correlations resulting from individual item analysis of the RCA scales for the five samples. Item-total correlations have not been previously reported. The correlations for RC range from .005 to .593, with the mean correlation being .36. The mean item-total correlation for pooled RC items is .42. These values are relatively low, indicating some heterogeneity with respect to the underlying construct being measured by the Role Conflict scale.

The correlations for individual RA items range from .33 to .77, with the mean correlation being .56. The mean item-total correlation for pooled RA items is .60. Thus, all of the items appear to be homogeneous with respect to the underlying construct being measured by the Role Ambiguity scale.

As a further check on the internal structure of the questionnaire, and in replication of each of the comparison studies, two factor analyses were performed. The first, used image covariance analysis and varimax (Table IV) to permit direct comparison with the Rizzo, et al. study. The second, used principal components and varimax (Table V) to permit direct comparison to the Schuler, et al. study. Because item numbering is different in each of the replicated studies, each item factored is numbered as it is in its respective referent study. Also, although numbered differently, the order of items presented in Tables III, IV, and V is identical so that direct comparisons can be made between analytical methods for any given response item (e.g. the first item presented in Table III is the same as the first item presented in Tables IV and V).

The new samples were both pooled and run independently for factor analysis. Results of "scree" tests (Kim & Mueller, 1978), performed on each measure for each organization, uniformly confirmed two principal factors (RC and RA). In the Rizzo et al. study these accounted for 56 percent of the common variance, in this study they account for 53-68 percent of the common variance. In the Rizzo et al. study, RA and RC respectively accounted for 32 percent and 26.3 percent of the variance. In

this study RA and RC account for 31.1-57.8 percent, and 16.5-24.5 percent of the variance, respectively. In the Schuler et al. study RA accounted for 13.2-21.5 percent, RC accounted for 8.4-21 percent of the common variance. Replicating the factor analytic method in this study, RA accounts for 25.6-33.7 percent and RC accounts for 13.5-20 percent of the common variance. RA and RC together accounted for 21.6-46.5 percent of the variance in the Schuler, et al. study and for 39.3-49.4 percent of the variance in this study.

When the results of the factor analysis of Rizzo et al. and Schuler et al's. eight samples, the present item analysis, and the factor loadings, descriptive statistics, and explained variance from the percent factor analyses are compared, clear similarities between the studies are apparent for RA, regardless of sample size. These similarities are clear for RC only when the present analysis considers relatively large samples (N=540, N=257). Thus, the results of this study tend to support the findings of Rizzo et al. and Schuler et al. for the RA dimension but suggest reservations regarding the RC dimension. Although the factor loadings (Tables IV and V) generally maintain correct differences between factors for individual items, regardless of sample size, internal consistency reliability (Table III) appears to fall to lower levels, for some items on the RC scale, with small sample sizes.

Insert Tables III, IV, and V About Here

Discriminant Validity

Correlations and shared common variances (Nunnally, 1978) for the relationship between RA and RC are reported in Table These findings are within the range found by Rizzo et al. and Schuler et al. Additionally, a one way ANOVA was performed in this study to assess differences between organizations. If RA and RC are sensitive to differences between organizational environments, the one way ANOVA would so indicate. The results for RA ($F_{4.535}=2.88$, p<.05) and for RC ($F_{4.535}=2.71$, p<.05) does indicate significant differences between the five samples. In addition, a Chi-square test for consistency of the correlations (Cohen and Cohen, 1975) between RA and RC across organizations was performed: This Chi-square analysis both includes and excludes the two samples with non-significant correlations. results $(X^2=.96, df=4, p>.90; X^2=.67, df=2, p>.70)$ indicate a consistent relationship between RA and RC across the five sample organizations.

To analyze discriminant validity Rizzo et al. compared the RCA scales with several other measures including one on job satisfaction comprised of nine items. Five of the items on this measure might be compared to the Smith, Kendall, & Hulin (1969) Job Description Index (JDI) including intrinsic job vs. work (JDI), pay recognition vs. pay (JDI), pleasantness (social) vs. coworkers (JDI), autonomy vs. supervision (JDI) and advancement opportunity vs. promotions (JDI). Shared common variance was extrapolated from their data and is presented in Tables VII and VIII. Schuler et al. omitted reliability coefficients for the

JD1 scales used in their study which precludes making similar extrapolations. However, the correlations in Tables VII and VIII are comparable. In general, the results show clearly similar mean correlations to the Schuler et al. data for RA and RC (vs. JDI), slightly higher mean correlations than the Rizzo et al. data for RC, and slightly lower correlations for RA. The magnitude of the correlations and shared common variance indicate some overlap, i.e., a lack of discrimination between the constructs measured; however, the amount due to common methods variance and the amount due to the conceptual similarity of job satisfaction and role conflict, or role ambiguity, cannot be determined from these data alone. As was noted in the two referent studies, it should be expected that RCA would be conceptually related to other job-related attitudes. However, the correlations found in this study are somewhat higher than would be desirable as a conclusive demonstration of discriminant validity, as has been the case previously.

Insert Tables VI, VII and VIII About Here

Social Desirability Bias

Responses to the RC, RA and the Marlowe-Crowne Social

Desirability Scale (SDS) were correlated as a test for the

influence of social desirability on the results. Table IX

presents the SDS means, standard deviations, and reliabilities

for the five samples. The reliabilities found for the campus

police and ROTC samples are relatively low, which should caution

one in interpreting the overall results. However, the remaining three samples indicate relatively high reliabilities.

Table X presents the correlations and shared common variances between role ambiguity and social desirability. Although there is a significant relationship in three of the five samples, overall, the level of correlations are quite moderate (the mean is -.26). By the same token, however, the attenuation-adjusted shared common variances indicate that there is some influence of social desirability response bias present in the RA measure administered to these samples. To assess homogeneity of the correlations, a Chi-square was performed including and excluding the campus police department, which yielded the least significant correlation. Results indicated a stable relationship between social desirability and role ambiguity across the five samples (X²=3.11, df=4, p>.50; X²=2.24, df=3, p>.50).

Table XI presents the correlations and shared common variances between role conflict and social desirability. Here, no significant relationships are evident in any sample, indicating virtual independence between social desirability and role conflict. The reason for no significant values is that the significance level is directly related to the magnitude of the correlations and sample size. To produce the .05 level of significance, a correlation of .05 requires a sample size greater than 1000. A sample of more than 100 cases is needed to be significant at the .05 level when r falls below approximately .16. No Chi-square test was performed because of the uniformity of independence (no shared common variance greater than .007) and the low significance levels clearly visible in the data.

Insert Tables X and XI About Here

DISCUSSION

The present analysis of the reliability of the Rizzo et al. RCA scales found consistent results with those reported in the original study by Rizzo et al. (1970) and the follow-up by Schuler et al. (1977). The 14 item RCA questionnaire appears to clearly measure two factors. Each of the items for the RA scale appears to correlate adequately with the scale as a whole, but, there appears to be less adequate correlation between some items on the RC scale and the scale as a whole.

The discriminant validity analysis was limited to examining the RCA instrument in relation to another popular attitudinal measure of employee satisfaction, the JDI (Smith, Kendall & Hulin, 1969). Again, the results are comparable to those found by Rizzo et al. and Schuler et al. with regard to the correlations. Although some of the current data does suggest independence, other data indicates the probability of common methods variance between RC and JDI and slightly lower probability of common methods variance between RA and JDI. In addition, it was found that RC was more consistently related to satisfaction with the work itself and that RA was more consistently related to attitudes about supervision. These results are certainly not sufficient to demonstrate the construct validity of the RCA questionnaire, but they also do not invalidate the instrument. At least for exploratory research and until more analyses are

made that clearly invalidate the instrument, continued use of it seems justified.

The results of the social desirability analysis found no problem with the role conflict scale but does suggest a cautionary note in the use of the RA scale. Although the results of this extended analysis do not invalidate the RA scale because of SD bias, they clearly point out the possibility that such bias may occur. The questions in the RA scale can be interpreted by the respondents as a confession of socially undesirable traits—causing them to distort responses. That is, the self-report aspect of the RA scale would indicate that high SD individuals do not want to report that they are not adequately aware of what their job role is.

Social desirability has been studied extensively and is well known as one of the most pervasive of response styles. It is not surprising that an instrument so obviously requiring self-disclosure as does the RA measure would be subject to this bias. The recommendation stemming from this study is simply to include a social desirability measure such as the Marlowe-Crowne as part of any research program using RA, or any other self-report measure for that matter, and to control for its influence statistically, if necessary. Although two of the organizations sampled showed nonsignificant correlations between RA and social desirability, this may have been due to other, unmeasured characteristics (e.g. both are quasi-military units with accompanying authority structures, etc.) or to the previously described sensitivity of significance to sample size and

correlation magnitude. In the other samples, there was a significant relationship. Therefore, the recommendation is to test for the presence of so universal a bias as social desirability in transparent, self-report studies of this type, if for no other reason than to rule it out as an explanation of the results found.

Another recommendation is to adopt, as standard analytical procedure, the determination of internal reliability, and adjustment of correlations for attenuation, whenever using the role conflict or role ambiguity scales.

In conclusion, the continued use of the Rizzo et al. RCA instrument seems justified, but further replications are needed and more systematic evidence of construct validity needs to be accumulated in the future.

References

- Arnold, H.J., & Feldman, D.C. Social desirability response bias in self-report choice situations. Academy of Management Journal, 1981, 24, 377-385.
- Abdel-Halim, A.A. Effects of person-job compatability on managerial reactions to role ambiguity. Organizational Behavior and Human Performance, 1980, 26, 193-211.
- Bedeian, A.G., & Armenakis, A.A. A path-analytic study of the consequences of role conflict and ambiguity. Academy of Management Journal, 1981, 24, 417-424.
- Brief, A.P., & Aldag, R.J. Correlates of role indices. <u>Journal</u> of Applied Psychology, 1976, 61, 468-472.
- Cohen, J. & Cohen, P. Applied multiple regression/correlation analysis for the behavioral sciences. New York: Wiley, 1975.
- Crowne, D.P., & Marlowe, D. A new scale of social desirability independent of psychopathology. <u>Journal of Consulting Psychology</u>, 1960, 24 349-354.
- Ford, N.M., Walker, O.C., & Churchill, G.A., Jr. Expectation-specific measures of the intersender conflict and role ambiguity experienced by industrial salesmen. <u>Journal of Business Research</u>, 1975, 3, 95-111.
- House, R.J., & Rizzo, J.R. Role conflict and ambiguity as critical variables in a model of organizational behavior.

 Organizational Behavior and Human Performance, 1972, 7, 467-505.
- Johnson, T.W., & Stinson, J.E. Role ambiguity, role conflict and satisfaction: Moderating effects on individual differences. Journal of Applied Psychology, 1975, 3, 329-333.
- Keeley, M. Subjective performance correlation and person-role conflict under conditions of uncertainty.

 <u>Management Journal</u>, 1977, 20, 301-314.
- Keller, R.T. Role conflict and ambiguity: Correlates with job satisfaction and values. Personnel Psychology, 1975, 28, 57-64.
- Kim, J., & Mueller, C.W. <u>Factor analysis: statistical</u> methods and practical issues, Beverly Hills & London: Sage Publications, 1978.
- Marlowe, D., & Crowne, D.P. Social desirability and response to perceived situational demands. Journal of Consulting Psychology, 1961, 25, 109-115.

- Miles, R.H. A comparison of the relative impact of role perceptions of ambiguity and conflict by role. Academy of Management Journal, 1976, 19, 25-35.
- Nunnally, J.C. <u>Psychometric theory</u>, (2nd ed.). New York: McGraw-Hill, 1978.
- Randolph, W.A., & Posner, B.Z. Explaining role conflict and role ambiguity via individual and interpersonal variables in different job categories. Personnel Psychology, 1981, 34, 89-102.
- Rizzo, J.R., House, R., & Lirtzman, S. Role conflict and ambiguity in complex organizations. Administrative Science Quarterly, 1970, 15, 150-163.
- Schuler, R.S. Role perceptions, satisfaction and performance: A partial reconciliation. <u>Journal of Applied Psychology</u>, 1975, 60, 683-687.
- Schuler, R.S. The effects of role perceptions on employee satisfaction and performance moderated by employee ability.

 Organizational Behavior and Human Performance, 1977, 13, 98107.
- Schuler, R.S., Aldag, R.J., & Brief, A.P. Role conflict and ambiguity: A scale analysis. Organizational Behavior and Human Performance, 1977, 20, 111-128.
- Smith, P.C., Kendall, L.M., & Hulin, C.L. The management of satisfaction in work and retirement. Chicago: Rand-McNally, 1969.
- Szilagyi, A., Sims, H., & Keller, R. Role dynamics, locus of control, and employee attitudes and behavior. Academy of Management Journal, 1976, 19, 259-276.
- Tracy, L., & Johnson, T.W. What do the role conflict and role ambiguity scales measure? <u>Journal of Applied Psychology</u>, 1981, 66 464-469.
- Weed, S.E., & Mitchell, T.R. The role of environmental and behavioral uncertainty as a mediator of situation-performance relationships. Academy of Management Journal, 1980, 23, 38-60.

TABLE I

Means, Standard Deviations and
Internal Consistencies for Role Conflict (RC) Scale

Sample	n	Means	SD	Coefficient a	
Financial Institution	257	3.53	1.26	.77	
Manufacturing Plant	88	3.82	.96	.62	
State Agency	79	3.33	.96	.68	
Campus Police Department	73	3.87	.74	.43	
ROTC Units	43	3.82	1.23	.71	
ALL	540	3.62	1.12	.72	
Comparison Studies				· · · · · · · · · · · · · · · · · · ·	
Rizzo et al., Sample A	199	4.19	1.21	.82	
Rizzo et al., Sample B	91	3.86	1.27	.82	
Schuler et al., Sample 1	374	3.26	1.05	.75	
Schuler et al., Sample 2	362	3.79	1.21	.72	

TABLE II

Means, Standard Deviations and
Internal Consistencies for Role Ambiguity (RA) Scale

Sample	n	Means	SD	Coefficient a
Financial Institution	257	4.13	1.04	.84
Manufacturing Plant	88	3.92	.85	•75
State Agency	79	4.14	1.06	.83
Campus Police Department	73	3.76	.82	.79
ROTC Units	43	3.62	.86	.73
A11	540	4.01	.96	. 8 2
Comparison Studies			····	
Rizzo et al., Sample A	199	3.79	1.08	.78
Rizzo et al., Sample B	91	4.03	1.15	.81
Schuler et al., Sample 1	374	2.60	1.96	.78
Schuler et al., Sample 2	362	3.36	1.26	.81

•

TABLE III
Item Analysis of the Role Conflict and Ambiguity (RCA) Questionnaire

RCA Item No. 1	Financial Institution	Manufacturing Plant	State Agency	Campus Police	ROTC Units	Aggregated Item-Total Correlation
Role Confl:			200		• • • •	
7	.415	.122	.202	.425	.266	.341
8	. 493	.408	.389	.190	.539	.448
9	.488	.271	.570	.180	.457	.439
10	.374	.315	.142	.005	.465	.313
11	.593	.421	.495	.388	.577	.542
12	.507	.486	.492	.024	.350	.445
13	.582	.324	.453	.329	.373	.508
14	.436	.176	.284	.169	.258	.337
Role Ambig	uity					
5	.491	.447	.429	.493	.417	.479
1	.568	.433	.642	.633	.605	.575
2	.484	.409	.372	.360	.393	.437
3	.747	.631	.760	.490	.579	.710
4	.746	.712	.766	.773	.585	.741
6	.712	.439	.733	.517	.334	.640

¹Corresponds to Schuler et al. numbering.

TABLE IV

Varimax Rotated Factor Loadings - Image Analysis Method

Role Conflict and Ambiguity (RCA) Questionnaire

6.8	6.5		υ •	9.2	3 • 9	14.7	ယ • ယ	8 2	۵ ·	6.7	- n
	23.5		14.2 31.1	38.5	15.3	57.8	16.5	0.6	24.5 40.6	38.5	Percent Variance
	. 24	. 58	.07	. 57	.18	. 83	03	.68	.08	. 68	26
	13	. 58	.21	.75	.21	.86	03	.76	.13	.71	20
	02	•33	.05	. 64	. 14	. 80	.01	.74	. 20	.66	12
	03	.52	.13	.32	08	.44	02	.37	.11	.27	10
	04	. 43	. 23	.67	. 18	.73	.07	.62	00	• 58	*
	15	.08	.11	• 55	.13	. 56	03	.57	.07	.37	Role Ambiguity 2
. 23	.05	.73	.19	. 15	. 21	. 37	.08	• 30	.51	.16	27
.07	. 69	.01	.20	.09	. 63	.16	.08	.21	.61	.04	25
.08	. 12	. 43	01	.02	. 48	.11	. 54	.04	.50	.08	23
.06	. 59	.09	.51	.06	.49	.09	.52	.04	. 45	.12	21
09	.19	.08	.04	.07	.16	15	.38	10	. 26	10	19
.13	.57	.34	.08	04	.60	.26	•11	.02	.54	.15	13
.03	.49	.01	. 32	.08	.47	.04	. 24	01	. 38	.07	11
	.02	00	. 51	.17	.16	. 28	.08	.12	.42	• 	Role Conflict
R A	RC	RA SE	RC	RA	A RC	R A	riant RC	RA .	RA RC	RA	rem NO.
	ROTC	; *	npus	Campu	State	> C	Manufacturing	Manufa	Financial	Fina	

Corresponds to Rizzo et al. numbering.

TABLE V Varimax Rutated Factor Loadings - Principal Component Method Role Confilct and Ambiguity (RCA) (uestionnaire

RCA Trem No. 1	Financial Institution	cial	Manufacturing Plant	ring	State	State	Cam	Campus	ROIC	ည -	Aggre	Aggregated
	RA	RC	RA	RC	RA	RC	RA	RC	RA	RC .	RA	RC
Role Conflict	.10	64.	.12	60.	.16	=	.20	11.	04	.03	.15	84.
œ	.12	.27	06	.26	.10	69.	• 05	. 59	60.	.60	00.	.62
•	•10	.73	10	90.	. 28	69.	60	02	.39	.77	.16	.61
10	13	.18	08	.64	40	.25	90.	.10	.04	.14	18	64.
11	91.	.39	90.	.80	02	.65	•05	.77	31	.68	.03	.70
12	.01	69.	.01	.82	04	.57	13	00	.30	• 04	90.	.61
13	01	.72	.26	.01	. 18	.78	.07	.27	03	.83	.07	69.
14	.13	69.	•19	.11	.26	.16	.19	.21	.78	.02	.29	.47
Role Ambiguity 5	• 56	08	.72	06	69.	.20	.68	.15	01	09	.58	90.
1	.74	03	.78	.12	.82	. 14	.77	.18	.40	02	.75	.03
2	.29	.35	.33	10	.38	28	.36	.01	.78	04	.46	• 05
9	.77	.24	.80	.03	.82	.07	.78	02	.13	• 00	.81	.10
4	.81	.19	.81	01	.82	.15	.86	.15	.45	15	.86	.08
vo	.81	.10	.78	04	.80	.13	.67	07	• 65	.35	.80	• 08
Percent Variance	27.3	17.6 26	6.2	15.5	33.7	15.7	25.8	13.5 2	25.6	20.0	26.6	17.1
Explained Eigenvalues	3.8	2.5	3.7	2.2	4.7	2.2	3.6	1.9	3.6	2.8	3.7	2.4

Le Schuler et.al. numbering.

TABLE VI Correlations and Shared Common Variance (SCV) RC and RA

Sample	n	r	P.	SCV	
Financial Institution	253	.16	.006	.04	
Manufacturing Plant	88	.17	>.05	.06	
State Agency	78	.32	•002	.18	
Campus Police Department	73	.32	.003	.30	
ROTC Units	41	.16	>.05	• 0 5	
Mean		.27			
Aggregate	533	•17	•001	.05	

TABLE VII Correlation and Shared Common Variance (SCV): Role Ambiguity (RA) and Job Satisfaction (JDI)

SCV r SCV r SCV r SCV .000 02 .000 .09 .01 24* .09 .02 .01 .000 13 .03 24* .11 .11 14 .03 36* .19 44* .30 .37 18* .05 35* .18 33* .18 .22 37* .22 10 .02 34* .23 28 36 36 32 32 33 06 .01 17 .04 29 .14		A. O.		Day		Promorton	100	Superviaton	no to	Co-Workers	81.0
on002 .00002 .000 .09 .0123* .0913* 11 .02 .01 .00013 .0324* .1102 25* .1114 .0336* .1944* .3024* tment44* .3718* .0535* .1833* .1832* 30* .2237* .2210 .0234* .2343* 332836 .0117 .0429 .1418	Sample		scv		scv		SCV	, , , , ,	SCA) } }	SCV
11 .02 .01 .00013 .0324* .1102 25* .1114 .0336* .1944* .3024* tment44* .3718* .0535* .1833* .1832* 30* .2237* .2210 .0234* .2343* 332836 .0117 .0429 .1418	Financial Institution	002	000	02	000.	60.	.01	23*	60.	13*	.03
25* .11 14 .03 36* .19 44* .30 24* 44* .37 18* .05 33* .18 32* 30* .22 10 .02 34* .23 43* 33 28 36 32 28 28 13 .03 06 .01 17 .04 29 .14 18	Manufacturing Plant	111	.02	.01	000	13	.03	24*	.11	02	.000
44* .37	State Agency	25*	.11	14	•03	36*	.19	444	•30	24*	60.
30* .22	Campus Police Department	*77-	.37	18*	• 05	35*	.18	33*	.18	32*	.15
3328363228 gate 13 .0306 .0117 .0429 .1418	ROTC Units	30*	.22	37*	.22	10	.02	34*	.23	43*	.39
13 .0306 .0117 .0429 .1418	Means	33		28		36		32		28	
	Aggregate	13	.03	90	.01	17	• 0 4	29	.14	18	• 0 5

Comparison Studies

Rizzo, et.al. A	36	•18	28 .12	.12	23 .08	.08	36	.20	41	41 .28
Rizzo, et.al. B	09	.47	40 .23	.23	34 .24	.24	54	.53	57	57 .53

^{*} p<.05 for present study

Correlations and Shared Common Variance (SCV) Role Conflict (RC) and Job Satisfcation (JDI)

	Work		Pay		Promotion	ton	Supervision	ision	Co-Worker	rker
Sample	ы	SCV	'n	SCV	S.	SCV	, su	SCV	L	SCV
Financial Institution	13*	.03	05	.004	.03.	.002	08*	.01	90	10.
Manufacturing Plant	14*	.05	05	.01	.01	000.	10	.02	20*	90.
State Agency	24*	.12	.10	.02	60	.14	33*	.21	36*	.25
Campus Police Department	+67	.83	02	.001	24*	.16	38*	.43	29*	.14
ROTC Units	.16	.07	31	.16	28*	.12	13	• 04	.01	.000
Means	25		31		26		26		28	
Aggregate	- 18	90.	07	•01	04	.003	15	.04	14	.03
Rizzo et.al. A	11	.02	12	.02	11	.02	12	.02	15	.04
Rizzo et.al. B	12	.02	13	.02	22	.10	07	.01	24	• 00

TABLE IX
Means, Standard Deviations, and Reliability Estimates for
the Marlowe-Crowne Social Desirability Scale (SDS)

	n	Mean	SD	(K-R 20) Reliability	
Financial Institution	253	16.68	5.71	.79	
Manufacturing Plant	88	16.68	7.01	.86	
State Agency	78	17.71	6.69	.84	
Campus Police Department	73	18.23	4.67	.67	
ROTC Units	42	17.40	5.06	.68	

TABLE X
Correlations and Shared Common Variance (SCV)
Role Ambiguity (RA) and Social Desirability (SDS)

Sample	n	r	P	scv
inancial Institution	253	17	.003	.04
anufacturing Plant	88	28	.004	.12
tate Agency	78	34	.001	.17
ampus Police Department	73	10	>.05	•02
TC Units	41	24	>.05	.11
ean		26		
ggregate	533	22	.001	.08

TABLE XI
Correlation and Shared Common Variance (SCV)
Role Conflict (RC) and Social Desirability (SDS)

Sample	n	r	P	SCV	
Financial Institution	253	04	>.05	.003	
Manufacturing Plant	88	06	>.05	.007	
State Agency	78	04	>.05	.003	
Campus Police Department	73	.10	>.05	.03	
ROTC Units	41	04	>.05	.003	
Mean		.06			
Aggregate	533	03	>.05	.002	

P4-5/A1 Sequential by Agency

452:KD:716:enj 78u452-883 24 Nov 81

LIST 2

ONR FIELD

LIST 1 MANDATORY

Defense Technical Information Center (12 copies)
ATTN: DTIC DDA-2
Selection and Preliminary Cataloging Section
Cameron Station
Alexandria, VA 22314

Library of Congress Science and Technology Division Washington, DC 20540

Office of Naval Research Code 452 800 N. Quincy Street Arlington, VA 22217

(3 copies)

Naval Research Laboratory Code 2627 Washington, DC 20375

(6 copies)

Office of Naval Research Director, Technology Programs Code 200 800 N. Quincy Street Arlington, VA 22217

Arlington, VA 22217

Office of Naval Research
Code 450
800 N. Quincy Street

Office of Naval Research Code 458 800 N. Quincy Street Arlington, VA 22217

Arlington, VA 22217

Office of Naval Research Code 455 800 N. Quincy Street Arlington, VA 22217 ONR Western Regional Office 1030 E. Green Street Pasadena, CA 91106

Psychologist ONR Western Regional Office 1030 E. Green Street Pasadena, CA 91106

ONR Regional Office 536 S. Clark Street Chicago, IL 60605

Psychologist ONR Regional Office 536 S. Clark Street Chicago, IL 60605

Psychologist ONR Eastern/Central Regional Office Bldg. 114, Section D 666 Summer Street Boston, MA 02210

ONR Eastern/Central Regional Office Bldg. 114, Section D 666 Summer Street Boston, MA 02210 LIST 3 OPNAV LIST 4
NAVMAT & NPRDC

Deputy Chief of Naval Operations (Manpower, Personnel, and Training) Head, Research, Development, and Studies Branch (Op-115) 1812 Arlington Annex Washington, DC 20350

Director Civilian Personnel Division (OP-14) Department of the Navy 1803 Arlington Annex Washington, DC 20350

Deputy Chief of Naval Operations (Manpower, Personnel, and Training) Director, Human Resource Management Plans and Policy Branch (Op-150) Department of the Navy Washington, DC 20350

Deputy Chief of Naval Operations
(Manpower, Personnel, and Training)
Director, Human Resource Management
Plans and Policy Branch (Op-150)
Department of the Navy
Washington, DC 20350

Chief of Naval Operations
Head, Manpower, Personnel, Training
and Reserves Team (Op-964D)
The Pentagon, 4A478
Washington, DC 20350

Chief of Naval Operations
Assistant, Personnel Logistics
Planning (Op-987H)
The Pentagon, 5D772
Washington, DC 20350

NAVMAT

Program Administrator for Manpower, Personnel, and Training MAT 0722 A. Rubenstein 800 N. Quincy Street Arlington, VA 22217

Naval Material Command
Management Training Center
NAVMAT 09M32
Jefferson Plaza, Bldg #2, Rm 150
1421 Jefferson Davis Highway
Arlington, VA 20360

Naval Material Command
NAVMAT-00K J.W. Tweeddale
Washington, DC 20360

Naval Material Command NAVMAT-OOKB Washington, DC 20360

Naval Material Command
(MAT-03)
Crystal Plaza #5 J.E. Colvard
Room 236
2211 Jefferson Davis Highway
Arlington, VA 20360

NPRDC

Commanding Officer Naval Personnel R&D Center San Diego, CA 92152

Navy Personnel R&D Center Washington Liaison Office Building 200, 2N Washington Navy Yard Washington, DC 20374 (3 Copies)

Naval Personnel R&D Center San Deigo, CA 92152 Dr. Robert Penn (1 copy) Ed Aiken (1 copy) P4-5/A9
Sequential by State/City

LIST 5
BUMED

LIST 6
NAVAL ACADEMY AND NAVAL POSTGRADUATE SCHO

Commanding Officer Naval Health Research Center San Diego, CA 92152

CDR William S. Maynard Psychology Department Naval Regional Medical Center San Diego, CA 92134

Naval Submarine Medical Research Laboratory Naval Submarine Base New London, Box 900 Groton, CT 06349

Director, Medical Service Corps Bureau of Medicine and Surgery Code 23 Department of the Navy Washington, DC 20372

Naval Aerospace Medical Research Lab Naval Air Station Pensacola, FL 32508

Program Manager for Ruman Performance (ccic.44) Naval Medical R&D Command National Naval Medical Center Bethesda, MD 20014

Navy Medical R&D Command ATTN: Code 44 National Naval Medical Center Bethesda, MD 20014 Naval Postgraduate School ATTN: Dr. Richard S. Elster - (code 012) Department of Administrative Sciences Monterey, CA 93940

Naval Postgraduate School ATTN: Professor John Senger Operations Research and Administrative Science Monterey, CA 93940

Superintendent Naval Postgraduate School Code 1424 Monterey, CA 93940

Naval Postgraduate School ATTN: Dr. James Arima Code 54-Aa Monterey, CA 93940

Naval Postgraduate School ATTN: Dr. Richard A. McGonigal Code 54 Monterey, CA 93940

U.S. Naval Academy ATTN: CDR J. M. McGrath Department of Leadership and Law Annapolis, MD 21402

Professor Carson K. Eoyang Naval Postgraduate School, Code 54EG Department of Administration Sciences Monterey, CA 93940

Superintendent ATTN: Director of Research Naval Academy, U.S. Annapolis, MD 21402 LIST 7 HRM List 7 (Continued)

Officer in Charge Human Resource Management Detachment Naval Air Station Alameda, CA 94591

Officer in Charge Human Resource Management Detachment Naval Submarine Base New London P.O. Box 81 Groton. CT 06340

Officer in Charge Human Resource Management Division Naval Air Station Mayport, FL 32228

Commanding Officer Human Resource Management Center Pearl Harbor, HI 96860

Commander in Chief Human Resource Management Division U.S. Pacific Fleet Pearl Harbor, HI 96860

Officer in Charge Human Resource Management Detachment Naval Base Charleston, SC 29408

Commanding Officer Human Resource Management School Naval Air Station Memphis Millington, TN 38054

Human Resource Management School Naval Air Station Memphis (96) Millington, TN 38054 Commanding Officer
Human Resource Management Center
1300 Wilson Boulevard
Arlington, VA 22209

Commanding Officer Human Resource Hanagement Center 5621-23 Tidewater Drive Norfolk, VA 23511

Commander in Chief Human Resource Management Division U.S. Atlantic Fleet Norfolk, VA 23511

Officer in Charge Human Resource Management Detachment Naval Air Station Whidbey Island Oak Harbor, WA 98278

Commanding Officer
Human Resource Management Center
Box 23
FPO New York 09510

Commander in Chief Human Resource Management Division U.S. Naval Force Europe FPO New York 09510

Officer in Charge Human Resource Management Detachment Box 60 FPO San Francisco 96651

Officer in Charge Human Resource Management Detachment COMNAVFORJAPAN FPO Seattle 98762

LIST 8 NAVY MISCELLANEOUS

Naval Military Personnel Command HRM Department (NMPC-6) Washington, DC 20350 (2 copies)

LIST 9 USMC

Naval Training Analysis and Evaluation Group Orlando, FL 32813

Commanding Officer ATTN: TIC, Bldg. 2068 Naval Training Equipment Center Orlando, FL 32813

Chief of Naval Education and Training (N-5) Director, Research Development, Test and Evaluation Naval Air Station Pensacola, FL 32508

Chief of Naval Technical Training ATTN: Dr. Norman Kerr, Code 017 NAS Memphis (75) Millington, TN 38054

Navy Recruiting Command Head, Research and Analysis Branch Code 434, Room 8001 801 North Randolph Street Arlington, VA 22203

Commanding Officer
USS Carl Vinson (CVN-70)
Newport News Shipbuilding &
Drydock Company
Newport News, VA 23607

Headquarters, U.S. Marine Corps Code MPI-20 Washington, DC 20380

Headquarters, U.S. Marine Corps ATTN: Dr. A. L. Slafkosky, Code RD-1 Washington, DC 20380

Education Advisor Education Center (E031) MCDEC Quantico, VA 22134

Commanding Officer Education Center (E031) MCDEC Quantico, VA 22134

Commanding Officer
U.S. Marine Corps
Command and Staff College
Quantico, VA 22134

LIST 13 AIR FORCE

LIST 12 ARMY

Air University Library/LSE 76-443 Maxwell AFB, AL 36112

COL John W. Williams, Jr. Head, Department of Behavioral Science and Leadership U.S. Air Force Academy, CO 80840

MAJ Robert Gregory
USAFA/DFBL
U.S. Air Force Academy, CO 80840

AFOSR/NL (Dr. Fregly) Building 410 Bolling AFB Washington, DC 20332

LTCOL Don L. Presar Department of the Air Force AF/MPXHM Pentagon Washington, DC 20330

Technical Director AFHRL/MO(T) Brooks AFB San Antonio, TX 78235

AFMPC/MPCYPR
Randolph AFB, TX 78150

Headquarters, FORSCOM ATTN: AFPR-HR Ft. McPherson, GA 30330

Army Research Institute
Field Unit - Leavenworth
P.O. Box 3122
Fort Leavenworth, KS 66027

Technical Director Army Research Institute 5001 Eisenhower Avenue Alexandria, VA 22333

Director Systems Research Laboratory 5001 Eisenhower Avenue Alexandria, VA 22333

Director Army Research Institute Training Research Laboratory 5001 Eisenhower Avenue Alexandria, VA 22333

Dr. T. O. Jacobs Code PERI-IM Army Research Institute 5001 Eisenhower Avenue Alexandria, VA 22333

COL Howard Prince
Head, Department of Behavior
Science and Leadership
U.S. Military Academy, New York 10996