Journal of Industrial Psychology, 2001, 27(2), 1-6
Tydskrif vir Bedryfsielkunde, 2001, 27(2), 1-6

DEVELOPMENT AND VALIDATION OF THE MULTIDIMENSIONAL ROLE CONFLICT QUESTIONNAIRE

CRAIG DONALD
Advanced Development Applications cc.

FIONA DONALD
Psychology Department
University of the Witwatersrand

ABSTRACT

Role conflict has typically been measured in a unidimensional manner despite its original development as a multidimensional construct and indications that evaluating a number of dimensions may be more useful in a research and diagnostic context. This study addressed the need for a multidimensional scale, the Role Conflict Questionnaire (RCQ) to address some of the limitations of a unitary measure. Dimension scales were based on Kahn, Wolfe, Quinn, Snoek and Rosenthal's (1964) original classification of role conflict types, including person-role, intersender, intrasender, interrole conflict and role overload. The questionnaire was validated on a sample of 252 managers with a factor analysis providing support for a multidimensional approach. Cronbach's Alpha for the person-role, intersender and intrasender scales indicated good internal consistency, with interrole and role overload scales showing lower reliability. Correlations between RCQ scales and the criterion of organisational commitment and job satisfaction provided support for the construct validity of the scale.

OPSOMMING

Ten spyte van die feit dat rolkonflik oorspronklik as 'n multidimensionele konstruk ontwikkel is sowel as verskeie aanbevelings dat die meting van verskillende dimensies meer bruikbaar is in beide navorsings- en diagnostiese verband, word dit steeds tipies eendimensioneel gemeet. Hierdie studie spreek die behoefte van 'n multidimensionele skaal aan. Die resultaat is die Rolkonflikvraelys (RKV) wat die beperkings van die enkelmeting aanspreek. Meerdimensionele skale is gebaseer op Kahn, Wolfe, Quinn, Snoek en Rosenthal (1964) se oorspronklike klassifikasie van rolkonfliktipes, insluitende persoon-rol, intersender-, intrasender- en interrolkonflik, sowel as roloorvloei. Die vraelys is op 'n steekproef van 252 bestuurders gevalideer. 'n Faktoranalise het bevestigende resultate vir 'n multidimensionele benadering gelewer. Cronbach se Alpha vir die persoon-rol, intersender- en intrasenderskale het goeie interne betroubaarhede getoon, terwyl die interrol- en roloorvloeiskale laer betroubaarhede getoon het. Korrelasies tussen die RKV-skale en die metings van organisatoriese toewyding en beroepstevredenheid verleen steun vir die bestaan van die instrument se konstruksies.

Role conflict and its measurement has been a centrepiece of psychological research, providing a basis to investigate stress (Newton & Keenan, 1987; Schaubroeck, Judge & Taylor, 1998), organisation dynamics (Floyd & Lane, 2000; Fried, Ben-David, Tiegs, Avital & Yeverechyahu, 1998; Jackson & Schuler, 1985; Tompson & Werner, 1997), work-family issues (Home, 1998; Mallard & Lance, 1998; Nair & Gaither, 1999), career-role issues (Randolph & Posner, 1981) and mental health (Abraham, 1998; Oster & Scannell, 1999). These have been complemented by a number of research summary reviews and meta-analytic studies on the area (Abramis, 1994; Jackson & Schuler, 1983; Tubre & Collins, 2000; Van Sell, Brief & Schuler, 1981). However, despite the widespread acceptance of Kahn, Wolfe, Quinn, Snoek and Rosenthal's (1964) definition of person-role, intersender, intrasender, interrole and role overload types of role conflict within much of this research, the construct has typically been measured in a unidimensional manner (Schuler, Aldag & Brief, 1977; Van Sell et al., 1981). In particular, Rizzo, House and Lirtzman's (1970) instrument that measures the types of role conflict as a composite role construct has been used in the vast majority of research studies (Boles & Babin, 1996; Jackson & Schuler, 1985; Netemeyer, Johnston & Burton, 1990; Tubre & Collins, 2000). The dominance of a single composite scale to conduct research into the multidimensional nature of role conflict has had profound implications for the nature of research into the concept. The primary issue is that using a generalised measure of role conflict may obscure the real nature of conflict that an individual experiences, something that has been recognised in calls for a multidimensional measure (Jackson & Schuler, 1985; McGee, Ferguson & Seers, 1989; Miles, 1976; Miles & Perreault, 1976; Newton & Keenan, 1987; Tracy and Johnson, 1983; Van Sell et al., 1981). Although two persons may experience the same degree of general role conflict, the specific sources and the types of conflict they experience may be quite different (Miles & Perreault, 1976; Van Sell et al., 1981). Consequently, these authors point out that the choice of coping strategies to effectively manage the level of role conflict should vary with its source and components. Similarly, in qualitative analysis Donald (1995) has found appreciable changes in the way the types of role conflict are experienced across stages in a retrenchment exercise. In an analysis of managers' coping styles during retrenchment Donald and Donald (1999) have commented that coping reactions can be influenced by how managers experience the role episode. Given these kinds of issues, Newton and Keenan (1987, p. 364) have pointed out that a research strategy which deliberately sets out to differentiate between varying forms of role stress may be of particular benefit to our understanding of the relationships between organisational, interpersonal and personal factors, and stress and strain.

The extensive use of the Rizzo et al. (1970) scale has promoted researchers to examine the properties of the scale as well as the characteristics of each item (Netemeyer et al., 1990). Research has generally been supportive of the psychometric qualities and its measurement of a unitary construct (Bedeian & Armenakis, 1982; Gonzalez-Roma & Lloret, 1998; House, Schuler & Levanoni, 1983; Kelloway & Barling, 1990; Schuler et al., 1977). However, other authors have identified some major concerns, including reactions to stress/comfort wording of items (Tracy & Johnson, 1983), support for factors being a result of wording differences (McGee et al., 1989), and exceeding of the thresholds of discriminant and convergent validity (Netemeyer et al., 1990). In wanting to look at a multidimensional measure of role conflict, Miles (1976) and Miles and Perreault (1976) have been among the few researchers who have separated items designated to measure the types of role conflict within the Rizzo et al. (1970) scale. However, their use of the different items in separate scales was not supported by any statistical confirmation that they were in fact measuring different constructs. In view of concerns over psychometric properties of the Rizzo et al. (1970) scale and the weight of evidence indicating its com-

Requests for reprints should be addressed to: F. Donald, Psychology Department, Private Bag 3, WITS, 2050

posite measurement of the role-conflict construct, Harris (1991) has indicated that researchers should be cautious in their selection of a role-conflict scale.

Given the research need for a multi-dimensional role-conflict instrument and the limitations for exploring the dynamics and processes associated with role conflict using the Rizzo et al. scale, this study aimed to develop and validate a new measure of role conflict. This instrument, the RCQ, was based on the established role-conflict dimensions of person-role conflict, intersender conflict, intrasender conflict, interrole conflict and role overload. Construct validity of the instrument was established using a number of methods including item analysis, establishing internal consistency, factor analysis and comparative correlational analysis. This multidimensional instrument was aimed at providing a basis for facilitating the kind of research strategy suggested by Newton and Keenan (1987) to enhance the understanding of the relationships between role-conflict dimensions and organisational, interpersonal and personal variables. Similarly, Harris (1991) notes that researchers should be encouraged to develop and use more specific sub-scales in future while McGee et al. (1989) comments that the development of new role measures is much needed to assist in clarifying work on role theory.

METHOD

Sample

The sample consisted of managers and supervisors drawn from a South African manufacturing organisation (N=252). The distribution of the sample according to Paterson (1972) grading was represented by E-band (15%), D-upper (23%), D-lower (41%), C-band (17%) with four percent not responding to this variable. The sample represented a broad cross-section of departments. Although the subjects' home language was typically English (63%), a broad range of other languages including Afrikaans (26%) and vernacular African languages (8%) were represented, with this information missing from three percent of questionnaires. Given that the language medium in the organisation is English and all candidates were drawn from management or supervisory level positions, the use of a questionnaire in English was seen as justified. The distribution according to gender showed a strong bias towards males (93%) versus females (6%) with 1% of the sample not indicating their gender. Age also showed a strong trend towards older people (M=41, SD=9,6), consistent with the high management levels covered in the sample.

Questionnaires were distributed to all managerial personnel within the organisation by human resource managers at the different sites. The sample was therefore not random but a full sampling of the available population. Participation in the survey was voluntary and to ensure that managers felt their answers were confidential, they were requested not to place their names on the questionnaire. The questionnaire was supplemented with requests for information on company practices to allow managers an opportunity to express their ideas and opinions. This was seen to encourage participation in completion of the survey. Questionnaires were distributed with a covering page and managers were requested to complete the questionnaire, enclose it in an envelope marked "Confidential", and return it directly to the researcher. The response rate in the study was calculated at 49% and was seen as satisfactory for this kind of study.

Measuring instruments

Role-conflict questionnaire

The role-conflict questionnaire (RCQ) was generated by drawing, and at times adapting items from existing measures, and developing items on the basis of available literature and the researcher's experience in the area (Amirkhan, 1990; Newton & Keenan, 1987; Tittle, 1982). Role-conflict measures from which items were drawn included those by Beehr, Walsh and Taber (1976), House, Schuler and Levanoni (1983), Kahn et al. (1964), Newton & Keenan (1987), and Rizzo et al. (1970). Items were drawn up specifically to measure the accepted role-conflict dimensions of person-role conflict, intersender conflict, intrasender conflict, interrole conflict, and role overload identified by Kahn et al. (1964). Scoring was on a Likert-type 15-point scale, using the responses "strongly agree", "agree", "not sure", "disagree", and "strongly disagree", respectively. Higher scores reflect higher levels of conflict. Given findings that the design of items can lead to respondents reacting to the stress/comfort wording in the scale (Tracy & Johnson, 1981), both positively and negatively scored items were included in the questionnaire. Items were also randomised throughout the questionnaire to avoid any response set according to the dimensions involved (Rahim, 1983).

The role ambiguity scale developed by Rizzo et al. (1970) was used to assess role ambiguity. Unlike the role-conflict scale developed by these authors, the role-ambiguity scale has been widely accepted and is seen to measure the construct satisfactorily (Brockner, Grover & Blonder, 1988; Harris, 1991; Jackson & Schuler, 1985; Netemeyer et al., 1990; Rizzo et al., 1970; Schuler et al., 1977).

Organisational commitment and job involvement

The construct validity of the role-conflict questionnaire (RCQ) developed in the present study was evaluated by examining its relationship with organisational commitment and job involvement. It is recognised that construct validity can be demonstrated through expected relationships to variables that have previously been associated with the construct being considered (Campbell & Fiske, 1959; Mowday et al., 1979). Although it is difficult to draw direct parallels between the specific role-conflict dimensions and evidence found in the use of composite role-conflict scales for previous studies, it could be expected that sub-scales would display similar trends in their relationships with associated variables.

Role conflict has frequently been linked to organisational commitment, while a far weaker relationship to job involvement has been demonstrated in previous research. Morris and Koch (1979) found significant correlations ranging from 0,27 to 0,41 between role conflict and organisational commitment in three samples, and only one significant correlation of 0,21 for job involvement in the three samples. In a meta-analysis of role conflict correlates, Fisher and Gitelson (1983) found six samples linking role conflict to organisational commitment ($r = -0,12$ to $0,41$) where the overall relationship was significant. They found seven samples attempting to relate role conflict to job involvement ($r = 0,0$ to $0,21$), but the overall relationship between was not significant. Further, Jackson and Schuler (1985), in a more extensive meta-analysis of correlates of role conflict found an average significant weighted correlation of 0,36 with organisational commitment (11 studies) and one of 0,26 with job involvement (10 studies). On the basis of these relationships, it was expected that the role-conflict dimensions in the present study would show a moderate correlation with organisational commitment and a zero to limited correlation with job involvement.

Organisational commitment was assessed through the self-report measure of the organisational commitment questionnaire (OCQ) (Mowday, Steers & Porter, 1979). These authors define organisational commitment as the relative strength of an individual's identification with, and involvement in an organisation. The instrument addresses an attitudinal commitment which is seen to reflect at least three related factors; first, a strong belief in and acceptance of the organisation's goals and values; second, a willingness to exert considerable effort on behalf of the organisation; and third, a strong desire to maintain membership in the organisation (Mowday et al., 1979). The OCQ has been one of the most widely used forms of assessment of organisational commitment and demonstrates an exceptionally strong relationship to its conceptual definition (Fisher & Gitelson, 1983; Morrow, 1983). The full 15-item version of the OCQ was used in the present study with a 5-point response scale and lower scores reflecting stronger organisational commitment. A coefficient alpha of 0,86 was

obtained for the OCQ in the present study, showing good internal consistency.

Job involvement is defined as the "degree to which a person is identified psychologically with his work, or the importance of work in his total self-image" (Lodahl & Kejner, 1965, p. 24). Lodahl and Kejner's (1965) construct of job involvement is among the best known, most frequently used, and oldest addressing work commitment (Morrow, 1983). In their meta-analysis of correlates with role stress, Fisher and Gitelson (1983) noted that the Lodahl and Kejner (1965) instrument was used in virtually all studies. The instrument has also been widely used in conjunction with the OCQ to provide an assessment which is both job-orientated and organisationally directed (Mowday et al., 1979). The 6-item version used in the present study has correlated satisfactorily with the full version of the questionnaire (Jones, James & Bruni, 1975; Lodahl & Kejner, 1965) and has been used more frequently in previous research (Cook et al., 1981). Reliability estimates ranging from 0,62 to 0,93 have been obtained in previous research and the questionnaire is seen to meet generally recognised reliability criteria (Morrow, 1983). The coefficient alpha for the job-involvement scale in the present study was 0,63. A 5-point response scale was used in the present study and this is consistent with the use of the instrument in other research (Cook et al., 1981; Jones, James, Bruni & Sells, 1977). Lower scores reflect strong job involvement.

RESULTS

Item and reliability analysis

Items were reviewed on an item by item basis and those seen as ambiguous or repetitive were dropped (Bluen & Donald, 1991; Rahim, 1983; Tittle, 1982). In addition, items were eliminated if more than 75% of the respondents responded identically to the item, as it was seen to fail to discriminate adequately. Items comprising the sub-scales of the instrument measuring specific role-conflict dimensions were assessed for internal consistency using Cronbach's alpha. Items that compromised the homogeneity of each sub-scale were eliminated (Bluen & Donald, 1991; White, 1982). Details of the characteristics of each scale, internal consistency coefficients, and descriptive statistics are given in Table 1.

TABLE 1
DESCRIPTIVE STATISTICS AND CRONBACH'S ALPHA FOR SPECIFIC RCQ SCALES

Scale	N of items	Alpha	Mean	SD	Minimum	Maximum
Person-role conflict	5	,77	2,66	,75	1,0	4,4
Intersender conflict	6	,78	2,93	,74	1,0	4,67
Intrasender conflict	4	,55	2,57	,71	1,0	4,75
Interrole conflict	3	,50	2,42	,72	1,0	4,67
Role overload	6	,80	2,98	,78	1,0	4,8

The alpha coefficients for three of the dimensions are satisfactory, but those of the intrasender and interrole scales are low. However, interpretation of these coefficients should be considered in the context of a number of points. A suitable criterion for instruments in early stages of development is seen to be 0,5 to 0,6, although for established scales it would typically be about 0,7 (Nunnally,1967; Schuler, Aldag & Brief, 1977). Further, Cortina (1993, p. 102) notes that the "number of items has a profound effect on alpha, especially at low levels of average item intercorrelation . . . it must be interpreted with the number of items in mind". The scale lengths of three and four items are likely to have influenced the low alpha level. Finally, although low reliability is seldom reported in the literature, coefficients of as low as 0,43 and 0,62 have been noted for instruments such as Rizzo et al.'s role-conflict scale (e.g., Rosenkrantz, Luthans & Hennessey, 1983) despite the general support for the reliability of the instrument. Therefore, although the internal consistency for these two scales may be somewhat problematical, their continued inclusion in the RCQ could be justified pending further research. Cortina (1993) further notes that use of alpha in situations where the number of items is an issue, should occur in conjunction with some form of construct validation to establish the meaning of the measure.

Factor analysis

In the organisational literature and commonly in role-based research, factor analysis is frequently used to assess whether instruments measure substantive constructs (Cortina, 1993; Drasgow & Miller, 1982). The present study used a principal components factor analysis with varimax rotation (Kline, 1994) to establish support for the proposed dimensions of person-role conflict, intersender conflict, intrasender conflict, interrole conflict and role overload.

The number of factors was identified using both a scree test (Kline, 1994) and the criterion that the factor should account for a variance greater than one (Norusis, 1988). Experimental evidence shows that the scree begins at the *k*th factor, where *k* is the true number of factors, while factors with a variance of less than 1 are seen to be no better than a single variable since each variable has a variance of 1 (Norusis, 1988). The scree test shown in Figure 1 was found to level after five factors and shows a distinct break between the large factors and the trailing off of the rest. The existence of the five factors demonstrated by this method was supported by all these factors possessing an eigenvalue of over 1. The five factors derived from the factor analysis provided support for the existence of the separate sub-scales of the RCQ and accounted for 53% of the variance. The factor loadings of the items within each sub-scale are given in Table 2. Items with a factor loading of 0,3 on any factor are reported and are sorted by dimension and strength of factor loading within dimension.

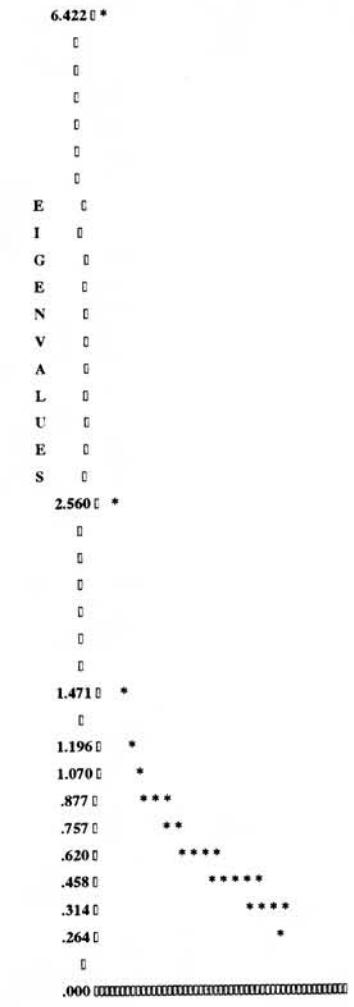

Figure 1: Scree test for RCQ

In the assessment of how items load on the five factors identified with the varimax rotation, person-role conflict and role overload appear to be particularly robust factors with only one item from these scales loading on another factor. Interrole conflict has one of the three items loading on another factor with a factor loading greater than that on the expected dimension, but still meets the 0,3 criterion. Because of this and the theoretical rationale for the inclusion of the item in the scale, it is retained as part of the interrole scale. The intersender scale, while possessing four items which load highly on the factor, has an item which meets the 0,3 criterion but loads higher on an alternative factor, as well as an item which fails to load appreciably on the factor (0,19). Despite the alternate loading of this latter item on person-role and intrasender factors, the item is clearly intersender in nature and is one of those specified as such in the Rizzo et al. (1970) scale. It has therefore been retained as part of the scale for practical and theoretical reasons. The intrasender conflict factor displays the poorest factor support. Although three of its items have a factor loading greater than 0,4, one expected item (also described as an intrasender item on the Rizzo et al. scale) fails to load appreciably (0,26). Further, an additional three items from other factors load appreciably on the intrasender factor. Support for this factor is limited, therefore, and although the intrasender conflict scale is retained for theoretical and practical reasons, it appears to need further development and refinement.

TABLE 2
VARIMAX-ROTATED FACTOR LOADINGS ON FIVE FACTORS OF RCQ

RCQ questions within dimensions	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Person-role conflict					
1. I have to do things at work which are against my better judgement.	**.79**				
2. I have to compromise my own views in doing this job.	**.71**				
3. I have to implement formal policies and guidelines I disagree with in my job.	**.67**				
4. I have to do things that should be done differently.	**.61**				
5. I am confronted with work demands I find difficult to accept.	**.53**				
Role overload					
6. I frequently have more work to do than I can handle during the time available at work.		**.79**			
7. I have difficulty in satisfying work demands of all the people I deal with because of time limitations.		**.76**			
8. I have to put some things off longer than I should.		**.69**			
9. I am not given enough time to do what is expected of me in my job.		**.65**			
10. The amount of work I do interferes with how well it gets done.		**.63**			
11. I often feel that I have caught up with my work and have everything under control.		**.53**		.38	
Intersender conflict					
12. I work with two or more groups of people who have quite different expectations of me.			**.74**		
13. I am subjected to conflicting demands from people with whom I deal at work.			**.71**		
14. I find myself in situations where different groups claim my allegiance.			**.65**		
15. I receive incompatible requests from two or more people.	.45		**.54**		
16. The people with whom I deal at work have similar ideas on what I should be doing.			**.30**	.62	
17. I do things that are apt to be accepted by one person but not by others.	.36		**.19**[a]	.43	
Intrasender Conflict					
				.56	
18. The expectations and behaviour of individual people with whom I have dealings with are consistent.				**.47**	
19. I don't get the authority to fulfil my work responsibilities.		.31		**.43**	
20. I receive an assignment without adequate resources and materials to execute it.	.44			**.26**[a]	
21. I have to buck rules or policies in order to carry out an assignment.					
Interrole Conflict					
22. I have no difficulties in reconciling my interests in the different areas of work and home life.					**.78**
23. I get caught between pressures of my work and those coming from other areas of my life.					**.66**
24. I have divided loyalties to different parties at work.				.48	**.34**

[a] Items with factor loadings below 0,3 included for theoretical reasons.

Comparative correlational analysis

Construct validity was evaluated by examining the relationships reflected by the correlations of role-conflict dimensions with job involvement and organisational commitment. The correlations between the RCQ sub-scales and these correlates is shown in Table 3.

TABLE 3
CORRELATIONS BETWEEN ROLE-CONFLICT SCALES AND RELATED VARIABLES

Scale	Organisational commitment	Job involvement
Person-role conflict	.41*** (246)[a]	01 (249)
Intersender conflict	.20** (242)	-.09 (244)
Interrole conflict	.25** (243)	.01 (448)
Intrasender conflict	.34*** (246)	.01 (249)
Role overload	.07 (242)	.03 (245)

[a] Number of cases is in brackets. *p<.05 ** p<.01 *** p<.001

Table 3 indicates that the RCQ sub-scales demonstrate expected and consistent significant relationships with organisational commitment with the exception of the role-overload dimension.

DISCUSSION

It appears that the development of the RCQ addressed the need for a multidimensional role conflict instrument (Jackson & Schuler, 1985; McGee et al., 1989; Miles, 1976; Miles & Perreault, 1976; Newton & Keenan, 1987; Tracy & Johnson, 1983; Van Sell et al., 1981). The validation strategy adopted in this research provided support for the psychometric adequacy of the RCQ, although the intrasender dimension appeared problematical. With the exception of the intrasender scale, the internal consistency of the various scales appears acceptable. The factor analysis supported the proposed separate theoretical dimensions of role conflict measured by the RCQ, suggesting that role conflict is not a unitary construct as measured by the Rizzo et al. (1970) instrument. The specific scales also demonstrated expected discriminant validity in their relationships with organisational commitment and job involvement (Fisher & Gitelson, 1993; Jackson & Schuler, 1985). The exception, role overload, failed to correlate significantly with organisational commitment. However, it has previously been shown to have different relationships with affective measures when compared to other types of role conflict (Miles & Perreault, 1976; Newton & Keenan, 1987). Further, it may be that those individuals who are particularly committed to the organisation are the ones who take on additional work which causes such overload. The ability of the role-conflict dimensions to demonstrate a different relationship to organisational commitment on one hand and job involvement on the other is consistent with previous studies (Fisher & Gitelson, 1983; Jackson & Schuler, 1985). In all cases but role overload, moderate relationships were recorded for organisational commitment but not for job involvement.

The procedures used suggest that the RCQ is a valid and useful instrument for establishing a multidimensional measure of role conflict. The potential for examining specific areas of role conflict is seen to greatly enhance the utility and diagnostic benefits of a role-conflict scale (Harris,1991; McGee et al., 1989). Use of the RCQ provides opportunities for enhancing the understanding of the relationships between role dynamics, role stress, and organisational, interpersonal and personal factors (Newton & Keenan, 1987).

A number of areas are recommended for further research into

the RCQ. First, the consistency of the instrument over time should be assessed using test-retest reliability analysis. This was not possible in the current study due to the confidential way in which the questionnaire was administered. Second, the applicability of the scale across different sample populations needs to be evaluated as part of further validation. This should include samples other than management personnel as in the current study. Third, the development of additional items for the interrole and intrasender conflict dimensions would give better representation of the dimensions and could address problems of internal consistency. Further development of the RCQ could enhance its robustness and could enable the broader usage of the scale in role-conflict research more generally.

REFERENCES

Abraham, R. (1998). Emotional dissonance in organizations: Antecedents, consequences and moderators. *Genetic, Social and General Psychology Monographs*, 124(2), 229-246.

Abramis, D.J. (1994). Work role ambiguity, job satisfaction and job performance: Meta-analyses and review. *Psychological Reports*, 75, 1411-1433.

Bedeian, A.G. & Armenakis, A.A. (1981). A path-analytic study of the consequences of role conflict and ambiguity. *Academy of Management Journal*, 24, 417-424.

Beehr, T.A., Walsh, J.T., & Taber, T.D. (1976). Relationship of stress to individually and organizationally valued states: Higher order needs as a moderator. *Journal of Applied Psychology*, 61, 41-47.

Bluen, S.D. & Donald, C.H.M. (1991). The nature and measurement of in-company industrial relations climate. *South African Journal of Psychology*, 21, 12-20.

Boles, J.S. & Babin, B.J. (1996). On the front lines: Stress, conflict, and the customer service provider. *Journal of Business Research*, 37(1), 41-50.

Brockner, J., Grover, S.L. & Blonder, M.D. (1988). Predictors of survivors' job involvement following layoffs: A field study. *Journal of Applied Psychology*, 73, 436-442.

Campbell, D.T. & Fiske, D.W. (1959). Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, 56, 81-105.

Cook, J.D., Hepworth, S.J., Wall, T.D. & Warr, P.B. (1981). *The experience of work*. London: Academic.

Cortina, J.M. (1993). What is coefficient alpha? An examination of theory and applications. *Journal of Applied Psychology*, 78, 98-104.

Donald, C.H.M. (1995). *The experience of managers responsible for retrenchment – the development of a dynamic process model and analysis of role stress*. Unpublished thesis for the degree of Doctor of Philosophy in Psychology/Industrial and organisational psychology, University of Cape Town, South Africa.

Donald, F.M. & Donald, C.H.M. (1999). *Coping responses of managers responsible for retrenchment*. Paper presented at the first International Psychology Congress in Africa, Durban, 22 July 1999.

Drasgow, F. & Miller, H.E. (1982). Psychometric and substantive issues in scale construction and validation. *Journal of Applied Psychology*, 67, 268-279.

Fisher, C.D. & Gitelson, R. (1983). A meta-analysis of the correlates of role conflict and ambiguity. *Journal of Applied Psychology*, 68, 320-333.

Floyd, S.W. & Lane, P.J. (2000). Strategizing throughout the organization-managing role conflict in strategic renewal. *Academy of Management Review*, 26(1), 154-177.

Fried, Y., Ben-David, H.A., Tiegs, R.B., Avital, N. & Yeverechyahu, U. (1998). The interactive effect of role conflict and role ambiguity on job performance. *Journal of Occupational and Organizational Psychology*, 71(1), 19-27.

Gonzalez-Roma, V. & Lloret, S. (1998). Construct validity of Rizzo et al.'s (1970) role conflict and ambiguity scales: A multisample study. *Applied Psychology: An International Review*, 47(4), 535-545.

Harris, M.M. (1991). Role conflict and role ambiguity as substance versus artifact: A confirmatory factor analysis of House, Schuler and Levanoni's (1983) scales. *Journal of Applied Psychology*, 76, 122-126.

Home, A.M. (1998). Predicting role conflict, overload, and contagion in adult women university students with families and jobs. *Adult Education Quarterly*, 48(2), 85-97.

House, R.J., Schuler, R.S. & Levanoni, E. (1983). Role conflict and ambiguity scales: Reality or artifacts? *Journal of Applied Psychology*, 68, 334-337.

Jackson, S.E. & Schuler, R.S. (1985). A meta-analysis and conceptual critique of research on role ambiguity and role conflict in work settings. *Organizational Behavior and Human Decision Processes*, 36, 16-78.

Jones, A.P., James, L.R. & Bruni, J.R. (1975). Perceived leadership behavior and employee confidence in the leader as moderated by job involvement. *Journal of Applied Psychology*, 60, 146-149.

Jones, A.P., James, L.R., Bruni, J.R. & Sells, S.B. (1977). Black-white differences in work environment perceptions and job satisfaction and its correlates. *Personnel Psychology*, 30, 5-16.

Kahn, R.L., Wolfe, D., Quinn, R., Snoek, D. & Rosenthal, R.A. (1964). *Organizational stress: Studies in role conflict and ambiguity*. New York: Wiley.

Kelloway, E.K. & Barling, J. (1990, Dec). Item content versus item wording: Disentangling role conflict and role ambiguity. *Journal of Applied Psychology*, 75(6), 738-742.

Kline, P. (1994). *An easy guide to factor analysis*. London: Routledge.

Lodahl, T.M. & Kejner, M. (1965). The definition and measurement of job involvement. *Journal of Applied Psychology*, 49, 24-33.

Mallard, A. & Lance, C.E. (1998). Development and evaluation of a parent-employee interrole-conflict scale. *Social Indicators Research*, 45(1-3), 343-370.

Morrow, P.C. (1983). Concept redundancy in organizational research: The case of work commitment. *Academy of Management Review*, 8, 486-500.

McGee, G.W., Ferguson, C.E. & Seers, A. (1989). Role conflict and role ambiguity: Do the scales measure these two constructs? *Journal of Applied Psychology*, 74, 815-818.

Miles, R.H. (1976). Role requirements as sources of organizational stress. *Journal of Applied Psychology*, 61, 172-179.

Miles, R.H. & Perreault, W.D. (1976). Organizational role conflict: Its antecedents and consequences. *Organizational Behavior and Human Performance*, 17, 19-44.

Morris, J.H. & Koch, J.L. (1979). Impacts of role perceptions on organizational commitment, job involvement, and psychosomatic illness among three vocational groupings. *Journal of Vocational Behavior*, 14, 88-101.

Mowday, R.T., Steers, R.M. & Porter, L. (1979). The measurement of organizational commitment. *Journal of Vocational Behavior*, 18, 224-247.

Nair, K.V. & Gaither, C.A. (1999). Effects of work, nonwork, and role conflict on the overall life satisfaction of pharmacy faculty. *American Journal of Pharmaceutical Education*, 63(1), 1-11.

Netemeyer, R.G., Johnston, M.W. & Burton, S. (1990). Analysis of role conflict and role ambiguity in a structural equations framework. *Journal of Applied Psychology*, 75, 48-157.

Newton, T.J. & Keenan, A. (1987). Role stress reexamined: An investigation of role stress predictors. *Organizational Behavior and Human Decision Processes*, 40, 346-368.

Norusis, M.J. (1988). *SPSS/PC+ advanced statistics*. Chicago: SPSS Inc.

Nunnally, J.C. (1967). *Psychometric theory*. New York: McGraw-Hill.

Oster, K.A. & Scannell, E.D. (1999). Change in role perception, role conflict, and psychological health of working mothers. *Psychological Reports*, 84(1), 221-230.

Rahim, M.A. (1983). Measurement of organizational conflict. *Journal of General Psychology*, 109, 189-199.

Randolph, W.A. & Posner, B.Z. (1981). Explaining role

conflict and role ambiguity via individual and interpersonal variables in different job categories. *Personnel Psychology,* 34, 89-103.

Rizzo, J.R., House, R.J. & Lirtzman, S.I. (1970). Role conflict and ambiguity in complex organizations. *Administrative Science Quarterly,* 15, 150-163.

Rosenkrantz, S.A., Luthans, F. & Hennessey, H.W. (1983). Role conflict and ambiguity scales: An evaluation of psychometric properties and the role of social desirability response bias. *Educational and Psychological Measurement,* 43, 957-970.

Schaubroeck, J., Judge, T.A. & Taylor, L.A. (1998). Influences on trait negative affect and situational similarity on correlation and convergence of work attitudes and job stress perceptions across two jobs. *Journal of Management,* 24 (4), 553-576.

Schuler, R.S., Aldag, R.J. & Brief, A.P. (1977). Role conflict and ambiguity: A scale analysis. *Organizational Behavior and Human Performance,* 20, 111-128.

Tittle, C.K. (1982). Use of judgmental methods in item bias studies. In R.A. Berk (Ed.), *Handbook of methods for detecting test bias.* Baltimore: Johns Hopkins University Press.

Tompson, H.B. & Werner, J.M. (1997). The impact of role conflict/facilitation on core and discretionary behaviors: Testing a mediated model. *Journal of Management,* 23(4), 583-601.

Tracy, L. & Johnson, T.W. (1981). What do the role conflict and role ambiguity scales measure? *Journal of Applied Psychology,* 66, 464-469.

Tracy, L. & Johnson, T.W. (1983). Measurement of role stress: Dimensionality of scale items. *Social Behavior and Personality,* 11, 1-7.

Tubre, T.C. & Collins, J.M. (2000). Jackson and Schuler (1985) revisited: A meta-analysis of the relationships between role ambiguity, role conflict, and job performance. *Journal of Management,* 26(1), 155-169.

Van Sell, M., Brief, A.P. & Schuler, R.S. (1981). Role conflict and ambiguity: Integration of the literature and directions for future research. *Human Relations,* 34, 43-71.

White, D.H. (1982). *The effects of job stress in the South African gold mining industry.* Unpublished doctoral dissertation, University of South Africa, Pretoria.