Copyright is owned by the Author of the thesis. Permission is given for a copy to be downloaded by an individual for the purpose of research and private study only. The thesis may not be reproduced elsewhere without the permission of the Author.

An Empirical Analysis of the Construct 'Role Conflict'

A thesis presented in partial fulfilment of the requirements
for the degree of

Master of Arts in Education

at Massey University

Wallace Malcolm Gill, B.Sc. B.A. Dip. Teach.

1971

Abstract

The construct of "role conflict" is given considerable space in contemporary sociological thinking, yet a review of the literature in the area would seem to suggest two things. Firstly, it is apparent that authors are using the construct in different ways, and hence giving the same term different meanings. Secondly, it is possible that greater explanatory and predictive power might be obtained from "conflict" measures beyond those traditionally used.

A conceptual framework is offered in which the relationships between different authors' measures can be seen, and from which additional approaches to the construct might be made. Use is then made of this framework to generate 162 different operationalizations of the construct using data from an unrelated study on teacher role. These measures are then tested for their relative utility against three criterion measures. Further, they are mathematically manipulated in order to obtain a compound operationalization with considerable explanatory power of the variance of one of the criterion measures.

The study is essentially a methodological argument, so that no substantive conclusions about role conflict in teachers are made.

Acknowledgements

I wish to express my gratitude to the following:
Firstly to Professor R.S.Adams and Mr. R.J.Bates for their generosity in making data unconditionally available to me for use in the present exercise.
Secondly to Professor C.G.N.Hill who has always been ready to give me his time, advice and guidance, and whose enthusiasm and optimism helped to change my aspirations from those ethological to those sociological.
Finally to my supervisor, Professor R.S.Adams who has also constantly and unstintingly given of his time and experience; and who has provided encouragement and succour through the difficult patches over the last eighteen months.

Table of Contents

	Page
Abstract	ii
Acknowledgements	iii
List of Tables	vii
List of Figures	ix
Chapter I	
Preliminaries	1
Setting and objective	4
Chapter II	
"Role conflict" - a review of the literature	6
Conditions and terminology	6
Bases for differentiation	10
Observer-actor	10
Number of positions	14
Legitimacy	15
Extent and outcomes	16
Conflict and personality characteristics	19
Conflict and "Job satisfactoriness"	21
Community-teacher conflict	22
Teachers and others	24
Community type	25
Other sources of teacher conflict	27
Parents and pupils	28
Administration	28
Teacher role	29
Training institutions	30
Areas of teacher conflict	31
Teacher-pupil relationships	33
Teachers' personal lives	34
Discussion	36
Chapter III	
Role conflict - its operationalization	37
The set of measures for generating discrepancies	37
Procedures for generating discrepancies	41
Direction	43
Chapter IV	
The generation of selected operationalizations	46
The Bates and Adams study	46
Generation of discrepancy scores	48

ER-ER discrepancies 48
Intra-personal 48
Inter-personnel 50
ER-IEO discrepancies 51
ER-IER discrepancies 53
Intra-personal 53
Inter-personnel 53
Further Total discrepancy scores 54
Discrepancies between discrepancies 56
ER-ER/IEO-IEO 56
ER-ER/IER-IER 57
Comment 57
Focal phenomena: the dependent variables 58
Procedure 59
Summary 60

Chapter V

Demonstration methodologies for the operationalizations 61
Pearson product moment correlation 61
Multiple regression analysis 62
Procedures 63
Product moment correlation 63
Multiple regression analysis 65
Sample 66

Chapter VI

Findings 68
Inter-relationships among the operationalizations 68
Role conflict and Job satisfaction 70
Inter-operationalization type differences 70
Intra-operationalization type differences 74
Role conflict and Likelihood of leaving 78
Role conflict and Likelihood of system breakdown 83
Operationalization utility 89
Equal correlation with the three criteria 89
High correlation 89
Low correlation 89
Differential correlation with the criteria 90
Specific correlation with one only criterion 90
Explanation of Job satisfaction variance 91
Multiple regression analysis 92
Probability level = 0.05 93

Probability level = 1.00 94
Comment 94
Age, years of service, and discrepancy scores 97
Chapter VII
Discussion 98
'Objective' and 'Subjective role conflict 98
The regression analysis 100
The three criteria 101
Translation 103
Bibliography 106

List of Tables

Table		Page
4.1	Intra-personal ER-ER discrepancy scores	49
4.2	Inter-personnel ER-ER discrepancy scores	51
4.3	ER-IEO discrepancy scores obtained from perceived conflict with parents	52
4.4	ER-IEO discrepancy scores obtained from perceived conflict with pupils	53
4.5	Intra-personal ER-IER discrepancy scores	54
4.6	Inter-personnel ER-IER discrepancy scores	54
4.7	Further Total discrepancy scores	55
4.8	ER-ER/IEO-IEO discrepancy scores	57
4.9	ER-ER/IER-IER discrepancy scores	57
6.1	Inter-correlations within discrepancy score types	69
6.2	Correlations with Job satisfaction by operationalizations of role conflict	71
6.3	Numbers of different types of discrepancy scores correlating significantly with Job satisfaction	71
6.4	Inter-correlations between intra-personal ER-ER scores	72
6.5	Inter-correlations between inter-personnel ER-ER scores	72
6.6	The range of correlations with Job satisfaction within each type of discrepancy score	75
6.7	The distribution of correlations with Job satisfaction within each type of discrepancy score	75
6.8	Correlations with Likelihood of leaving by operationalizations of role conflict	79
6.9	Numbers of different types of discrepancy scores correlating significantly with Likelihood of leaving	79
6.10	The range of correlations with Likelihood of leaving within each type of discrepancy score	80
6.11	The distribution of correlations with Likelihood of leaving within each type of discrepancy score	80
6.12	Correlations with the Third criterion by operationalizations of role conflict	84
6.13	Numbers of different types of discrepancy scores correlating significantly with the Third criterion	84
6.14	The range of correlations with the Third criterion within each type of discrepancy score	86

6.15	The distribution of correlations with the Third criterion within each type of discrepancy score	86
6.16	Equally high correlation with the three criteria	89
6.17	Equally low correlation with the three criteria	90
6.18	Differential correlation with the three criteria	90
6.19	Specific correlation within the three criteria	91
6.20	Input variables for regression equation	92
6.21	Regression equation given a probability level of .05	93
6.22	Regression equation given a probability level of 1.00	95
6.23	Order of acceptance of variables by the regression equation in relation to the size of correlation with Job satisfaction	96
7.1	Distributions of the three criterion measures	101

List of Figures

Fig.		Page
4.1	Teaching style matrix	47
4.2	Reference group matrices	47
6.1	The distribution of correlations with Job satisfaction within each type of discrepancy score	76
6.2	The distribution of correlations with job satisfaction within each type of discrepancy score	77
6.3	The distribution of correlations with Likelihood of leaving within each type of discrepancy score	81
6.4	The distribution of correlations with the first two criteria within each type of discrepancy score	82
6.5	The distribution of correlations with the Third criterion within each type of discrepancy score	87
6.6	The distribution of correlations with all three criteria within each type of discrepancy score	88

Preliminaries

> "When I use a word," Humpty Dumpty said, in a rather scornful tone, "it means just what I choose it to mean - neither more nor less."
> "The question is," said Alice, "whether you can make words mean so many different things."
> "The question is," said Humpty Dumpty, "which is to be the Master - that's all."

Words are labels. Of themselves they are meaningless. It is only through association with specific phenomena that meaning comes to be attributed to them. The choice of what word becomes associated with what meaning, is purely arbitrary. Words have no intrinsic property within which their meaning resides. When spoken, a word is an explosion of sound. When written, it is an assortment of shapes. In order that man might communicate more extensively than apparently did his evolutionary ancestors, he has given particular sounds and particular shapes particular meaning associations. As a result, if one man wishes to give another some meaningful message, he attempts to make use of those words which have the appropriate associations, thus effecting the desired message transfer. As long as both parties to a communication associate the same meanings with given words, effective communication between the two results. It is only when a word has different associations for different people that communication problems arise.

It is convenient to classify words as concrete or abstract on the basis of the tangible nature of the phenomenon they label. Because it is also convenient in day to day living to accept concrete phenomena as "real", there is a corresponding tendency to accept abstract phenomena as "real" too. But it is to be noted that abstract words like "height", "weight" and "colour", by definition, and by fact, have no tangible realization. Without a tangible reference, the problem of label verification looms large. For example, what does "blue" mean to a blind man? Again, as Piaget has shown, children's appreciation of (operationalized) "conservation" varies with age.

To distinguish between the mental processes involved in dealing with concrete and abstract phenomena, a distinction

may be made between concepts and constructs. Concepts may be taken as mental images which are formed as a result of conscious perceptions. Concepts reflect what a person experiences of his impinging reality. On the other hand, constructs are devised by individuals in order to explain certain aspects of reality - to themselves, and/or to others. Thus, they are useful to the degree to which they do explain what they were set up to explain. But their use, and usefulness, does not necessarily mean that they mirror something that is "real". Constructs are simply one or more words which are defined in such a way that they can be used as explanatory tools.

However, constructs are devised to do a job, and thus they frequently play important parts in those empirical investigations that are designed to describe and explain certain aspects of "the real world out there". Necessarily this requires operationalization; and it is only through operationalization that constructs (and concepts for that matter, when used in the same way) make contact with the "reality" of the investigation. For example, a social scientist theorizing that "intelligence" acts in a certain way in a particular situation, may wish to test it. His study design then, must necessarily include "intelligence" in an operational form - conventionally as "the score obtained on test X". It is apparent that here the operationalization comes to stand in lieu of the earlier non specific abstract concept. "Intelligence" is now in fact, "the score obtained on test X". In other words, when a theoretical construct is operationalized, it is redefined as its operationalization. As Meehan (1968) succinctly puts it: "A variable is what it is operationalized as."

The reverse process is, of course, also true. Hence, when a study shows that an operationalized construct is useful for some given purpose, it shows this and this alone. It does not show that abstractions or constructs obtained from the operationalization are necessarily also useful.

Both concepts and constructs are used for description and/or explanation in all the sciences. They thus become absorbed into the terminology of the host science. However, it is well to bear in mind that the acceptance of a term by a science only indicates apparent utility at the time of acceptance. It offers no guarantee of permanence of acceptance. In all

sciences, terms that have been used at one time or another, ostensibly to describe the events of nature, have later been discarded as poor or erroneous. That a term or operationalization of long standing is necessarily accurate or scientifically useful can never be guaranteed.

There are two characteristics of scientific terms that can be used as criteria for their value. One of these is reliability - the degree to which the same event, observed by many different scientists, could be described in the same way by all of them. The other is its utility for a given purpose. If "intelligence" reliably predicts scholastic success, then it is useful for this purpose. But if it does not predict job satisfaction with the same sort of power, then manifestly it is not useful for that purpose.

The nature of constructs is very akin to that of models. A model is a simulative substitute for experienced reality, and like a construct, is fabricated for some particular explanatory purpose. A model may be physical, graphical, mathematical, or linguistic - in the latter case, being composed of one or more words, concepts, and/or constructs. Thus, a small tin might be a physical model of a large tank, a map a graphical model of actual terrain, $E=mc^2$ a mathematical model of what happens in a nuclear reactor, and Guilford's (1966) "Three faces of intellect" a linguistic model of intelligence.

A model serves to account for what otherwise cannot be explained. Thus, a given individual may formulate an explanatory model incorporating the activities of hobgoblins, gremlins, and assorted elves in order to account for some natural phenomenon; and such a model might well prove to be extremely useful for that purpose, for that person. However, it is conceivable that another person may find that particular model unsatisfying, in spite of his being able to use it with the same reliability as its original designer. This of course is his prerogative. Nonetheless, it would be well for him to be aware that in such a case, by the very nature of models, he has rejected this one for personal reasons only, and not because it fails to satisfy the criteria suggested earlier of reliability and utility.

It stands to reason that a single phenomenon may be able to be explained by the use of several different models. For example, in the physical sciences there are three different

models which are used to explain the properties of light. They assert respectively, that light can be usefully explained by considering it as consisting of tiny particles which perform somewhat like billiard balls on a table, or by depicting it as having the properties of waves in motion, or by taking it as being composed of tiny "parcels" of energy - quanta - which essentially combine the properties of both particles and waves in motion. In this case, though any one of the models is self sufficient, the one which best explains a particular property is generally used, so that a comprehensive and clear explanation of all that light is and does may well require the use of all three models.

In short, the point that is being made is that constructs and models are fabrications whose use is explanation and prediction, and whose existence and utility are not necessarily indicative of the "reality" of the events they explain. Further, it would seem that if the greatest possible explanatory power of some particular phenomenon is to be obtained, then possibly multiple concepts, constructs or models may need be used, or multiple operationalizations of a single concept or construct utilized.

Setting and Objective

The essential concern of this thesis is a single construct - "role conflict". The construct is seminal in social science, featuring prominently in social psychology, sociology, and education. Its very popularity has ensured a diversity of uses with the result that its meanings have multiplied. For this reason, there would seem to be advantage in subjecting its many faces to stringent scrutiny. As will be seen later in the review of the literature, much research has concentrated on identifying role conflict within a specified "role set" (Merton, 1957), and then discerning differences between high and low conflict populations. However, the present study does not continue in this tradition. Rather, the principal concern is to specify a range and variety of ways in which role conflict can be operationalized, and then examine some of their respective predictive capacities. To do this, role conflict generated in various forms by a sample of 100 teachers is used to predict to

three focal criteria: "job satisfaction", "likelihood of leaving the profession", and the sum of these two measures. The exercise is entirely a methodological one which permits of no substantive conclusions about the relationship between "job satisfaction" and "role conflict" in any other population. To put it another way, the principal purpose of the thesis is to examine the extent to which a considerable number of logically possible ways of operationalizing role conflict can be shown to predict to three relatively arbitrarily selected criterion measures. Thus it is beside the point whether the measure of job satisfaction in fact measures the actual satisfaction these teachers experience in their job, or what either of the other two variables really signify. The intention is simply to suggest that the construct role conflict may be "constructed" in many different ways, and that these different operationalizations relate to criterion measures (and to each other) differentially. The basic propositions of the thesis are (i) that role conflict can be operationalized multitudinously, and that (ii) which of the operationalizations proves to have the most predictive power will depend on what is being predicted to, and the nature of the population under study. While role conflict of "type A" may give very good prediction of phenomenon "X" in population "M", and "type B" very poor prediction in the same population; it could well be that the comparative utility of the two "types" may be reversed when phenomenon "Y" or population "N" is considered. Further, it is suggested that mathematical manipulations can be performed on the different operationalizations, and that the utility of the manipulations can be determined only by an examination of what they "do" for the predictive power of the construct. Perhaps in this way, the range of purposes for which the construct might be used can be enlarged, and the power with which it applies to any specific purpose can be increased.

"Role Conflict" - a Review of the Literature

Conditions and Terminology

A person occupying a particular status (teacher, wife, foreman, son, etc.) is subjected to demands and expectations that he should behave in certain ways. Such demands and expectations can be seen as coming both from within the person himself - their sources being his ideal self image and his conception of his role - and from without, from the various members of his role set.

A distinction is made on the operatic stage between a chorus and an ensemble. Members of a chorus are undifferentiated; they see the central character with a single pair of eyes, and praise or denounce him with a single voice. The characters in an ensemble, although often as numerous as those in a chorus, constitute a more differentiated group, each with his particular role relationship to the central character. The demands made by each on the central character are peculiarly coloured by the inter-personal history of the pair.

Of these two models, the chorus is more convenient but the ensemble more appropriate to the study of role conflict. This is because, commonly a person's role senders - each also the occupant of some particular status, each subjected to a unique set of role expectations, and each bearing a unique relationship to the focal person - differ among themselves as to what they expect of the focal person. The picture is complicated still further because every "sent" expectation or demand is communicated to the person concerned through his perceptual mechanisms. It is consequently "received" by him in terms of his past history, his present disposition, the nature of his relationship with his communicator, and many other factors. Hence, his perceptions of the demands and expectations of the members of his role set may or may not be faithful replicas of what was originally sent. Furthermore, neither his ideal image, nor the expectations of others may match his actual role performance.

Any discrepancy or incompatibility between role demands, role perceptions, role conception and role performance

is taken to be the role conflict attributable to the person displaying the discrepancy or incompatibility. Elaboration of and support for this follow.

Two main situations from which the construct may be educed are identifiable in the literature. In "multiple role conflict" (Krech et al., 1962) a conflict of expectations is seen to be due to an individual's holding a position in each of two or more different social systems. This has been variously called "role incompatibility" (Simmel, 1955), "intra-personal role conflict" (Thibaut and Kelley, 1961), and "inter-role conflict" (Gross et al., 1964; Kahn et al., 1964). The classic example here is the conflict between a man's roles at work and at home. There may also be incompatibility between a man's work role and his trade union role, his religious affiliations and his social activities, and so on.

In "single role conflict" (Pugh, 1966), there is a conflict of expectations concerning a single position due to the differing expectations of members of the social system with whom the individual interacts, ie., due to differences between the members of his role set. This has been called "interpersonal role conflict" (Thibaut and Kelley, 1961), "role incompatibility" (Krech et al., 1962), (with little respect for Simmel's prior and different usage), "role confusion" (Hare, 1962), "intra-role conflict" (Gross et al., 1964), and "inter-sender conflict" (Kahn et al., 1964). Standard examples here are the studies of the conflicting expectations held by management and workers for the foreman as "the man in the middle". Similar studies of conflicting expectations of School Boards and teachers on School Superintendents (Seeman, 1953), and of bureaucratic and professional expectations of scientists in research organizations (Brown, 1953), may be noted.

Further types of role conflict are "intra-sender conflict" (Kahn et al., 1964), in which different prescriptions and proscriptions from a single member of the role set may be incompatible; and "person-role conflict" (Kahn et al., 1964), which may arise through conflict existing between the needs and values of a person, and the demands of his role set. This can occur if role requirements violate moral values, or if a person's needs and aspirations may lead to behaviours which are unacceptable to members of his role set.

> "If the institutional demands are contradictory to, or irrelevant to, the demands of personality, then the individual is presented with a conflict and is strongly driven to act in ways which will be personally fulfilling, to the detriment of organizationally useful behaviour." (Guba and Bidwell, 1957, p.8).

According to Charters (1963), a quasi-emprical corollary of this proposition holds that institutional demands can never be congruent with the needs of all members of a social system because of the uniqueness of individual personality structures. In any real situation

> "the attempts to structure expectations congruent with the needs of one role incumbent will produce results at least partially unsuitable for another incumbent." (Guba and Bidwell, 1957, p.9).

Hence, when expectations and needs are not congruent, the individual must choose between meeting the institutional demands and foregoing his personality demands ("effective behaviour"), or satisfying his personal needs at the peril of bringing institutional sanctions to bear upon him ("efficient behaviour"), or fashioning some working combination of the two (Charters, 1963).

It would appear from the literature that role conflict is exacerbated where the social system is a formal organization, as in Grusky's (1958) study of the conflict between treatment and custodial expectations among prison camp officials. However, it is useful here to make a further distinction between another two types of role conflict. In the first of these, the legitimacy of some of the incompatible expectations is called into question. The content of the particular role comes under debate, and the issue revolves around what should in principle be included and what should be left out. This is called "role-legitimation conflict" (Pugh, 1966). In the second type of conflict all expectations are perceived as legitimate obligations, but their relevancies and priorities in a particular situation are challenged. The conflict is over which expectations should be activated, and in what way, in relation to the particular problem situation. Pugh (1966) called this "role-activation conflict". In this form of conflict, a common resolution involves the simultaneous activation of multiple expectations - a resolution not available in "role-legitimation conflict".

Seeman (1953) described such a situation where role conflict was characterized by agreement within the criterion

group, but on behaviours that were mutually difficult to achieve. He pointed out that teachers required of school superintendents both that they should be non-separatist and that they should obtain salary increases. However, there was also objective evidence which linked such separatism, that is, lack of informal interaction, and amount of salary increases obtained for the teaching staff ($r = .40$). There was clearly role conflict here, but, as Seeman acknowledged, some superintendents did succeed in achieving both salary increases and low separatism. That is, a simultaneous activation is a possible resolution in such a situation.

This situation, however, would appear to be quite different from that documented by Grusky (1958). He reported in his study of role conflict among prison warders, that each side challenged the legitimacy of the other, and received its own legitimation from conflicting superordinate authorities. Grusky described how the succession of a "custodially-oriented" chief official altered the balance of power between the conflicting expectations, and thus exacerbated the role conflict of those warders who were "treatment-oriented", and who drew their legitimation from the appropriate source. This is typical of a "role-legitimation conflict", which is characteristically a win-or-lose situation.

The above illustrations are examples of "single role conflict". But "role-activation conflict" can also be distinguished in "multiple role conflict". Most wives do not question the legitimacy of a husband's being vocationally successful, in the way that they question the legitimacy of his taking a mistress. What they do question from time to time, are relevance and priority of values; for example, the value at six o'clock in the evening, of a lecturer discussing role theory with his students, as against a father taking his evening meal with the family. This is "role-activation conflict", and a resolution can be in terms of simultaneous activation of multiple expectations, for instance, by inviting the students home!

Gross et al. (1964) in their classic analysis of the school superintendency role, laid out a framework within which authors making use of the role conflict construct could be classified according to the way in which they used the term.

Because their viewpoint provides a systematic and comprehensive basis for categorizing the uses made of the construct, the next section of the review is based largely upon their framework.

Bases for differentiation

In distinguishing between the authors concerned with role conflict, three bases of differentiation suggest themselves. The first differentiates between those who define role conflict according to incompatible expectations perceived by the observer, and those who define role conflict according to incompatible expectations perceived by the actor. The second differentiates between those who, in defining role conflict, specify that the actor must occupy two or more social positions simultaneously in order to be exposed to role conflict, and those who do not make this specification. The third differentiates in a somewhat similar fashion between those who make a specification and those who fail to do so - in this case, the specification is that an expectation must be legitimate for it to be involved in role conflict. Each of these will be taken in turn and examined in greater detail.

Observer-actor

Those who use role conflict to refer to contradictions perceived by an observer use it to include any contradiction to which an actor appears to be exposed. There is no implication that he is necessarily aware of or perceives incompatibilities in the expectations for his behaviour. For example, Jacobson, Charters, and Lieberman (1951) defined role conflict as: "....the situation in which there are differences between criterion groups with respect to social role." They said that their conception denoted only "cultural discrepancies" as ascertained by the investigator.

A similar conception was used by Seeman (1953) who defined role conflict as "....the exposure of the individual in a given position to incompatible behavioural expectations." Seeman actually emphasised the observer's position by continuing

> "the term 'role conflict' may be somewhat misleading, carrying implications of necessary personal conflict. This refers, however, only to situations in which the observer notes what appear to be conflicting sets of expectations, -

i.e., to potential sources of difficulty for the actor."

Other social scientists mean by role conflict situations in which the actor perceives incompatible expectations. For example, Parsons (1951) defined role conflict as

> ".....the exposure of the actor to conflicting sets of legitimized role expectations such that complete fulfillment of both is realistically impossible."

Furthermore, he continued:

> "It is necessary to compromise, that is, to sacrifice some at least of both sets of expectations, or to choose one alternative and sacrifice the other. In any case the actor is exposed to negative sanctions and, as far as both sets of values are internalized, to internal conflict."

It is clear, according to Parsons, that the actor must decide on a course of action as a consequence of perceiving his exposure to contradictory expectations. If there were no perception of the incompatible expectations there would be no need to choose among "alternatives".

A similar conception is implicit in the work of Stouffer (for example, 1949). Like Parsons he was concerned with situations in which the actor had to choose between a limited set of incompatible alternatives and in which the actor thought incompatible expectations for his behaviour were involved. According to Stouffer, if the actor was unaware of any incompatibility, the situation did not require a decision as far as he was concerned. For example, the foreman and non-commissioned officer, located between incompatible expectations emanating from their superordinates and subordinates, may or may not be aware of the incompatibilities.

The observer-actor differentiation was highlighted by Kraut (1966) who used both forms of the construct in a single study, and made comparisons between the two. He defined "objective conflict" as the discrepancy between a salesman's expectations for himself and the expectations his manager held for him; and "subjective conflict" as the discrepancy between the salesman's expectations and those he thought his manager held for him. Kraut further examined the concept of "distortion" which was based on the difference between the manager's expectations, and those his salesman believed he held. The study predicted, and the results confirmed, that "subjective conflict" was positively, but weakly (r=.28), related to "objective conflict", and that the level of "distortion" was as high as the

levels of "conflict". In cases of "low distortion" however, the level of "objective conflict" correlated highly with the level of "subjective conflict" (r=.64), but there was no relationship in cases of "high distortion". Interestingly, Kraut's salesmen reported less conflict than was indicated by the objective measure.

An important finding of Kraut's study was that the adverse effects of conflict were magnified when the measure of conflict was subjective - rather than objective - even if "distortion" were present. Further, when the conflict was subjective, social dispersion and personal flexibility did not soften its impact on the subject. From this, the author concluded that a person's subjective picture of the world was the "real world" to him, and was the one to which he reacted. Contrary to expectations, the study found that the degree of "distortion" was hardly related to variations in social structure, personality flexibility, or the reported communication of role expectations. This latter finding was consistent with Kline's (1949) observation that sources of annoyance seemed to arise more out of what teachers thought was expected of them than what was actually wanted. In this context, Twyman and Biddle (1963) concluded that it was possible "that teachers do not adequately 'perceive' conflicting disparities." For example, they suggested the twin possibilities that deviant teachers receiving the spleen of offended school officials, parents, or other teachers may not have understood the cause for annoyance, and that some teachers may have attributed conflicting norms or expectations where no such conflict existed. Campbell arrived at a similar conclusion. In 1954 he reported:

> "A strong possibility exists that teachers do not know or understand what is expected of them in their extra-school conduct, or that they interpret community expectations differently."

Such conclusions have led many workers in the area of role conflict to be more concerned with the focal person's perception of reality than with the perceptions of others - including themselves. The implied principle is that if an actor does not perceive a sent behaviour, then he cannot experience any direct outcome of that behaviour - including any conflict dependent upon it. On the other hand, if he does perceive something - whether it be real or not - then to him it is real.

Notable among the studies that have taken this line are those of Musgrove (1965, 1967), Taylor (1965, 1968), and Biddle with his associated workers.

If an investigator defines role conflict as a subjectively experienced incompatibility in expectations rather than an objectively demonstrated incompatibility, then he needs to take data only from the status occupant himself and need not measure the expectations held by other individuals or groups. The investigator may make no comparisons of responses at all, relying instead upon the report of his subjects that they are or are not exposed to conflicting demands of particular kinds (Getzels and Guba, 1955). On the other hand, he may elicit from subjects the expectations they attribute to each of two or more parties and, by comparing these responses, identify instances of conflict. Gross, Mason, and McEarchen (1964), for example, required school superintendents to indicate which of two contradictory expectations they attributed to each of a variety of groups and individuals in their communities. Wherever a superintendent reported an expectation of one group to be different from (and hence, incompatible with) an expectation of another group, it was inferred that he experienced role conflict. That he did in fact perceive it as conflict was confirmed by the interviewer in follow-up questioning.

It appears that shared inaccurate perceptions of one group's norms by another group is a widespread phenomenon. Notable among those who have discussed it are Biddle et al. (1966). They found, in fact, that such shared inaccuracies were more likely, and were more inaccurate with increased social distance between sunject and object positions. Thus, in their study of the role of the teacher, these authors found not a single significant case in which parents attributed inaccurate norms to "people in general", nor school officials to themselves; and there was but one case where teachers were mistaken about teacher norms. In contrast, pupils and parents were often in error about teacher and school official norms, as were school officials about the norms of "people in general". Such a result was in accord with another from Wheeler (1961) who found that inmates and prison officials both inaccurately judged norms held by the other group for themselves - interestingly, both tending to exaggerate normative disparities.

However, in a different study, Biddle et al. (1962) found that within their group of subjects, "own" expectancies and "attributed" expectancies for other salient groups were not independent. That is, though attributed role elements were differentiated for other reference groups, in some way they reflected the subject's own expectations. Thus, if role conflict is to be defined in terms of any discrepancy between "own" and "perceived" expectancies, then such conflict scores will in fact be the minimum permitted by the subject; i.e., conflict measured in this way, if anything, underestimates any actual conflict.

Number of positions

In some formulations of role conflict it is specified that the actor must occupy simultaneously two or more positions. Others ignore this specification and simply require that an actor be exposed to incompatible expectations, whether deriving from an actor's occupancy of a single position or of multiple positions. For example, Sarbin (1954) said:

> "role conflicts occur when a person occupies two or more positions simultaneously and when the role expectations of one are incompatible with the role expectations of the other."

Similarly, Stouffer (1949) was concerned with situations in which a person "....has simultaneous roles in two or more groups such that simultaneous conformity to the norms of each of the groups is incompatible...." The role conflict analysis of Getzels and Guba (1954) of incompatible expectations to which air force instructors were exposed and Burchard's (1954) analysis of role conflicts of military chaplains were based on the assumption that the individuals studied simultaneously occupied multiple positions. In the military study, the subjects were confronted with dilemmas stemming from their roles as instructors and as officers. In the chaplain study,

> "Questions were designed to bring the respondent face to face with the proposition that the role of military officer conflicts with that of minister of the gospel...."

In contrast to these multiple position formulations, other conceptions do not place this restriction on role conflict. Parsons' definition cited earlier ignores the source of the "conflicting sets of legitimized role expectations." This allows the inclusion of situations in which an actor may be exposed to

incompatible expectations as a consequence of his occupancy of a single position. A teacher, for example, may be involved in a conflict which is due to his perception that his principal and students hold contradictory expectations for his behaviour. The source of the conflict arises from their contradictory expectations.

This wider conception is illustrated as well in Seeman's formulation of role conflict quoted earlier. ("The exposure of the individual in a given position to incompatible behavioural expectations.") His empirical analysis was concerned with the variability in expectations held by a criterion group or groups for the behaviour of the incumbents of a single position, the school administrator.

Legitimacy

Some authors in defining role conflict specify that the incompatible expectations be "legitimate", whereas others do not. Parsons restricted the concept of role conflict to an actor's exposure "to conflicting sets of legitimized role expectations...." He viewed "legitimate" expectations as

> "institutionalized role expectations .... The fact that both sides of the conflicting expectations are institutionalized means that there is the basis for a claim to legitimacy for both patterns."

Getzels and Guba (1954) apparently took a similar position. By "legitimacy" they meant "mutual acceptance" by ego and alter of expectations in a given situation. Stouffer in his several role conflict enquiries (1949, and Stouffer and Toby, 1951), was concerned with "role obligations", and in one of them specifically with the universalistic and particularistic institutionalized obligations. In contrast to these formulations of role conflict, those given earlier of Sarbin, Seeman, and Jacobson and his collaborators do not require that the incompatible expectations be legitimate.

Legitimacy, like exposure to incompatible expectations, may be viewed from the standpoint of the outside observer or of the actor who participates in social behaviour. For a theoretical scheme, the purpose of which is to provide a basis for the prediction of some outcome of role conflict, it is possible that the actor's perceptions of the legitimacy of the expectations may be more relevant than the perceptions of the outside

observer. Although Stouffer dealt with it explicitly, analysts of role conflict situations have generally neglected the actor's perceptions of the legitimacy of expectations. Perhaps this could partly account for Borgatta's finding that the expected role conflict of the non-commissioned officer was in actuality not a frequent occurrence. It is possible that the perceived legitimacy of expectations is a crucial dimension for the explanation of an actor's behaviour in the face of incompatible expectations.

Extent and Outcomes

Kahn et al. (1964) found that role conflict was one of the major causes of low morale in any organization; and it has been shown (Gross et al., 1964) to predict career dissatisfaction, job inefficiency, and in extreme cases to individuals abandoning their careers. Following Stouffer and Toby's (1951) pioneering investigation in the area of role conflict, empirical studies have been conducted in the armed services, (Borgatta, 1955; Burchard, 1954; Getzels and Guba, 1954; Hilmar, 1960) general hospitals, (Buerkle, 1959) mental hospitals, (Cates, 1966; Stanton and Schwartz, 1954) with labour and business leaders, (Gullahorn, 1956; Shull and Miller, 1960) and schools (Gross et al., 1958; Biddle, Rosencranz, and Rankin, 1961; Doyle, 1958; Finlayson and Cohen, 1967; Fishburn, 1962; Getzels and Guba, 1954; Getzels and Guba, 1955a, 1955b; Musgrove and Taylor, 1965; Twyman and Biddle, 1963; etc, etc, etc.). Role conflicts have in fact been "discovered" throughout professions and other occupations, in industry, and organizations in general.

Typical of these studies is that of Musgrove (1967) who found that approximately one third of secondary modern teachers, and one quarter of grammar school teachers appeared to "experience severe conflict". His results also showed that the degree of conflict did not vary with age, and nor was there any difference between teachers in single-sex and mixed schools. Taylor (1968) reinforced this with his study of the extent of role conflict in preparatory schools. He reported that approximately one third of all teachers in both infant and junior schools were in "high conflict", and further that the level of conflict appeared to be unrelated to age, sex, length of service,

marital status (women only), or age of pupils taught.

A person cannot be indifferent to how others perceive him when he must interact with them in order to attain his goals, for it is only in the reasonably predictable environment, interpersonal or otherwise, that goal achievement becomes possible. To maximize the predictability of the environment, not only must he strive for accuracy in discerning how others view him and the situation, but he must be willing to conform to some degree to the expectations that others have of him.

Bidwell (1955) argued that the normal procedure when a person did not behave in conformity with expectations, was for other persons to apply negative sanctions. However, in the superior-subordinate relationship characteristic of schools, it is not entirely safe for the subordinate, the teacher, to attempt to exercise sanctions against his superior.

> "The teacher thus finds himself in a situation in which he has no basis for a coherent system of action and loses his orientation toward his administrators. He finds himself frustrated in his attempts to apply sanctions to remedy the tension-producing situation, heightening the degree of tension." (Bidwell, 1955, p.42)

Bidwell predicted, then, that teacher job satisfaction (an indicator of tension) would vary directly with the degree to which administrator behaviour was perceived by the teacher to accord with the teacher's expectations for the administrator.

A number of investigators have attempted to test this proposition or some variant of it in the educational setting (eg., Bernstein, 1959; Bidwell, 1955, 1957; Campbell, 1958; Ferneau, 1954; Guba and Bidwell, 1957; Hoyer, 1954). These investigators found consistently that subjects who reported agreement in expectations also reported relatively high levels of satisfaction. However, it should be noted that since most of the studies were correlational, the finding can be turned around to say that subjects who reported high levels of satisfaction were inclined to perceive agreement in role expectations. As the reversal of the finding suggests, the direction of causality is equivocal. Be this as it may, the findings of Kahn et al. (1964) are worthy of close attention. These authors maintained that role conflicts generally have the following effects on the emotional experience of the focal person: intensified internal conflicts, increased tension associated with various aspects of

the job, reduced satisfaction with the job and its various components, and decreased confidence in superiors and in the organization as a whole. Further, they found that the strain experienced by those in conflict situations led to various "coping responses" - social and psychological withdrawal (reduction in communication and attributed influence) among them. Unfortunately, case material indicated that such withdrawal, while a mechanism of defense, was not a mechanism of solution. It appeared to reduce the possibility of subsequent collaborative solutions to role conflict.

Kahn et al. (1964) found that the presence of conflict in one's role tended to undermine his relations with his role senders, and to produce weaker bonds of trust, respect, and attraction. Other studies invariably drive the point home further still. For example, Kraut (1966) in a study of more than 800 salesmen showed that, as predicted, role conflict was negatively related to satisfaction with the job, the organization, and the manager (r=-.54). He further found such conflict to be positively related to mental health symptoms, job tensions, and especially job related stress (r=.39). Getzels and Guba (1955b), in analyzing the characteristics of teachers with significantly high conflict scores, found that such teachers would not again enter the teaching profession if they had had such a choice (P less than .001). An entirely unrelated study by Jacobson (1952) had already implied the same message. He was looking at conflicting attitudes toward the roles of husband and wife in marriage, and succeeded in showing quite clearly that couples who became divorced exhibited greater disparities in their role expectations for each other during their marriage.

There are various social characteristics which may be influential in the resolution of conflict, either directly or as intervening variables which influence the subject's perception within the organization. Among the possible pertinent social characteristics are tenure, age, and education. According to Cates (1966), tenure may entail a deepened sense of commitment to the organization or specific groups within the organization. It may also expose one to alternative types of resolutions. One would expect age to vary with tenure, but education may either enlarge the subject's perception of alternative solutions, or may become associated with an ideological predisposition towards

certain types of resolution. Cates said that education might also be a factor in the subject's hierarchy of preferences. It might, for instance, provide a point of status similarity between the subject and particular groups, hence facilitating interaction, goal consensus, and identification.

Almost unanimously, the studies of role conflict have concerned themselves with the subject's orientation toward other persons or groups. The theoretical position underlying this may be stated as, "The stronger a person's identification with a group, the more likely that his goals will conform to his perceptions of group norms." (March and Simon, 1958, p.65). Thus adherents to this way of thinking would suggest that a person who "eats and sleeps" his organization - who has the organization in which he works "flowing through his blood" - will experience minimal conflict because the role expectations he perceives to exist for his status cannot be anything but "right". However, it is not clear in which direction this relationship actually runs. It can be argued that a person experiencing minimal role conflict will identify maximally with his parent organization. Empirical research in this area may help to clarify the position.

Conflict and Personality Characteristics

Getzels and Jackson (1963) formulated the following hypothesis:

> "To the extent that a person's needs are in conflict with institutional expectations for his role, psychological tension in the individual, and organizational impotence increase..."

and this is typical of the thought behind a number of studies. For instance, Walberg (1968), in investigating the nature of role conflict in urban teachers, focused on student teachers. Among these latter, he found significant declines in self ratings occurring during their practical teaching sessions. This he interpreted in terms of the theory that a conflict between personality needs and role demands, lowers self conception. The particular need in this case was analyzed by Walberg to be the need to establish rapport with the children; and this necessitated the student teachers going to some lengths to be warm, friendly, and generally nurturant. However, the role demands

of teachers included establishing authority and discipline - and in the eyes of the young would-be teachers, such demands were incompatible with the desire to be nurturant. Support for Walberg in this finding, and in his explanatory reasoning, comes from several other sources, all of which have noted this apparent conflict between the needs of, and role demands for beginning teachers. Examples of such studies are Charters (1963), Cook et al. (1951), Getzels and Jackson (1963), Rabinowitz and Rosenbaum (1960), Wagenschein (1950), Becker (1952), and Walberg himself (1964).

In his 1968 investigation, Walberg suggested further that neophytes with stronger personality needs would have more role conflict. Thus, such individuals would have a lower self-conception; subsequently less satisfaction; and therefore, less persistence in the profession. He said that oblique evidence for this contention could be found in several studies. Stern (1963) reported that scores on an "intellectual-needs" test were higher for teacher trainees than for teachers, and that the most academically oriented trainees did not go on to become teachers. Levin et al. (1957) found that persistence in teaching was higher in teachers who were less interested in books or subject matter; and Valenti (1952) showed that younger teachers were more personal and informal in the classroom. Moreover, studies of teacher stereotypes revealed that experienced teachers were "stern, dignified, and reserved" - McGill (1931), and "set in their ways; bound up in routine; and hesitant to do the unconventional" - Saltz (1960). The "personality-role conflict" may thus, according to Walberg, account for the high dropout rate of teachers during their first year in the profession (as reported, for example, by Charters (1963)).

One study which highlighted the complex interrelationships of personality characteristics, role conflict, and job satisfaction, was undertaken by Berger (1968). She focused her attention on the "mature beginning teacher" - whom she defined as those who on entering teaching for the first time, were over the age of thirty, and had at least a batchelor's degree qualification. Berger obtained a measure of their job satisfaction and role conflict after they had been in the profession for two to eight years, and reported consequently that their job satisfaction was very high when compared with the normative group:

in spite of significant measures of both "inter-role" and "intra-role" conflict (P less than .01 and .001 respectively).

What exactly Berger's findings suggest is a matter of speculation. However, it is possible that in fact certain individuals do find conflict in their roles acceptable, and even beneficial. Mussel (1969) actually found that certain individuals derived gratification from conflict - resulting in conciliation, co-operation, and other benefits. However, further investigations should be made before one can generalize safely concerning any benefits to be gained from conflict. In fact, Mussel, although he did comment on the apparent effect on some individuals, concluded that "findings indicate that conflict between schools and their communities should be avoided, because of the dominance of dysfunctional elements." Gross et al. (1964) reached the same conclusion. They found that the more a school superintendent perceived role conflict, the more likely he was to be dissatisfied with his job, and to experience worry; and further, that those who tended to be anxious, worried more when exposed to role conflict, and experienced lower job and career satisfaction than those whose personality characteristics involved less anxiety.

Conflict and "Job Satisfactoriness"

Several studies have shown a relationship between effectiveness - i.e., job performance - and role conflict. Getzels and Guba (1954) showed that those who "experienced less role conflict" were more likely to be rated as "effective" by their colleagues. Similar results were obtained by Gross et al. (1964). Buerkle (1959) found that operating room nurses who "suffered less role conflict" were more likely to have higher status and a higher self evaluation. But the direction of this relation, in terms of any possible causality, is open to question.

A study by Tingey (1966) tested the validity of selected hypotheses concerning the implementation of change in organizations. The focal change program involved a systematic attempt at modifying organizational behaviour - a change directly affecting the inter-personal relationships of some 2½ million people. From this a positive association was found to

exist between the effectveness with which the respondents performed in the change program, as perceived by their superiors, and (i) the extent to which role conflict was absent, and (ii) the extent to which they perceived themselves as understanding their new role. Kahn et al., (1964) would refer to this latter as "role ambiguity", and contrast it with role conflict. However, in this instance, it can be taken as closely allied to aspects of role conflict, and thus adding some support to the former finding.

A finding that bears somewhat obliquely on the relation between conflict and performance effectiveness comes from the mental hospital (Stanton and Schwartz, 1954). These authors showed that conflict experienced by members of the staff of the hospital, affected their attitude towards and handling of the patients, to the extent that these patients exhibited confusion and symptomatology.

However, these results do not go unchallenged. Charters (1963) has written on the subject of "satisfaction" and "satisfactoriness", and has questioned any a priori assumption of necessary connection between the two. And further, empirical results which deny any relationship between conflict and performance come from Kraut (1966) who found neither "objective" nor "subjective" conflict to be related to sales performance among his 800 plus salesmen.

Community-Teacher Conflict

Melby wrote in 1955:

> "Morale of teachers is low because they do not have a sense of belonging to the community. They have a feeling of being alone, of being attacked, or at least of being unsympathetically criticized."

and considerable evidence has been produced in support of this. It appears that the role of teacher in the community, for one reason or another, exposes an encumbent to pressures of varying types and degrees, from different sectors, and from "the community" in general.

The task of recruiting teachers involves many difficulties. Some of these are associated with such factors as low salaries, and low prestige, which make teaching unattractive to young people. These and other factors which sometimes turn

young people away from the profession, have been the subject of investigations by Richey and Fox (1951); Richey, Phillips and Fox (1952) and others. One of the factors which has been investigated concerns restrictions imposed on the behaviour of teachers. Richey and Fox (1951) pointed out that one could not talk to teachers very long, without getting the impression that they believed that their personal lives were restricted by the community. Many teachers felt that they could not do many of the things other people in the community did without fear of reprimand or even the loss of their jobs. Furthermore, it was not only teachers themselves who believed this. Studies by Herlinger (1944); Hood (1944); and Richey and Fox (1951) indicated that highschool students also believed that a teacher's personal life was restricted. Some highschool students even went so far as to indicate that they would not go into teaching because of such restrictions on the personal behaviour of teachers.

Cromwell's (1950) analysis of written rules and regulations of boards of education as they pertained to Missouri teachers, principals and superintendents, identified few restrictions upon the teacher's place of residence, marital status, and community activities. However, Callaway's study of environmental factors and influences upon the lives of Missouri teachers, disclosed evidence which, on cursory examination, could seem to contravene Cromwell's findings. One fourth of the teachers in Callaway's study stated that pressures of an indirect type were brought to bear upon their personal habits; and another fourth of the teachers felt that they were not fully accepted by the community. Interestingly, back in 1939 Cook and Almack produced effectively the same results;- they found that about one fourth of the Ohio teachers they studied stated that "pressures had been brought to bear upon their private and social lives." Similar reactions by teachers in Michigan prompted Pepper (1954) to say much the same thing. Upon reviewing the factors involved in the decisions of Michigan teachers to leave the teaching profession after less than six years of experience, he declared that, "communities in general do not accept teachers as permanent members of the community." He also concluded that most teachers of his study felt that they were more restricted socially than were members of other leading professions. The

Getzels and Guba (1955b) study, further supports this contention. These authors found that in their group of teachers with high conflict were significantly more teachers who (i) came from communities which they perceived to be different from the community in which they taught; (ii) felt restricted in their social lives; and (iii) had fewer friends among persons in the community than they would have liked. Each of these findings was significant at the 0.1% level. On the other hand, Knox (1956) reported findings which appear quite contrary. His investigation of the relationships of certain environmental factors to teaching success in Wisconsin did not identify any pronounced teacher dissatisfaction with community responsibilities, social taboos, bans on behaviour, and expectancies of residence. However, this could well reflect the methodology of this particular study; as Lane (1951) also looked at Wisconsin teachers, and his results did not confirm Knox's. Lane found that one third of beginning public school teachers responded in the affirmative when they were asked whether their communities placed restrictions upon the teacher's personal life - though, of course, it need not necessarily follow that a 'restricted' teacher is a 'dissatisfied' one.

Teachers and Others

Manwiller (1958) found that the majority of both community members and teachers thought people made a distinction between the behaviour that was acceptable for a teacher and the behaviour that was acceptable for any other members of the community. Few large differences were noted in how the respondents thought people regarded behaviour of the two sexes. The major evidence of a possible double standard of conduct was centered in personal and social life or behaviours as they pertained to eating in taverns, drinking alcoholic beverages at home, smoking in public, playing cards for money, entertaining friends in own home with wine or liquor, and wearing clothes which are out of fashion. Phillips (1955) also found evidence reflecting a double standard in judging the behaviour of men and women teachers in certain areas. According to his findings, men teachers were given greater freedom by the community to engage in such activities as drinking, smoking, and talking about politics; while women teachers were given greater freedom to

engage in such activities as dating, talking about religion, and going to dances. However, whether there is or is not a double standard, according to Getzels and Guba (1955b) the effect certainly was as if there were. They found that many more of their high conflict teachers were men, (P less than .05).

A study which contrasts with these studies of community pressures on the teaching profession and its members, is that by Evelyn Glatt(1966) who was looking for differences between professional men and women in a research and development organization. Her study asked whether professional men and women shared work motivations and were equally involved in their jobs; were equally rewarded by the organization in terms of advancement; attributed equal value to, were equally satisfied by and experienced similar or differing degrees of conflict between work and home demands; whether their actual job mobility and mobility values were the same or different; and whether they experienced similar or differing degrees of job satisfaction. The results pointed overwhelmingly to the underlying similarities between professional men and women within an organizational culture which provided essentially equal opportunities for both sexes. It would appear that teaching does not provide the same organizational culture, and that attitudes towards and characteristics of men and women teachers are considerably different from those of Glatt's professional men and women. For them, the question of community pressures, and differing expectancies for men and women simply does not arise;- the role of teacher is far removed from that of professional research worker. In this regard, Wilson wrote in 1962:

> "Many social changes today may pose especially acute problems for teachers (as opposed to say, surgeons or barristers). Teachers must put more of themselves into their work at a time when other professional roles are becoming affectively neutral; the demands made upon them become more diverse as they take over more of the duties of parents; and yet the requirements of the job, and particularly the criteria of success, are often ambiguous, conflicting, lacking in definition. Different people affected by, and concerned with the teacher's work may make different and conflicting demands upon him."

Community type

That the community exerts pressures on teachers and the teaching organization, and that it makes different and

conflicting demands, is well documented. But what is further apparent from the literature is that the type of community in which the school is situated will be reflected in the particular pressures and demands experienced by the school and its teachers. Taylor (1968) found that approximately one third of all teachers in both infant and junior schools were in high conflict, and that the level of conflict appeared to be unrelated to age, sex, length of service, marital status, or age of pupils. But he did find that it was related to social class composition of the catchment area served by the school. (This relationship was at a significant level for teachers in junior schools, but fell short of statistical significance for infant school teachers.) The role conflicts of teachers were less in predominantly middle class areas, and greater in working class districts. Musgrove and Taylor (1965) came to a similar conclusion, viz. that "the extent to which teachers' roles are diffuse or restricted differs with type of school and social area." Phillips (1955) also found that highschool students differed in their opinions about selected aspects of teacher behaviour, these opinions reflecting the students' social class backgrounds.

Getzels and Guba (1955b) differentiated between three different types of conflict. According to them, some types were found to have equal impact in all teaching situations and were independent of local community conditions. Those conflicts which seemed to inhere in the teaching situation as such, they refered to as "situationally independent". On the other hand, some role conflicts were found to have relatively great impact in all teaching situations, but might have been substantially aggravated or ameliorated at the local level. Such "situationally variant conflicts" seemed to the authors to be a function of the interaction of local conditions inhering to some extant in the general teaching situation. Both of these types of role conflict stemmed largely from dissensus with the community at large or with parents. The third type was referred to as "situationally specific", and was of local importance only, bearing no relationship, probably, to the general teaching situation.

Mary Lichliter (1946) investigated the social obligations and restrictions placed on women teachers, and her conclusion more or less sums up this section of the review of the

literature.

> "The demands and expectancies of people have inevitable consequences for both teachers and communities. - Communities could create a satisfying, happy environment by treating teachers as human beings, allowed to live a normal life, or they could create an unhappy environment by setting teachers apart as individuals different from the townspeople."

According to available research findings, it appears that more communities are taking the latter action than the former.

Other sources of Teacher Conflict

Between the various teacher role studies undertaken in the United States and Great Britain, several sources of conflict other than the community have been discerned. Teachers appear to find themselves under pressure of one sort or another, from school officials, headmasters, fellow teachers, parents, or pupils. They also face some degree of "role ambiguity" (Kahn et al., 1964) from fellow teachers or their training institutions. Twyman and Biddle (1963) found that more disparities over teacher role cognitions occurred between teachers and pupils than among any of the other groups - with parents, other teachers, and school officials, in that order. On the other hand, Lichliter's (1946) teachers seemed to be more concerned about the pressure from the school board than any of the other sources. Sixty percent of the teachers cited the board as the main source of demands received. However, between their two studies, Musgrove (1967) and Taylor (1968) showed that the extent and nature of conflict, as defined by them, varied with the type of school under study. Thus, these authors found that parents were the main source of pressure for infant and junior teachers, whereas for secondary teachers it was not the parent group, but the head teacher who was the main concern. Further, the areas of conflict between teachers and other groups differed from one type of school to another, (this will be reviewed in more detail later), as did its degree. Again, from Taylor's findings:

> "For individual infant and junior school teachers considered separately and without reference to social class of school catchment area, junior school teachers were in significantly higher conflict than infant school teachers where the perceived expectations of head teachers, colleagues, and pupils were involved."

Parents and pupils

According to Twyman and Biddle (1963), it seems unlikely that the disparities between pupil and teacher role cognitions present a salient problem for teachers. They argued that if age were the major factor responsible, then pupils may be assumed to "grow out of it". Furthermore, despite their ubiquity, pupils did not have much real power in the determination of school events. The pupil who was faced with a teacher who violated his norms or expectations, was ordinarily powerless to take action against the individual teacher or against the school system. However, Phillips (1955) showed that the opinions of highschool students with regard to the behaviour of teachers, reflected the values, beliefs, and patterns of behaviour characteristic of their social class status. Hence, it is debatable whether conflict with a pupil does amount to very little as Twyman and Biddle suggested, as it in fact represents the "table talk" of that pupil's home. It is thus a reflection of dissensus existing between teacher and home. In this way, "teacher-pupil conflict", is effectively "teacher-home conflict", and as such might well be an area for concern.

However, Twyman and Biddle did accept the seriousness of conflict between teachers and parents or school officials. In each case, they pointed out, the actors had considerable power and might, under certain circumstances, exercise it. The parent, for instance, who was incensed at the activities of an elementary teacher might create all sorts of trouble for that teacher, or for that matter, for the school administrator who supported her. Thus, widespread disparities between teachers and either school officials or parents over teacher role cognitions, appear to be a potential source of irritation for public school teachers.

Administration

Mays in 1962 found concrete evidence of conflict with school officials for both head teachers and assistant teachers. From an investigation of the back-street schools of Liverpool, he found instances in which one of Her Majesty's Inspectors criticized teachers for neglecting social training, while a local authority inspector was urging more concern with examination results.

> "As a result of such confusion of advice and lack of any authoritative policy, the final decision must be left to the school itself, and the main burden will inevitably fall on the shoulders of the head teacher. But even he cannot do much either way without the co-operation and agreement of his colleagues which may not be easy to obtain."

Another study of teacher-administration conflict is that by Seaberg and Liberty (1969). Their results showed salient differences in opinion between teachers and administrators in three main areas: (i) the degree of importance attributed to certain areas of school policy formulation and decision making; (ii) school policy areas which should involve teachers; and (iii) methods teachers should employ to obtain their goals.

That conflict between teachers and administrators - or school officials - exists, has been shown by several different studies, but the one which has most clearly demonstrated the nature of this is that by Getzels and Guba (1955b). They divided their teachers into high and low conflict groups and then compared them across a number of different variables. Applicable here are the findings that those teachers with significantly higher conflict scores were characterized (i) by feeling "that their relationships with the administration are not as adequate and satisfying as they might be", and (ii) by the fact that they felt that the administration was not entirely objective in its relationships with teachers - some teachers appearing to receive greater satisfaction from the administration than others, through having "a more personal influence".

Teacher role

One of the sources of conflict reported to be experienced by teachers is fellow teachers, and in large part this arises through ambiguity in the teacher role. Lane (1951) came upon what appeared to him to be an incongruous element in the area of expectations for teachers. Within a given school system, he found that there was a lack of agreement on the existence and nature of restrictions. Beginning teachers said that they received conflicting opinions on personal habits when the reference groups were respectively fellow teachers and friends, and the community. Kline (1949) noted a similar difficulty in an earlier Wisconsin study of satisfactions in teaching. Merrill and Jex (1964) concluded that the secondary science teachers

they studied were in a state of "self-role conflict" much of the time. On the one hand the teacher saw himself as rewarded if he was conscientious, hard working, non competitive, loving, conforming, altruistic, and if he took responsibility by helping, offering, guiding, and giving to the student. One might paraphrase this theme by saying that his role was described by him as completely equalitarian and other-oriented. But this clashes sharply with another set of role- and self-expectations. Here the teacher was rewarded if he was competitive, authoritarian, content-oriented, discipline-oriented, accomplishment-oriented, achievement-oriented, and demanding a high standard of performance by the student. One might paraphrase this theme by saying that his role was described by him as "authoritarian" and "knowledge" oriented.

Training institutions

The final source of role conflict for teachers, according to the literature, is the teachers' training institution. Getzels and Guba (1955b) found that younger and older teachers had different conceptions of just what was required of a teacher. Again, Biddle, Twyman, and Rankin (1962), in looking at the high drop-out rate of first year teachers, found that student teachers had very inaccurate expectations of the teacher's role, and that such inaccuracies were all in the direction of over-idealism. Sarbin (1954) pointed out that a teacher formed a notion of his job, the objectives he should pursue, and the priorities he should attach to them, from his professional training and experience in the school. He learnt what was expected of him. "A person cannot enact a role for which he lacks the necessary role expectations. These must be acquired through experience." But the conduct and priorities he has learned in training may not accord with the demands and expectations of his colleagues, headmaster and pupils when he joins the school. In particular, he may have learned to attach more importance to "good personal relationships", and less to instruction and imparting a body of knowledge, than headmasters or even colleagues and pupils attached to them. That this was indeed the case would appear to be what the above studies suggest. Robertson (1957) gave further support to this suggestion when he found that the supervisors of English university

graduates who were undergoing training, varied considerably in their judgments of the attributes of the good teacher - which they were concerned to foster and reward. In one enquiry supervisors were found to be in substantial agreement in attaching great importance to "good relationships with, and interest in, people"; less importance to "teaching abilities"; and substantially less importance to "practical abilities in teaching" (in the sense of ability to organize a lesson and manage a class). Thus, Robertson pointed out, the newly trained teacher might find this order of priorities seriously at odds with the expectations of the school he joined.

Areas of Teacher Conflict

In 1958, Manwiller undertook a study to investigate the expectations people in general had of teachers, and found as a consequence that such expectations fell into four distinct areas:

(i) The teacher-pupil relationships at school where the teachers served in the capacity of directors of learning, or as guides and counselors to pupils.

(ii) Teacher behaviour concerned with school-community relationships, and in school-community educational programs.

(iii) Teacher behaviour relative to the ethics and standards of the profession.

(iv) Teacher behaviours which arose in connection with: personal and family, social and recreational, economic, civic and political, and religious aspects of teachers' lives.

All other studies which have concerned themselves with role conflict among teachers have ended up with results showing such conflict to be in one or more of these four areas. However, almost all of these studies have considered the areas (i) and (iv) only, with very little work done in areas (ii) and (iii). Whether this reflects the actual extent to which teachers experience conflict in these areas or not cannot be answered at this stage as this specific question appears to remain unasked. However, Berger's (1968) study of "mature beginning teachers" did produce results which showed teachers were apparently in conflict in all four areas. Specifically, Berger found that they experienced conflict in area (i) in terms of their "teaching

preparation". Evidently they felt pressures exerted from outside regarding their preparation of their work; and further, saw the actual demands of this as being conflicting. Area (ii) was found to be a source of concern for these teachers in that conflict over "PTA attendance" and "School Program attendance" was experienced. That salary generated conflict was also found - and this variable would be representative of area (iii); while area (iv) was found in this study to be associated with role conflict because teachers reported such conflict over the amount of time they were expected to give from their private - "out of hours" - time to their profession.

Only one other study has reported a measure of conflict from area (ii) - that of Twyman and Biddle (1963). These authors did find that disagreements among the positions of teacher, school official, parent and pupil centered on activities related to area (i), and on behaviours having to do with "community participation". They defined "community participation" as the behaviours "speaking out at PTA meeting in the auditorium", "visiting with parents during PTA meetings in the auditorium", and "participating in community activities out of school". They concluded that parents, pupils, and school officials all expected more community participation by teachers than did teachers.

Seaberg and Liberty's (1969) study is, on the other hand, the only study to produce results which relate role conflict to area (iii). They found that there were considerable differences in opinion between teachers and administrators. These differences were in regard to the importance of policies in determining: teacher work-loads; the selection of instructional materials; the evaluation of buildings and facilities; extra duties for teachers; and the planning of staff meetings. Disagreement also existed over whether teachers should be involved in determining: qualifications for administrators; size of administrative staffs; promotion and retention of administrators; promotion and retention of instructional staff; and professional leave practices. Further, there was disagreement expressed over the methods teachers should use to obtain their goals.

In the following paragraphs Manwiller's areas (i) and (iv) will be discussed in more detail.

Teacher-pupil relationships

Measures of role conflict generated from area (i) - behaviours pertinent to teacher-pupil relationships at school - have figured in the findings of Twyman and Biddle (1963), Taylor (1962, 1968) and Musgrove (1963, 1967). Twyman and Biddle found that a large proportion of the disagreements among positions centered on behaviours having to do with "teacher self-indulgence", and "maintenance of order". The former was defined by such activities as "reading own books during study period", "grading papers during a classroom singing period", "visiting with other teachers on the playground", "leaving the room during a classroom test", "doing own studying and grading in the library", "visiting with other teachers during study period", and "singing during a classroom singing period". The results indicated that parents and pupils, more than teachers and school officials, approved of teacher self-indulgence, - with pupils approving more than parents. "Maintenance of order" was defined by the authors as the behaviours: "watching pupils during study period", "keeping pupils quiet in the library", "supervising on the playground", "ignoring pupils misbehaving in the classroom", "policing the halls", and "disciplining pupils in the cafeteria". Results showed that parents more than school officials, teachers and pupils approved of the "maintenance of order", and that pupils disliked this activity more than teachers did, who in turn disliked it more than parents did.

Taylor (1962) found, through investigating children's expectations of teachers, that four main aspects of the teacher's role were distinguished - all coming from area (i). These were "discipline", (eg. "firm and keeps children quiet and orderly"; "has no favorites") "personality", (eg. "patient, understanding, kind, sympathetic, etc.") "teaching", (eg. "explains work clearly"; "gives interesting lessons") and "organization" (eg. "has everything ready for the lesson"; "always knows where to find things he/she wants", etc.). Both Musgrove (1967) and Taylor (1968) then used these expectations of teacher role as a base from which to obtain measures of role conflict among teachers in (i) grammar and modern schools, and (ii) junior and infant schools. Using questionnaires, these authors obtained rankings of these aspects of teacher behaviour by each subject: as he ideally valued them in his teaching performance; as he

thought the head teacher, his colleagues, pupils and parents valued them; and as he thought that in fact they characterized his teaching performance. The agreement, or lack of agreement, among the ranks was taken as the measure of role conflict. Amongst other things, Musgrove's results showed that generally conflict centered around the importance attached to "personality" and "discipline" in the work of the teacher - the main source being the head teacher. He did find that teachers of domestic science had the highest conflict scores, while teachers of mathematics had the lowest. But he failed to find any difference in the extent of conflict between graduates in secondary modern schools and their non graduate colleagues.

Taylor found considerable differences between conflict scores of infant school teachers, and those of teachers from junior schools. For infant school teachers, the two main generators of conflict were the function of "personality" in the teacher's role and the perceived expectations of parents. Both of these were substantially the same for each social class of school catchment area, though they were somewhat higher for teachers in infant schools serving a predominantly working class catchment area. For junior school teachers the main conflict generators were the perceived expectations of pupils, and for those in middle class areas, the functions of "discipline" in the teacher's role. In working class areas, conflict arose over the importance attached to "personality". Though junior and infant teachers differed significantly in their perceived expectations of head teachers, colleagues, and parents; when Taylor's analysis is compared with the earlier results of Musgrove, one of the main conclusions that emerges is that "personality" and "discipline" appear to be as much sources of (operationalized) conflict for primary as for post-primary teachers, but the head teacher is far less, and parents are far more.

Teachers' personal lives

Literature pertinent to measures of conflict in area (iv) - "teacher behaviours which arise in connection with personal and family, social and recreational, economic, civic and political, and religious aspects of teachers' lives" - is quite extensive. A large part of the findings which related to

community pressures come into this category. Manwiller reported that the area of religious life constituted the major area of agreement between teachers and community, the areas of economic and civic life to a lesser degree, and the areas of personal-family and social-recreational life the least. He found that the tendency was for both teachers and community to react negatively toward behaviours in the areas of personal and family life, social and recreational life, and civic and political life. The tendency was for both to react positively toward the behaviours in the areas of economic and religious life.

Campbell (1954) found through personal interviews that while "lay persons" prefered their teachers to live in the community, the teachers themselves did not think this important. Also approximately one half of all persons interviewed thought teachers should be married, while the other half thought this made no difference. To what extent the teachers were actually aware of the former dissensus, and how much they were affected by the ambiguity of the latter expectation is a matter of conjecture. However, more salutary is the restrictive picture painted by the following series of findings:

> "Restrictions placed by the community upon the teacher's personal life covered smoking in public places, frequenting a place that sold intoxicating liquors, dancing in certain dance halls, and women teachers bowling in local bowling alleys." (Lane, 1951)
>
> "Pressures of an indirect type were brought to bear upon teachers' personal habits and entertainment, such as dancing, card playing, smoking, and social drinking." (Callaway, 1951)
>
> "Rigid community control over the personal lives of teachers was evident in the restrictions placed on the teachers with regard to drinking, smoking, etc....The majority of highschool students felt that the teacher should set an example for others, and should exemplify the highest moral standards of the community." (Phillips, 1955)
>
> "Social forces against which teachers have to contend include controls applying to personal habits and amusements, sex relations, social life in the community, and active citizenship." (Beale, 1936)
>
> "Pressures are brought to bear upon teachers to participate in certain specified clubs, organizations, and activities." (Cook and Almack, 1939)
>
> "Relative to conduct codes, teachers were clearly restricted in dancing, not attending church, in buying from local merchants, and in other matters." (Greenhoe, 1939)

Discussion

It is apparent that role conflict is a seminal construct, but one that is highly complex. Boiled down to its operational basis, however, role conflict is most often a discrepancy between two scores obtained in one or more tests. The design of the tests, their scoring, and the choice of which scores are chosen for measuring the discrepancy, are the rituals and artifacts of the role conflict game, and as such they are often peculiar to the particular sub-culture (or sub-cult) undertaking the promotion of the game. Thus, unless due care is taken, any attempt to parallel the construct of role conflict with the everyday connotation of the word "conflict", or one application of the construct with any other, is hazardous.

It is the intention of the next chapter to take a further look at the construct; and in the process, attempt to bring a measure of order to its various meanings.

Role Conflict - Its Operationalization

It was postulated in Chapter I that role conflict may be operationalized multitudinously, and that the utility of any operationalization can be tested only by seeing how well it can do the job it was "constructed" to do - that is, to predict to or explain some criterion measure. The review of the literature showed that role conflict is usually operationalized as a discrepancy between two measures, but that many different measure-pairs have been used. There has consequently been a tendency for confusion to result, and for uncertainty over the relationship of one operationalization to another to be engendered. It would seem then, that studies should, theoretically, talk about "role conflict 1", "role conflict 2", "role conflict 3", etc. In spite of this however, it should be possible to specify a conceptual framework within which any possible operationalization may be placed. The specification of such a framework is the major concern of the present chapter.

In brief, the argument to follow is that any operationalization may be considered to be given by particular coordinates of a three-dimensional space. It is suggested that the "X axis" of this space contains the set of measures between which discrepancies may be found; the "Y axis" contains different procedures which may be undertaken in the generation of discrepancy scores; and thirdly, the "Z axis" costitutes a new dimension in role conflict theory, the idea of "direction" applied to a discrepancy measure. Each of these axes will be considered in turn.

The Set of Measures for Generating Discrepancies (the X axis)

In order to elaborate this dimension so that a logically derived set of discrepancy measures may be arrived at, it is necessary to start from somewhere. A starting point that seems to have face validity is the interaction "episode" specified by Kahn et al. (1964). It contains within it a description of what the participants of any social interaction "do" during that interaction. Now, if it is accepted that conflict is impossible unless there is some interaction - even if it only be between two "sides" of a single person; then an analysis of an

interaction episode may provide an understanding of all that the actors may bring to any interaction, and hence a list of the types of measure that will occur along the X axis of the required framework, thus providing the set of measures between which discrepancies may be found.

In an interaction between two people, one is the focus of the interaction and the "receiver" of sent pressures; the other is the "sender" of these pressures. According to Kahn et al., an episode consists of the train of events entailed in (1) the sender's having expectancies for the receiver, and (2) acting towards him accordingly, with (3) these actions being perceived by the receiver, who (4) responds in complementary fashion to these sent expectancies (and his own), so that (5) this response is perceived by the sender, who (6) compares the incoming information with that previously held. At this point a new episode would then be initiated - the whole process being cyclic. Following from this outline of the episode, any interaction may then be described in terms of the actors' expectancies, behaviours, perceptions, and inferences. These can be detailed as follows.

Expectancies held for self	(ES)
Expectancies held for own role	(ER)
Expectancies held for the role of the other participant	(EO)
Observable role behaviour	(OB)
Perceptions of own role behaviour	(PB)
Perceptions of the other's role behaviour	(PBO)
Inferences of the expectancies the other holds for his self	(IES)
Inferences of the expectancies the other holds for his own role	(IER)
Inferences of the expectancies the other holds for the focal person's role	(IEO)

Of these, the only one which might possibly require a brief elaboration is the first. This is seen to encompass the individual's personality needs and value system, and is regarded as being distinct from a person's expectancies of the role he is to enact. Typical of the studies which would appear to have focused on this "ES" measure is that of Walberg (1968) who found that

significant declines in self ratings occurred during student teachers' teaching sessions; a finding which he interpreted in terms of a theory that a conflict between personality needs and role demands lowers the self conception.

Any conflict situation then, arises from some interaction; and thus it may be described in terms of one or more of the members of the set which consists of all possible pair combinations of expectancies, behaviours, perceptions, and inferences - within or between the participants. It might appear at first glance that many of the possible pair combinations are apparently meaningless, and therefore useless. However, it is emphasized that such judgment cannot be made on a priori grounds - all score discrepancies taken from measure-pairs are useless until they are shown to be useful for predicting to or explaining other phenomena. In this connection, it is to be noted that no restriction need be placed on pairing measures of the same target. For example, "intra-sender conflict" (Kahn et al., 1964) could be established by a discrepancy between two "EO" (expectancies held for the role of the other participant) measures from the one sender. The question to apply, as always, is "what can be done with it?" To illustrate this first aspect of the suggested framework, several representative studies of role conflict will be taken, and their measures of the construct translated into the terms of this schema.

The "intra-sender conflict" of the Kahn et al. (1964) study may be an EO-EO discrepancy (a discrepancy between two "expectancies held for the role of the other participant") as suggested above; but it could also be an IEO-IEO discrepancy (one between "inferences of the expectancies the other holds for the focal person's role"). Which of these applies to a particular conflict measure depends on whether the focus is placed on the sender or receiver of the expectancies respectively. Again, a "person-role conflict" may be either an ES-ER discrepancy (a discrepancy between expectancies a person may hold for his self and those he may hold for his role), or an ES-IEO discrepancy (if the role expectancy is inferred from some other sender). When Gross et al. (1964) described role conflict in terms of expectations attributed to two other members of the role set, they were talking IEO-IEO discrepancy scores. On the other hand, when Jacobson et al. (1951) defined role conflict as differences

between criterion groups with respect to the focal role, they were speaking of EO-EO scores. (In this regard, it should be noted that the EO-EO measure credited to Kahn et al. above is quite different from that of Jacobson and his co-authors, in that the former focused on a single sender, whereas the latter were concerned with multiple senders.)

Both Parsons (1951) and Stouffer (1949) talked about role conflict in terms of an actor perceiving incompatible expectations. While this is satisfactory for purposes of general discussion, the definition is not precise enough for research application. It can readily be appreciated that such a definition would permit measures of conflict to come from ER-ER ("expectancies held for own role"), ER-IEO, or IEO-IEO discrepancy scores. In a similar way, when Sarbin (1954) wrote "....obligations of the status are incongruent with the occupant's own values...." he could have been describing either ES-ER or ES-IEO discrepancies.

When other studies are subjected to the same translation process, their particular usage of the conflict construct can also be discerned. For example: (i) Twyman and Biddle's (1963) study of "disparities over teacher role cognitions" can be translated as an ER-EO and EO-EO discrepancy study. (ii) Getzels and Guba (1955) in looking at the lack of agreement between teachers over their role, dealt with ER-ER scores. (iii) Merrill and Jex (1964) also investigated ER-ER discrepancies, but ones that were conceptually different from Getzels and Guba's in that the discrepancies were within each teacher respondent; (iv) Lane's 1951 study of beginning teachers who inferred conflicting expectations about their personal lives from different reference groups, produced IES-IES scores.

The studies of Musgrove (1967) and Taylor (1968) into British teachers are more diversified. These two authors obtained rankings on selected aspects of teacher behaviour from each subject: (i) as he ideally valued them in his teaching performance, (ii) as he thought the head teacher, his colleagues, pupils and parents valued them, and (iii) as he thought that in fact they characterized his teaching performance. In the studies, the agreement or lack of agreement among the ranks was taken as a measure of conflict. It is evident that there were in fact available three different types of conflict measure: ER-PB,

ER-IEO, and PB-IEO.

The final illustration which need be given is the translation into the terminology of the proposed framework of the Kraut (1966) study into role conflict in salesmen. Kraut differentiated between "subjective conflict", "objective conflict", and what he termed "distortion". According to him, "subjective conflict" was generated by a discrepancy between the salesman's expectations and those he thought his manager held for him. This is ER-IEO conflict. On the other hand, "objective conflict" was attributed to the salesman if there was any discrepancy between the expectations the manager held for the salesman, and those actually held by the latter, and as such can be translated as ER-EO conflict. Kraut's "distortion" was based on the difference between the manager's expectation for the salesman, and those the salesman believed the other held. Clearly this is EO-IEO conflict.

All role conflict studies are susceptible to this kind of translation. However, no further translations need be made as sufficient have already been provided to illustrate the point.

Procedures for Generating Discrepancies (the Y axis)

Traditionally, role conflict in a particular situation has been determined, generally speaking, by summing discrepancy scores across different expected role behaviours, and as well often across many different role senders. This has produced groups of subjects who are declared to be "high conflict" or "low conflict" cases. Thereupon comparisons are invariably made between the two. However, though this procedure is entirely legitimate, other procedures are also possible. It is well to consider then the set of all possible procedures which might be followed. This set can be constructed in the following way. - Discrepancies may be found:

(1) for each expected role behaviour, and each role sender taken in turn;

(2) for each expected role behaviour, across all role senders;

(3) across all expected role behaviours, and each role sender taken in turn;

(4) across all expected role behaviours, and all role senders.

Elaboration of this is probably best accomplished through the use of a particular study as illustration. The one selected for this purpose is the four nation comparative study of teacher role undertaken by Adams, Biddle, Campbell, Fraser, Green, and Holmes (1970). The role conflict part of this study was based on ten questionnaire items representing ten common but sometimes contentious aspects of the teacher role. To these, the teacher respondents were asked to indicate (i) the extent of their approval, and (ii) the extent of approval which they estimated that (a) school officials (superintendents or inspectors), (b) principals (or headmasters), (c) other teachers, and (d) the parents of pupils would give. That is, the questionnaire format consisted of ten expected role behaviours with, for each, five Likert-type 5 point scales: for the respondent's own level of approval, and one for each of the four role senders.

Returning now to the present argument, the four possible procedures listed above will be dealt with in turn below.

(1) The procedure which takes discrepancies for each expected role behaviour, and each role sender taken in turn, provides a microscopic view of what conflict may inhere in a given social system. Each behaviour is taken, and is related separately to every member of the role set. In terms of the comparative study, this would mean that each of the ten "teacher activities" would be considered in turn, and for it, four measures of conflict obtained by comparing the respondent's level of approval with that attributed to (i) school officials, (ii) principals, (iii) other teachers, and (iv) parents. Thus, in total, 40 different measures of conflict would be generated. It is clear that such an analysis would show up any glaring dissensus between two actors concerning any particular behaviour.

(2) This approach focuses on discrepancies for each expected role behaviour, across all role senders, and as such gives a measure of conflict for each behaviour as it occurs within the total role set. Hence, using the illustration study, the four conflict scores obtained for each of the ten "teacher activities" would be summed to give a total conflict score for that behaviour - resulting in 10 such total scores. This approach, when compared with the first, gives a more overall picture of how the different behaviours of a specific role compare on the

conflict scale, from which it could be seen whether one of the "activities" was the source of more conflict than any of the others, or whether in fact one of them apparently generated little or no conflict.

(3) The procedure which considers discrepancies across all expected role behaviours, and each role sender taken in turn, follows similar lines to the second, but in this case it is the members of the role set that come under scrutiny for comparison. By such an analysis, it will become apparent whether a particular role sender is the source of more role conflict than the others. In terms of the Adams et al. study, this procedure would require that the score discrepancy with "school officials" for item 1 would be added to that for item 2, and so on until all ten discrepancy scores had been summed to produce a total dissensus score that that respondent had with "school officials". Similar procedures would generate three further scores for the three remaining salient others.

(4) The last of the approaches - discrepancies across all expected role behaviours, and all role senders - gives the total conflict score for a given social system, and is the one which appears most frequently in the literature. This single score could be obtained in the comparative study either by summing the ten scores from the second procedure, or the four from the third. The main strength of this "total conflict" score lies in its dealing with large figures, a consequence of which is its ability to show up differences between groups more readily, thus giving greater ease in obtaining statistical significance.

In summary; if all four approaches were applied to the study chosen for illustration, a total of 55 different conflict scores could be generated: 40 from the first procedure, 10 from the second, 4 from the third, and a final total score from the last.

Direction (the Z axis)

The final aspect of the construct role conflict open for consideration in this chapter is the direction of the discrepancy. Clearly, when a discrepancy between two scores exists, each score can be seen as closer to or further away from a given criterion. It follows then that respondents can be rated

on this characteristic; being seen for example, as positively or negatively discrepant. This has some interesting implications. For instance, on a five point scale, when a focal person is scored 5 for recording his own "high approval" of some expected behaviour, and 1 for his perception that a given salient other "highly disapproves", the conflict score derived is 4. But another focal person who "highly disapproves" of the same behaviour, and perceives the same salient other as "highly approving" of it, is also scored 4 for conflict. Now while conflict is demonstrated equally in both cases, there would seem to be possible advantage in determining whether better prediction can be obtained by considering the two conditions as different. This might be done for example, by treating the former measure as positive, and the latter as negative. Then the analysis would be separating two types of respondents, both of whom are in conflict, but for possibly different reasons. To the author's knowledge, to date no account has been taken of this obvious characteristic of the scores, presumably because sufficiently clear-cut results have been obtainable without it. In other words; "conflict" is "conflict" is "conflict".

Further than this, however, if the direction of the discrepancy is considered, then a number of alternate procedures become possible. For instance, if a single expected role behaviour is being examined in regard to a single role sender, then there is, of course, no summing of scores to be done, so that a conflict measure can be either "signed" or "absolute" - i.e. with the direction of the discrepancy considered or not. On the other hand, if either multiple role behaviours, or multiple role senders, or both, are being considered, then there are scores that can be summed. In this case, the score's direction can be either regarded or ignored, producing thereby either "signed" or "absolute" discrepancy measures. Further, two additional possibilities arise, for a "positive" discrepancy score can be determined by adding the positive scores only, and a "negative" score can be obtained by adding negatives only.[1]

In calculating a summed absolute score, the direction of any discrepancy is disregarded so that its absolute value is added to all relevant others to give the largest possible conflict measure. This, of course, is the method and type of score which is in widespread use, presumably because it provides

scores of maximum size for analytic purposes. On the other hand, a summed signed conflict score is obtained through an algebraic summation of "directed" discrepancy measures. With this procedure, it is possible for positive and negative scores to cancel each other out, so that a subject ranked high on absolute conflict may have zero signed conflict. Such a procedure would supress the weighting given in an analysis to "inconsistent" actors who, it is conceivable, may be adversely affecting the predictive power of the absolute operationalization.

With both summed positive and negative conflict scores, two different populations are separated, both of whom are in conflict, but the conflict would appear to be of different sorts. Thus, if no differences do become apparent from an analysis of these different types of measure, then the question as to the value of the instrument being used to measure the conflict could well be asked.

In summary, role conflict is a measure of discrepancy between two scores. How this discrepancy is determined, and which scores are related, should be considered and defined carefully. One of the concerns of this chapter has been to suggest that the set of possible measures of conflict which may be used is considerably larger than has generally been recognized. In the next chapter, a description is given of the way in which a number of these logically possible alternatives will actually be generated using data from another study. In the next chapter also, because a basic assumption of this study is that the value of any operationalization (or indeed, construct) inheres in its explanatory-predictive power, the nature of the criterion test of the relative utility of the operationalizations will also be described.

.....

1 If an analysis involving score direction is to be undertaken, then the terminology of the instrument items becomes critical, in that if some items are couched in positive terms, and others in negative, then in the scoring process, some "common" directionality has to be accepted.

The Generation of Selected Operationalizations

In the last chapter, it was suggested that there are many ways in which the construct role conflict may be operationalized, and that the value of any operationalization lies principally in its power to predict to or explain some focal phenomenon. Following on from this, the present chapter sets out to demonstrate that many of the operationalizations suggested can be generated from the same primary data, and that they can then be compared with each other so that their relative predictive power may be discerned. This task is to be accomplished through the use of data from an as yet unpublished investigation into the role of the teacher in New Zealand. The authors Bates and Adams developed a questionnaire that dealt with nine different styles of teaching, and which was responded to by teachers themselves, by parents, and by pupils. The teacher questionnaire also sought the teachers' perceptions of the others' viewpoints. The study then is pregnant with role conflict material. However, in order to demonstrate the proposition that this construct can be operationalized in many different ways, and that these different operationalizations can be shown to relate to criterion measures (and to each other) differentially, only the data from the teacher questionnaire need be used. Although by not using either the parents' or pupils' questionnaires, a large number of the possible discrepancy types suggested in the previous chapter cannot be demonstrated, an adequate number of comparisons is available to make the point. For the purpose of the present exercise the detail of the Bates and Adams study is largely irrelevant. However, some brief account of their investigation may prove helpful.

The Bates and Adams Study

The theoretical underpinning of the study consists of an amalgam of role theory and exchange theory. It assumes that any social interaction may be categorized conveniently in terms of its focus on "status", "utility", or "affect" (abbreviated "S", "U", and "A" respectively). Further, the behaviours of teachers in a classroom may conveniently be categorized

(grossly) as "organizational", "subject matter oriented", or "social relations oriented" (abbreviated "O", "SM", and "SR"). By opposing these six interaction/behaviour types, nine archtypes are generated in a 3x3 matrix. This procedure is illustrated in Figure 4.1 below.

Figure 4.1
Teaching Style Matrix

	S	U	A
O	1	2	3
SM	4	5	6
SR	7	8	9

In the investigation, the archtypes were operationalized as nine styles of teaching, and from the teacher questionnaire that incorporated the styles, the authors were able to obtain a total of 36 scores, in 4 sets of nine, each set indicating the number of times each of the archtypes was chosen by each respondent: (i) on his own behalf, and as he thought that (ii) parents, (iii) pupils, and (iv) other teachers would choose them. The range possible for each archtype score was 0 to 8. The types of scores are enumerated in Figure 4.2 below.

Figure 4.2
Reference Group Matrices

	S	U	A
O	1	2	3
SM	4	5	6
SR	7	8	9

SELF

	S	U	A
O	10	11	12
SM	13	14	15
SR	16	17	18

PARENTS

	S	U	A
O	19	20	21
SM	22	23	24
SR	25	26	27

PUPILS

	S	U	A
O	28	29	30
SM	31	32	33
SR	34	35	36

OTHER TEACHERS

These four sets of data (for self, parents, pupils, and other teachers) constitute the entire data source from which all the discrepancy scores considered in the present investigation will be generated. Discussion of these scores, and the procedures to be adopted in their generation, follows.

Generation of Discrepancy Scores

ER-ER discrepancies

ER-ER discrepancies are discrepancies between two "expectancies held for own role". The Bates and Adams study allows for two different types to be determined. The first type may conveniently be referred to as "intra-personal" in that discrepancies may be generated from scores obtained from a single respondent. The second type, which may be called "inter-personnel", arises from discrepancies between expectancies held by an individual teacher respondent for his own role, and those held by teachers in general. Each will be considered in turn.

Intra-personal. Within the "Self" matrix in Figure 4.2, each of the nine archtypes constitutes a legitimate expectancy held by a teacher for his own role as teacher. Therefore, the choice of any one teaching style over another provides a discrepancy score measuring the distance between two "expectancies held for own role"; that is, an ER-ER discrepancy score. This is the basis on which 45 discrepancy scores will be generated. As an aid to understanding, these scores are presented in tabular form (in Table 4.1 below). The Table employs the numbered teaching archtypes that appeared in Figure 4.2. Thus for example, in Table 4.1 the numbers "1 - 2" stand for "the absolute difference between the number of times archtypes 1 and 2 were selected by the respondent"; "(1&4&7)" stands for "the total number of times the dimension "status" was selected", and so on. There are 36 possible pairings of the 9 archtypes. By finding the difference between the number of times each member of a pair was selected, 36 ER-ER discrepancy scores can be obtained. (Scores 1.1 to 1.36 in Table 4.1) Further, by finding totals for each of the rows, and each of the columns of the "Self" matrix in Figure 4.2, another 6 scores can be generated: 3 from the "S,U,A" dimension, and another 3 from the "O,SM,SR"

dimension (Scores 1.38 to 1.40, and 1.42 to 1.44 in Table 4.1 respectively). Finally, 3 different 'totals' may be arrived at by summing: (i) the 36 basic discrepancy scores, giving a total ER-ER discrepancy score (Score 1.37); (ii) the 3 scores from the "S,U,A" dimension (Score 1.38); and (iii) those from the "O,SM,SR" dimension (Score 1.45).

Table 4.1

Intra-personal ER-ER discrepancy scores

1.1	1 - 2	1.2	1 - 3	1.3	1 - 4
1.4	1 - 5	1.5	1 - 6	1.6	1 - 7
1.7	1 - 8	1.8	1 - 9	1.9	2 - 3
1.10	2 - 4	1.11	2 - 5	1.12	2 - 6
1.13	2 - 7	1.14	2 - 8	1.15	2 - 9
1.16	3 - 4	1.17	3 - 5	1.18	3 - 6
1.19	3 - 7	1.20	3 - 8	1.21	3 - 9
1.22	4 - 5	1.23	4 - 6	1.24	4 - 7
1.25	4 - 8	1.26	4 - 9	1.27	5 - 6
1.28	5 - 7	1.29	5 - 8	1.30	5 - 9
1.31	6 - 7	1.32	6 - 8	1.33	6 - 9
1.34	7 - 8	1.35	7 - 9	1.36	8 - 9
1.37	The sum of scores 1.1 to 1.36				
1.38	(1&4&7) - (2&5&8)				
1.39	(1&4&7) - (3&6&9)				
1.40	(2&5&8) - (3&6&9)				
1.41	The sum of scores 1.38 to 1.40				
1.42	(1&2&3) - (4&5&6)				
1.43	(1&2&3) - (7&8&9)				
1.44	(4&5&6) - (7&8&9)				
1.45	The sum of scores 1.42 to 1.44				

The nine archtypes are thus the basis for all 45 discrepancy scores described above. Now, there is no apparent reason why any of the archtypes should be considered more basic than any other. Therefore, it will not be possible to consider the direction of the scores as there is no logical point of reference. Hence, (in the terminology of the previous chapter) the initial 36 ER-ER scores and their total will all have to be

absolute, and cannot be signed. Thus, neither a positive total, nor a negative one (nor hence a signed total) will be obtainable. In like manner, the 6 scores obtained from the two matrix dimensions will have to be absolute only, as will their two totals. As before, positive and negative scores and a signed total score will not be available.

Inter-personnel. As described earlier, these arise from discrepancies between the expectancies held by an individual teacher respondent for his own role, and those held by teachers in general. By using each respondent's "Self" matrix, (Figure 4.2) the mean score of each of the archtypes, and the six interaction/behaviour types may be calculated; and it is these fifteen means that are defined in this study to be the expectancies held by teachers in general. Thus, a discrepancy between a respondent's score for one of these fifteen, and the mean score for that type is his "inter-personnel ER-ER discrepancy score" for that particular type. Further, in exactly the same manner as described above in the intra-personal section, another 3 total discrepancy scores can be generated. However, unlike the situation in that section where score direction cannot be considered, for this type of score there are two points of reference that may be used - either the "self" score, or the mean score. In the present study, the mean score will be used as the reference point, so that deviations from the mean score will constitute signed scores. Thus, both positive and negative scores may be generated. However, because of the forced choice nature of the questionnaire used by Bates and Adams, for each respondent there must always be the same number of positive as negative scores. As a result, the respondent's signed total score must be zero. So, for the present investigation, neither positive, negative nor signed total scores will be calculated. Nevertheless, three absolute total scores will be. The manipulations are outlined in Table 4.2 below. In the Table the following conventions are observed:-

The abbreviation "M1" stands for the mean score of all teacher respondents for archtype 1, "M2" for archtype 2, and so on to "M9". The next three scores, "M10", "M11", and "M12" stand respectively for the mean scores for the "S", "U", and "A" categories; while "M13", "M14", and "M15" stand for the "O",

"SM", and "SR" categories.

Table 4.2

Inter-personnel ER-ER discrepancy scores

2.1	M1 - 1	2.2	M2 - 2	2.3	M3 - 3
2.4	M4 - 4	2.5	M5 - 5	2.6	M6 - 6
2.7	M7 - 7	2.8	M8 - 8	2.9	M9 - 9
2.10	M10 - (1&4&7)	2.11	M11 - (2&5&8)		
2.12	M12 - (3&6&9)	2.13	M13 - (1&2&3)		
2.14	M14 - (4&5&6)	2.15	M15 - (7&8&9)		
2.16	The sum of the absolute values of 2.1 to 2.9				
2.17	The sum of the absolute values of 2.10 to 2.12				
2.18	The sum of the absolute values of 2.13 to 2.15				

All these ER-ER discrepancy scores are generated by comparisons between different scores, either found in, or obtainable from the "Self" matrix of Figure 4.2. Such comparisons may be described as "intra-matrix". "Inter-matrix" comparisons involve scores from the "Self" matrix and scores from one of the other matrices in Figure 4.2. The discrepancy types which result from these manipulations are representative of the ER-IEO and ER-IER types. The ones to be generated and used in this study are described below.

ER-IEO discrepancies

Any discrepancy between an expectancy that a person holds for his own role and an inference he makes of an expectancy some salient other holds about it, is an ER-IEO discrepancy. Thus, any differences between the respondent's "Self" scores and those he attributes to either parents or pupils are ER-IEO discrepancy scores. Consequently, by considering the "Self" and "Parents" matrices together, 9 discrepancy scores can be generated from each of the archtypes. As well, a further 6 scores can be obtained by using the six dimension scores for both. Then, in the same way as in the ER-ER case, 3 different totals can also be calculated. This procedure when repeated for the "Self" and "Pupils" matrices, generates another 18 discrepancy scores. The resulting 36 scores are set out in Tables 4.3

and 4.4 below, where, as before, the numbers refer to archtypes enumerated in Figure 4.2. For example, "1 - 10" stands for "the number of times the respondent selected archtype 1, minus the number of times he thought that parents would select that same archtype"; "2 - 20" stands for "the number of times he selected archtype 2 minus the number of times he thought that pupils would have selected that archtype"; "(1&4&7) - (10&13&16)" stands for "the number of times he selected the "status" dimension, minus the number of times he thought that parents would select that dimension"; and so on.

Table 4.3

ER-IEO discrepancy scores obtained from perceived conflict with parents

3.1	1 - 10	3.2	2 - 11	3.3	3 - 12
3.4	4 - 13	3.5	5 - 14	3.6	6 - 15
3.7	7 - 16	3.8	8 - 17	3.9	9 - 18
3.10	The sum of the absolute values of 3.1 to 3.9				
3.11	(1&4&7) - (10&13&16)				
3.12	(2&5&8) - (11&14&17)				
3.13	(3&6&9) - (12&15&18)				
3.14	The sum of the absolute values of 3.11 to 3.13				
3.15	(1&2&3) - (10&11&12)				
3.16	(4&5&6) - (13&14&15)				
3.17	(7&8&9) - (16&17&18)				
3.18	The sum of the absolute values of 3.15 to 3.17				

As with the "inter-personnel" ER-ER discrepancy scores, the direction of the ER-IEO discrepancies may be considered. The "Self" score used as a point of reference permits the determination of positive and negative differences. Hence, as shown in Tables 4.3 and 4.4, in every instance except the six total scores, the salient other's score is subtracted from the respondent's score. However, again because of the forced choice character of the original questionnaire, neither positive, negative, nor signed total scores can be calculated for the ER-IEO discrepancies either.

Table 4.4

ER-IEO discrepancy scores obtained from perceived conflict with pupils

4.1	1 - 19	4.2	2 - 20	4.3	3 - 21
4.4	4 - 22	4.5	5 - 23	4.6	6 - 24
4.7	7 - 25	4.8	8 - 26	4.9	9 - 27
4.10	The sum of the absolute values of 4.1 to 4.9				
4.11	(1&4&7) - (19&22&25)				
4.12	(2&5&8) - (20&23&26)				
4.13	(3&6&9) - (21&24&27)				
4.14	The sum of the absolute values of 4.11 to 4.13				
4.15	(1&2&3) - (19&20&21)				
4.16	(4&5&6) - (22&23&24)				
4.17	(7&8&9) - (25&26&27)				
4.18	The sum of the absolute values of 4.15 to 4.17				

ER-IER discrepancies

ER-IER discrepancies are discrepancies between "expectancies held for own role" and "inferences of the expectancies the other holds for his own role". The Bates and Adams study allows for two different types of these to be determined. As before, these may be referred to as "intra-personal" and "inter-personnel".

Intra-personal. In Figure 4.2, the scores contained within the "Other teachers" matrix represent inferences made by the respondent of expectancies other teachers hold for their own roles, while those in the "Self" matrix are his own expectancies for his own role as teacher. Thus, appropriate comparisons made between the two matrices will produce "intra-personal" ER-IER discrepancy scores. The generation of 18 such scores follows exactly the same pattern as that set out above for the ER-IEO scores, and is summarized using the same conventions in Table 4.5.

Inter-personnel. The 18 discrepancy scores generated in this section parallel those in the "inter-personnel" ER-ER discrepancies section except that the discrepancy in each case is between the mean of the teachers' scores for each type and

the respondent's perception of the other teachers' score for that type. These scores are tabulated in Table 4.6.

Table 4.5

Intra-personal ER IER discrepancy scores

5.1	1 - 28	5.2	2 - 29	5.3	3 - 30
5.4	4 - 31	5.5	5 - 32	5.6	6 - 33
5.7	7 - 34	5.8	8 - 35	5.9	9 - 36
5.10	The sum of the absolute values of 5.1 to 5.9				
5.11	(1&4&7) - (28&31&34)				
5.12	(2&5&8) - (29&32&35)				
5.13	(3&6&9) - (30&33&36)				
5.14	The sum of the absolute values of 5.11 to 5.13				
5.15	(1&2&3) - (28&29&30)				
5.16	(4&5&6) - (31&32&33)				
5.17	(7&8&9) - (34&35&36)				
5.18	The sum of the absolute values of 5.15 to 5.17				

Table 4.6

Inter-personnel ER-IER discrepancy scores

6.1	M1 - 28	6.2	M2 - 29	6.3	M3 - 30
6.4	M4 - 31	6.5	M5 - 32	6.6	M6 - 33
6.7	M7 - 34	6.8	M8 - 35	6.9	M9 - 36
6.10	M10 - (28&31&34)			6.11	M11 - (29&32&35)
6.12	M12 - (30&33&36)			6.13	M13 - (28&29&30)
6.14	M14 - (31&32&33)			6.15	M15 - (34&35&36)
6.16	The sum of the absolute values of 6.1 to 6.9				
6.17	The sum of the absolute values of 6.10 to 6.12				
6.18	The sum of the absolute values of 6.13 to 6.15				

Further Total discrepancy scores

In the previous chapter, it was indicated that it is possible to examine discrepancy scores totalled "across all role senders". This will be undertaken in the present study by utilizing the scores generated in the ER-IEO and intra-personal ER-IER sections (see Tables 4.3, 4.4, and 4.5) in a summation across the three role senders: parents, pupils, and other

teachers. Hence, the three type 1 scores will be added to give a total archtype 1 discrepancy score; the three type 2 scores added to give a total archtype 2 discrepancy score; and so on. This is summarized in Table 4.7.

Table 4.7
Further Total discrepancy scores

7.1	(1 - 10) & (1 - 19) & (1 - 28)
7.2	(2 - 11) & (2 - 20) & (2 - 29)
7.3	(3 - 12) & (3 - 21) & (3 - 30)
7.4	(4 - 13) & (4 - 22) & (4 - 31)
7.5	(5 - 14) & (5 - 23) & (5 - 32)
7.6	(6 - 15) & (6 - 24) & (6 - 33)
7.7	(7 - 16) & (7 - 25) & (7 - 34)
7.8	(8 - 17) & (8 - 26) & (8 - 35)
7.9	(9 - 18) & (9 - 27) & (9 - 36)
7.10	The sum of the absolute values of 7.1 to 7.9
7.11	((1&4&7) - (10&13&16)) & ((1&4&7) - (19&22&25)) & ((1&4&7) - (28&31&34))
7.12	((2&5&8) - (11&14&17)) & ((2&5&8) - (20&23&26)) & ((2&5&8) - (29&32&35))
7.13	((3&6&9) - (12&15&18)) & ((3&6&9) - (21&24&27)) & ((3&6&9) - (30&33&36))
7.14	The sum of the absolute values of 7.11 to 7.13
7.15	((1&2&3) - (10&11&12)) & ((1&2&3) - (19&20&21)) & ((1&2&3) - (28&29&30))
7.16	((4&5&6) - (13&14&15)) & ((4&5&6) - (22&23&24)) & ((4&5&6) - (31&32&33))
7.17	((7&8&9) - (16&17&18)) & ((7&8&9) - (25&26&27)) & ((7&8&9) - (34&35&36))
7.18	The sum of the absolute values of 7.15 to 7.17

An examination of these 18 total discrepancy scores which which can be produced, shows that the first 9 are archtypes totalled across all three role senders. The tenth is the grand total of all these, and effectively comprises the gross discrepancy that may be attributed to any respondent. The remaining 8 scores represent respectively the 3 totalled scores across the "S,U,A" dimension, and their grand total, and the 3

scores totalled across the "O,SM,SR" dimension, and their grand total.

Discrepancies between discrepancies

One of the underlying propositions of this study is that a discrepancy score is only an operationalization of the construct role conflict, and that it may or may not prove to be useful depending on the circumstances. Further, if an acceptable argument for an operationalization of the construct can be established, then the operationalization can claim legitimacy. The legitimacy of all the discrepancy scores described up to this point have already been argued for in the previous chapter. However, further argument is necessary because the utility of a "discrepancy between discrepancies" score is also worthy of consideration.

If a respondent were to select each of the archtypes equally, (4 times each) then he could be described as showing maximum 'homogeneity'. If, on the other hand, he were to return scores for example, of 0,0,0,0,4,8,8,8,8 for the 9 archtypes, then he could be described as showing 'heterogeneity'. It is readily apparent that a respondent of maximum homogeneity would have a zero score for all three intra-personal ER-ER total discrepancies, while a heterogeneous respondent could have intra-personal ER-ER discrepancy totals of considerable proportions. Now, if these three scores were to be calculated for all four matrices for each respondent, it is not unreasonable to suggest that a difference between a respondent's degree of homogeneity/herterogeneity and that which he attributes to salient others, reflects role conflict within that respondent. But, such a difference is in fact a discrepancy between discrepancies. Two such role conflict measures will be considered.

ER-ER/IEO-IEO. The intra-personal ER-ER scores 1.37, 1.41, and 1.45, which were generated from the "Self" matrix of Figure 4.2, and which were described earlier (see Table 4.1), are total discrepancy scores of different kinds. However, these same scores calculated from the "Parents", and "Pupils" matrices of Figure 4.2 are actually IEO-IEO discrepancies (discrepancies between "inferences of the expectancies the other holds for the focal person's role"). Therefore the difference between score

1.37 from the "Self" matrix, and the comparable one for either of the "Parents" or "Pupils" matrices is an ER-ER/IEO-IEO discrepancy score. Similarly, differences between these matrices for the scores 41 and 45 are ER-ER/IEO-IEO discrepancies. These six scores, which the study will calculate, are tabulated in Table 4.8.

Table 4.8

ER-ER/IEO-IEO discrepancy scores

8.1	1.37(Self) - 37(Parents)
8.2	1.41(Self) - 41(Parents)
8.3	1.45(Self) - 45(Parents)
8.4	1.37(Self) - 37(Pupils)
8.5	1.41(Self) - 41(Pupils)
8.6	1.45(Self) - 45(Pupils)

ER-ER/IER-IER. IER-IER discrepancies represent differences between "inferences of the expectancies the other holds for his own role", and are the type of discrepancy score generated from the "Other teachers" matrix (Figure 4.2) when it is manipulated in the same way as that described for the ER-ER scores from the "Self" matrix. Thus, just as the six ER-ER/IEO-IEO scores can be generated from the "Self", "Parents", and "Pupils" matrices, three ER-ER/IER-IER scores can be calculated from the "Self" and "Other teachers" matrices. These scores are depicted in Table 4.9.

Table 4.9

ER-ER/IER-IER discrepancy scores

9.1	1.37(Self) - 37(Other teachers)
9.2	1.41(Self) - 41(Other teachers)
9.3	1.45(Self) - 45(Other teachers)

Comment

The manipulations described produce a total of 162

different discrepancy measures. Clearly, if all the alternative interpretations described in the previous chapter were to be taken, many more discrepancy measures could be obtained. An obvious example is the set of IEO-IEO (discrepancies between inferences of the expectancies salient others hold for the focal person's role) measures, which could be generated by analyses of the teacher respondents' "Parents" and "Pupils" matrices of Figure 4.2. Another is the many different measures that could be obtained by finding the discrepancies between groupings of the Bates and Adams archtypes and dimensions other than those groupings that are to be used. That is, different combinations, of different sizes of the archtypes and/or dimensions could be made, and the resultant discrepancies used as further measures. Nevertheless, those that will be generated will provide sufficient material to illustrate the basic thesis that underlies the study. However, a further dimension of the problem needs to be discussed first.

Focal Phenomena: the Dependent Variables

This study has stated a number of times that the value of any operationalization lies in its power to predict to or explain some focal phenomenon. Further, it has suggested that different operationalizations will predict and explain different phenomena with differing degrees of power. To demonstrate differences in the predictive power of the different operationalizations of the role conflict construct, it should be sufficient to employ any relevant dependent variable. What variable is selected then becomes almost an arbitrary decision. However, because some degree of association is posited, there is some advantage in rationalizing the choice. For the present study 'job satisfaction' and 'likelihood of leaving the profession' have been chosen as two relevant dependent variables. They were selected because; (i) it was convenient to do so in that a measure of each was included in the teacher questionnaire of the Bates and Adams study; and (ii) both job satisfaction and likelihood of leaving the profession have been shown in numerous studies to be indicators of system breakdown - via conflict. They hence constitute logical choices for dependent variables in

a conflict study. As worded in the questionnaire, the items were:

"13. In comparison with other teachers how satisfied with teaching are you?

Very Satisfied
Moderately satisfied
Neither satisfied nor dissatisfied
Moderately dissatisfied
Very dissatisfied

14. How likely are you to leave the profession in five years time?

Very likely
Quite likely
Uncertain
Quite unlikely
Very unlikely"

For the present study, both items will be scored on a 5-point scale with the order in the second (item 14) reversed. In addition, these two variables when summed, permit a third dependent variable to be generated. This will have a score range of 2 to 10: a considerably wider range than that of either of the other two criteria. The statistical procedures to be employed in the study are more valid when the range of the variable undergoing manipulation is greater. Thus, this third criterion will satisfy this statistical requirement to a greater extent than will either of the other two.

Procedure

The data of the Bates and Adams study was punched on IBM cards - 4 per teacher. These contained coded "professional and personal information" (including the respondent's job satisfaction, likelihood of leaving the profession, age, and years of service), along with his coded answers to the questionnaire's items, all of which related to the nine styles of teaching described earlier. The teacher's own answers to the teaching style questions were included on cards 1 and 2, while the answers he thought that (i) parents, (ii) pupils, and (iii) other teachers would give to the questions were punched on to cards 3 and 4.

Given the data in this form, it will be necessary for the present author to write a programme which will (i) obtain from the coded answers to the questionnaire items the 36 score types depicted in Figure 4.2; (ii) calculate from these the 162

discrepancy scores proposed for the present study; and (iii) punch out cards for each teacher respondent containing these 198 scores along with his age, years of service, and three scores for the three criterion measures. The resulting "secondary data cards" will then contain all the data which will be analyzed by the mathematical procedures to be described in the next chapter.

Summary

This chapter has described the 162 ways in which the construct role conflict will be operationalized in the present study - each operationalization being a measure of the difference between selected scores, and refered to as a 'discrepancy score'. Further, the three criteria against which the relative utilities of the different operationalizations will be tested in the study have been briefly described.

The next chapter explains the nature of, and the reasons behind the methodologies which will be undertaken to demonstrate empirically the points the study has set out to make.

Demonstration Methodologies for the Operationalizations

This chapter discusses the statistical methodologies to be employed in the study, and the uses to which they will be put in an attempt to demonstrate empirically what to this point has been argued on purely logical grounds. Two methodologies will be involved: the Pearson Product Moment correlation, and Multiple regression analysis. Each of these will be considered in turn, and the way in which they will be applied to the study data, described. Following this, an account of the sample of teachers to be used will be given, and its choice justified.

Pearson Product Moment Correlation

A coefficient of correlation is a single number indicating the extent to which two characteristics are related. It tells to what extent variations in the incidence of one characteristic of a population are associated with variations in another characteristic of the same population. With the help of such knowledge, the scientist can make predictions; and further, he may be able to control one characteristic by manipulating the other. The correlation coefficient is then a statistical device which can be very valuable if it is properly applied. However, a high correlation between two variables A and B does not necessarily signify a cause-and-effect relationship. A may in fact be the cause of B; B may be the cause of A; or A and B may vary concommitantly due to a third, but unknown, factor C. The correlation signifies only association.

Although the Pearson Product Moment correlation coefficient has been used as an index of relationship between two variables for more than 50 years, there continues to be considerable controversy concerning the circumstances under which its use is appropriate. The focus of contention has been the question of whether or not it is necessary to assume normality in the distributions on which the correlations are based. In the period 1929 through 1932, Pearson conducted a series of studies in which he arranged for the score distributions to deviate in various ways from bivariate normal, and finally concluded from these that the utility of the coefficient was <u>not</u>

seriously affected by failure to meet the theoretical assumption of normality. However, Baker (1930), in dealing with a bivariate distribution with markedly skewed marginal frequencies, found that his obtained sampling distribution of correlation coefficients was also skewed, and so concluded that the usual tests of significance would be misleading. Norris and Hjelm (1961) analyzed the situation more thoroughly, and concluded that misleading results accrued only in the case of high correlation between variables, in which case, the type of non-normality determined whether the degree of relationship would be under- or over-estimated. Their study showed that the type of distribution was irrelevant where the correlations were approximately zero, but critical when the correlations were of the order of .83. Thus, they indicated that if a sample were to contain many highly correlated variables which were non-normally distributed, then an inter-correlation matrix from these variables would not be as valid as one derived from the variables transformed to normality, as the magnitude of the correlations in the normalized matrix would be exaggerated if the distributions were either lepto-kurtic or skewed, but under-estimated if the distributions were rectangular.

Multiple Regression Analysis

In Chapter I of this thesis it was argued that a construct is a fabrication which has been 'constructed' to do a particular job. In the case of this study, the construct is role conflict, and the job is threefold - prediction to three criterion measures. Further, it was also indicated that if mathematical manipulations were to be applied to the construct in such a way that its job effectiveness was improved, then these manipulations, in adding predictive power to the construct, must be considered useful in this context. The manipulation selected for illustration in the present study is multiple regression analysis.

A multiple regression analysis produces a regression equation involving a number of independent variables, and explains the variance observed in some focal dependent variable. A regression equation has the form:

$$X = K_1a \;\&\; K_2b \;\&\; K_3c \;\&\; K_4d \;\&\; \ldots\ldots \;\&\; C$$

where X is the dependent variable; a, b, c, d, etc. are the various independent variables; K_1, K_2, K_3, K_4, etc. are the regression coefficients; and C is the regression constant. If C and the regression coefficients can be evaluated, it is possible to predict the value of X from given values of the independent variables.

The actual statistical method to be used is based on a stepwise multiple regression procedure proposed by Efroymson (1960), and later modified for trend surface analysis by Miesch and Connor (1968). The programme to be actually run is a translation of the latters' programme into Fortran IID, for use on an IBM 1620II computer.[1]

Stepwise regression methodology produces a regression equation containing variables that are each significant at a prescribed level of confidence. At each stage, the stepwise procedure selects the independent variable that increases the amount of dependent variable variance explained by the regression equation, by the most significant amount. If this amount is more significant than the prescribed probability level, the independent variable is inserted into the regression equation. If the significance is less than the prescribed level, then the variable is rejected. Because the significance of an independent variable in the equation will change with the addition of new variables, each one already in the equation is tested for significance immediately after the addition of each new one. Such variables in the equation shown to be non-significant are deleted from the equation. On completion of the analysis, the percentage of dependent variable variance explained by the regression equation is computed.

Procedures

Product Moment Correlation

The present study will generate 162 operationalizations of the construct role conflict and proposes that these, because they are all different from one another, will relate to other criterion measures differentially. These differences may be demonstrated by the use of the product moment correlation.

However, because the essential concern of the study is with demonstrating some differences of relationship to support the preceding logic, no necessity exists to undertake transformations to normality of all 162 operationalizations. In other words, the validity criterion invoked by Norris and Hielm is not relevant here.

The original intention was to correlate every operationalization with every other in order to obtain some idea of the varying degrees of commonality. In addition, each operationalization was to have been tested for extent of correlation with each of the criterion measures. However, effectively this would have necessitated a 165x165 correlation matrix - a formidable task for any computer, and too great a one for the machine available. Consequently, the 162 discrepancy scores will be cut into three equal blocks - of 54 each - and, with the three criterion measures added to each of these blocks, three 57x57 correlation matrices computed, using a programme written by the author.[1] This will mean that inter-correlations between measures in different blocks will not be obtained. But, in view of the nature of the exercise, this appears not unreasonable.

A further 5x5 correlation matrix which is slightly off the central line of argument of the study will also be calculated. This involves the three criterion measures plus the variables "age" and "years of service" - as supplied by the questionnaire respondents. Although it is not a concern of the study to relate any operationalization of role conflict - or the construct itself for that matter - with either the age of a teacher or his number of years of service, it will be interesting to compare the extent of relationship between these two variables and the three criterion measures, and between the different role conflict operationalizations and the criterion measures. Reason would suggest that age and years of service might be shown to be related to job satisfaction and likelihood of leaving the profession, while it might not suggest the same for a 'discrepancy score'. Therefore, a 5x5 matrix will be computed in order to test the comparison.

The correlation formula to be used in the study is the form which uses "raw" or obtained scores. In it, X and Y are raw scores, and M_X and M_Y are the means of the X and Y series respectively. EX^2 and EY^2 are the sums of the squared X and Y

values, and N is the number of cases. It is:

$$r^2 = \frac{(EXY - NM_XM_Y)^2}{((EX^2 - NM_X^2)(EY^2 - NM_Y^2))}$$

Multiple regression analysis

Since the application of the methodology does not vary when different dependent variables are used, it is redundent to apply the multiple regression analysis to all three criterion measures. Consequently the job satisfaction variable has been selected to play the role of dependent variable in the analysis, with the various discrepancy scores comprising the independent variables. This procedure disregards the normality conventions usually observed in the use of multiple regression analysis. The reasons for doing so are the same as those referred to in the discussion of the Pearson product moment correlation procedure. Thus, for the purposes of the present exercise, the 'raw' discrepancy scores will be applied to the analysis.

The object of the exercise is to attempt to increase the predictive power of the construct role conflict towards the measure of job satisfaction through the use of a mathematical manipulation which will combine operationalizations of the construct into a more powerful unit (the right hand side of the regression equation). The most obvious action to take would be to inject all the operationalizations into the manipulation, and allow the programme to select the most useful among them. Unfortunately, the nature of the programme, combined with the size of the available computer (an IBM 1620II), forces a restriction on the number of independent variables that can be used. In fact, of the 162 which are available for manipulation, there is room in the programme/computer for 20 only. Therefore, for want of a better criterion for selection, the 20 which are found to correlate most highly with the job satisfaction measure will be chosen as the input independent variables.

Two regression equations will be formulated: one in which all 20 independent variables are included in the equation (as the probability level given as the criterion for inclusion will be 1.00); and one in which only those variables that are

significant at the 0.05 level in reducing the amount of unexplained variance in the dependent variable are included. For the case where the probability level is set equal to 1.00, though all the independent variables are included in the regression equation, many of its coefficients could contain a large error and thus be very susceptible to slight changes in the data. That is, such variables will not have high predictive validity. On the other hand, at the 95% probability level, the equation will contain fewer variables (and hence will explain rather less of the variance observed in the dependent variable). But, these variables are those containing the least error, so that this equation would be less susceptible to small data changes, would contain variables with high predictive validity only, and therefore would, possibly, be the more meaningful.

Sample

Data from 403 teacher respondents from the Bates and Adams study were made available for the present study. From these it was possible to select a sample appropriate for the manipulations planned. The rationale for the selection is given below.

In the earlier sections of this chapter, the importance and relevance of normal distributions in the variables being statistically manipulated were discussed, and the conclusion was reached that it would not affect the exercise in hand to disregard the distributions of the various discrepancy scores. however, with the opportunity to select from the original Bates and Adams sample, it was decided to take a sample[2] of 100 teacher respondents which was normalized on one of the dependent variables, and thus pay some deference to the normality criterion. Job satisfaction was chosen as the variable on which the sample would be normalized, as many investigations have found role conflict to be associated with job satisfaction, while far less attention has been accorded to the likelihood of a person's leaving his profession as a criterion variable. Furthermore, though the third criterion measure is characterized by a statistically desirable wider range of scores than either of the other two criteria, the theoretical construct it represents has not commanded the same interest as has job satisfaction

in role conflict studies. Therefore, a sample was selected so that its job satisfaction scores were as near as practicably normally distributed on the available 5-point scale. Now, a normal curve with 5 points extending across 3 standard deviations would require 3.525, 23.04, 45.14, 23.84, and 3.525 respondents to fall on each of the five points 1 to 5 respectively. Matching the theoretical, however, poses problems. A close fit to the normal could have been obtained by selecting a distribution of 4, 24, 44, 24, and 4; but it was considered that the small number of respondents in the two tails caused a rather excessive restriction in the effective range of scores. Consequently, a compromise was made between normality and effective range, and a sample was selected for the study with a distribution on the 5-point scale of 6, 24, 40, 24, and 6.

The next chapter sets out the more salient findings of the study.

.....

1 Listings of all programmes are included within the supplement to this thesis. They are:
(i) The generation of the secondary data cards (two programmes).
(ii) The calculation of a correlation matrix (four programmes).
(iii) The multiple regression analysis.
The four correlation programmes differ within themselves in their format statements only. The multiple regression programme was translated into Fortran IID from the Miesch and Connor programme by M.H.Timperley of Massey University.

2 One of the hypotheses of the present study is that the utility of an operationalization will be dependent upon the population to which it is applied. But, the illustration of this would necessitate the selection of several samples which were matched in all ways except for the focal dependent and independent variables of the study: job satisfaction and role conflict. As this would result in a simple multiplication of the same analyses already being undertaken, the procedure will be foregone in this study.

Findings

The essential thesis initially advanced in this study is that the construct role conflict can be operationalized in many different ways, but that these will have varying degrees of utility depending on: (i) the criterion measure, (ii) what is done with the operationalizations, and (iii) the population under study. Chapter III described what operationalizations might logically be derived under differing circumstances; chapter IV described those that were actually generated in the present study, along with the three criterion measures; and the previous chapter the two mathematical manipulations used. This chapter, which concentrates on generalities rather than specifics, sets out and discusses the essential findings of the study. In it, the first section deals with the proposition that "the construct role conflict can be operationalized in many different ways"; the second deals with the "varying degrees of utility, depending on the criterion measure"; the third deals with the mathematical manipulations of the study; and the final section deals with the tangential issue of the comparison between the extent of correlation the study's operationalizations of role conflict have with the three criterion measures, and that that age and years of service have with the same criteria.

Inter-relationships among the Operationalizations

One way of seeing differences among the ways in which role conflict can be operationalized, is through an examination of an inter-correlation matrix of all the operationalizations. In the present study three matrices were computed. Consequently it is appropriate to confine attention to the degrees of relationship <u>within each type</u> of discrepancy score. Table 6.1 shows the number of inter-correlations within each type of operationalization. It also shows the number of these, and the proportion they represent, which are significant at the 0.05 level or better. Finally, the Table shows the number of correlation coefficients which are $\geq .5$, and the proportion this is of the total number of inter-correlations within each type.
Several observations may be made about Table 6.1:
(i) The proportion of discrepancy scores which are signific-

antly inter-correlated within the score types is fairly constant at approximately 55%. This would appear to suggest that within each type, less than one half of the scores are independent, and therefore entirely 'different' operationalizations. However -

(ii) the proportion of the correlations which have magnitude ≥ 0.5 is overall very small. In other words, though the associations found are unlikely to have been found by chance factors alone, the actual extent of these associations is not large, so that the majority of the operationalizations are indeed 'different'.

Table 6.1

Inter-correlations within discrepancy score types

Type of discrepancy score	No. of r's.	No. of sig. r's	No. of r's $\geq .5$	P'pn. of r's sig.	P'pn. of r's $\geq .5$
Intra-personal ER-ER	990	279	14	.282	.014
Inter-personnel ER-ER	153	87	19	.569	.124
ER-IEO	630	326	79	.518	.125
Intra-personal ER-IER	153	84	43	.549	.281
Inter-personnel ER-IER	153	90	27	.588	.177
Totals across role senders (ER-IEO/IER)	153	90	23	.588	.150
ER-ER/IEO-IEO	15	6	0	.400	.000
ER-ER/IER-IER	3	2	0	.667	.000

(iii) The proportion of correlation coefficients $\geq .5$ is conspicuously larger in the intra-personal ER-IER discrepancy score type than in any of the others. Therefore, according to the Norris and Hjelm position, the distribution of these scores is more critical than are those of the others, so that results obtained from intra-personal ER-IER operationalizations may not be as valid as other results.

(iv) The proportion of inter-correlation coefficients of the intra-personal ER-ER score type which are significant at the

0.05 level or better stands out as being quite different from that of the other types: it is about half that of most of the others. Further, only 14 correlations in 990 are $\geq .5$. This would suggest that (a) these scores are less inter-related, (that is, more independent) than any of the other score types, in which case this type of score might prove to have wider powers than the other types used in the present study; and (b) results obtained through these sources may be taken as valid with considerable confidence. A further look at this possibility will be taken in the following sections where the predictive powers of the different operationalizations are investigated.

Role Conflict and Job Satisfaction

A summary of the significant correlations between discrepancy scores and job satisfaction is presented in Table 6.2. In the Table, there are subdivisions into score types and significance levels. In the substantive part of the Table, the identification number for the type of score (as defined in Chapter IV) appears in one column, and adjacent to each, its coefficient of correlation with the criterion measure job satisfaction.

Inter-operationalization type differences

In Table 6.3 the specifics of Table 6.2 are replaced by a number count, and supplementary information is provided in the total number of each discrepancy score type used in the study, and the percentage which is correlated significantly with job satisfaction. Two points arise from Table 6.3.

(i) The intra-personal ER-ER scores provide 9 significant correlations, which is 5 more than any of the other types, but the 4 significant inter-personnel ER-ER scores make up a larger percentage of their total suggesting that possibly they are the most powerful predictors of the set. However, it was a conclusion of the first section of this chapter that the intra-personal ER-ER scores are less inter-related than any of the other score types (including the inter-personnel ER-ER ones). From this it could follow then, that there are 4 inter-personnel ER-ER scores significantly associated with job satisfaction perhaps because only one of them is, and the other three, in

Table 6.2

Correlation with Job Satisfaction by Operationalizations of Role Conflict

Type of Discrepancy score	Significance level 0.05				0.01			
	ID No	r	ID No	r	ID No	r	ID No	r
Intra-personal ER-ER	1.5	-.197	1.31	-.253	1.3	.257	1.14	.322
	1.22	.229	1.33	-.220	1.10	.277	1.29	.222
					1.11	.260		
Inter-personnel ER-ER	2.6	.222	2.13	-.221				
	2.8	.223	2.16	-.222				
ER-IEO	4.4	-.196	4.15	.204				
Intra-p. ER-IER	5.15	.205						
Inter-p. ER-IER	6.7	-.222			6.8	.257		
ER-IEO/IER Tots	7.6	-.195	7.18	.206				
ER-ER/IEO-IEO								
ER-ER/IER-IER								

Table 6.3

Numbers of different types of discrepancy scores correlating significantly with job satisfaction:

Score type	Sig. level .05	Sig. level .01	Total significant	Number used in study	%age of no. significant
Intra-p. ER-ER	4	5	9	45	20.00
Inter-p. ER-ER	4	-	4	18	22.25
ER-IEO	2	-	2	36	5.56
Intra-p. ER-IER	1	-	1	18	5.56
Inter-p. ER-IER	1	1	2	18	11.11
ER-IEO/IER Totals	2	-	2	18	11.11
ER-ER/IEO-IEO	-	-	0	6	-
ER-ER/IER-IER	-	-	0	3	-
Total			20	162	12.36

being highly correlated with the first, therefore become associated with job satisfaction as well. On the other hand, from the less inter-related nature of the intra-personal ER-ER scores, all 9 noted in Tables 6.2 and 6.3 may be associated separately with job satisfaction. This can be examined by an inspection of Tables 6.4 and 6.5 which depict the actual inter-correlations. Correlations significant at the .05 level or better are underlined.

Table 6.4

Inter-correlations between intra-personal ER-ER scores

	1.3	1.5	1.10	1.11	1.14	1.22	1.29	1.31	1.33
1.3		-.035	.177	.095	.087	.057	.126	-.083	-.051
1.5			-.011	-.103	-.128	-.008	-.101	.493	.050
1.10				-.004	.162	.285	.110	-.255	-.153
1.11					.128	.128	-.061	.084	-.064
1.14						.023	.237	-.214	-.123
1.22							.101	-.063	-.061
1.29								-.103	-.060
1.31									.145
1.33									

Table 6.5

Intercorrelations between inter-personnel ER-ER scores

	2.6	2.8	2.13	2.16
2.6		-.054	-.238	.456
2.8			-.420	.080
2.13				-.218
2.16				

Tables 6.4 and 6.5 show respectively 5 out of 36, and 4 out of 6 inter-correlations which are significant at the 0.05 level or better. Not only does this bear out the conclusion of the first section that the intra-personal ER-ER scores are less inter-related than the other scores, but it also adds credence to the suggestion that the 4 inter-personnel ER-ER scores are correlated with job satisfaction through their inter-relationship, and

not through their own individual powers of prediction.

The counter-argument to this is that two variables A and B can correlate highly, and yet predict to a third variable quite differently. To take three examples from the results of this study - one from each criterion variable: (a) inter-personnel ER-IER scores 6.8 and 6.15 correlate .627, while the correlation coefficients of these scores with job satisfaction are .257 and -.010 respectively. (b) Scores 2.8 and 2.11 correlate .433, but correlate with likelihood of leaving the profession respectively .252 and .092. And (c) scores 1.33 and 1.44, which inter-correlate .541, but correlate with the third criterion measure -.272 and -.063 respectively. Alternatively, two variables can have a low inter-correlation, and yet predict to a third variable: (i) with similarly high prediction, or (ii) with similarly low prediction. Again, taking three examples of each from this study's results:- (i) (a) The inter-personnel ER-ER scores 2.6 and 2.8 correlate -.054 and yet correlate with job satisfaction .222 and .223 respectively. And (b) and (c): Scores 1.3 and 1.33 which correlate -.051, but correlate with likelihood of leaving the profession, and job satisfaction & likelihood of leaving the profession, .220 and -.225, and -.272 and .267 respectively. (ii) (a) The ER-IER scores 3.14 and 3.15 correlate -.035, but correlate .006 and .064 respectively with job satisfaction. (b) The scores 7.1 and 7.2 correlate with each other .016, both correlating .001 with likelihood of leaving the profession. And (c), Scores 1.19 and 1.23 which inter-correlate .009, but correlate with job satisfaction & likelihood of leaving the profession respectively . -.006 and -.001. However, it is the conclusion of the author that the intra-personal ER-ER discrepancy scores are the most powerful predictors of job satisfaction in the present study. (ii) Some of the operationalization types are not good job satisfaction predictors.[1] However, this is supportive of one of the essential theses of this study - that different operationalizations of role conflict will show a range of usefulness - and, for the different <u>types</u> of operationalization, this is depicted very clearly in Table 6.3. The range of correlations with job satisfaction <u>within</u> each type is examined in the next section.

Intra-operationalization type differences

This section sets out the evidence which relates to the proposition that within each type of discrepancy score will be scores which have no relationship at all with job satisfaction, some which are related, but not significantly, and some which are correlated with job satisfaction at statistically significant levels. The evidence is summarized in two Tables and two Figures. Table 6.6 gives the range of correlations with job satisfaction to be found within each type of role conflict operationalization. For each score type, the identification numbers (from Chapter IV) of the operationalizations which have the highest and lowest correlations with job satisfaction for that type, are given along with their correlation coefficients. Table 6.7 gives the number of each type of discrepancy score which fall into a given range of correlation coefficient size. However, because there are different numbers of each of the types actually used in the study, the Table also shows, for better comparison, the proportions of each type falling into each size category. Figures 6.1 and 6.2 represent Table 6.7 graphically. The former depicts all eight distributions on a common pair of axes, thus facilitating direct comparison between them. The latter separates the eight to enable the individual shape of each distribution to be more readily discerned. Two points arise from a consideration of these summary Tables and Figures.

(i) As postulated, there is a range of correlations with job satisfaction within each type of discrepancy measure (although this range differs from type to type).

(ii) The distributions of the correlations as depicted in Figures 6.1 and 6.2 merit consideration. The inter-personnel ER-ER, and ER-ER/IEO-IEO score types are fairly evenly distributed, though over a restricted range, but all the other types are markedly skewed, with many more role conflict operationalizations having almost no correlation with job satisfaction than some correlation. However, some of the types are better than others in this respect. For instance, both ER-ER types have a greater proportion of more useful correlations than either of the ER-IER types. The distribution of the ER-ER/IER-IER operationalization type is based on 3 scores only, and hence cannot be compared with any reliability in this direct manner.

Table 6.6

The range of correlations with job satisfaction within each type of discrepancy score

Score type	Max. r		Min. r		Range.
	ID No.	r	ID No.	r	
Intra-p. ER-ER	1.14	.322	1.8	.009	.313
Inter-p. ER-ER	2.8	.223	2.9	.000	.223
ER-IEO	4.15	.204	4.17	.000	.204
Intra-p. ER-IER	5.15	.205	5.11	-.025	.180
Inter-p. ER-IER	6.8	.257	6.6	-.004	.253
ER-IEO/IER Tots.	7.18	.206	7.9	-.014	.192
ER-ER/IEO-IEO	8.1	.175	8.5	.007	.168
ER-ER/IER-IER	9.2	.176	9.3	.094	.082

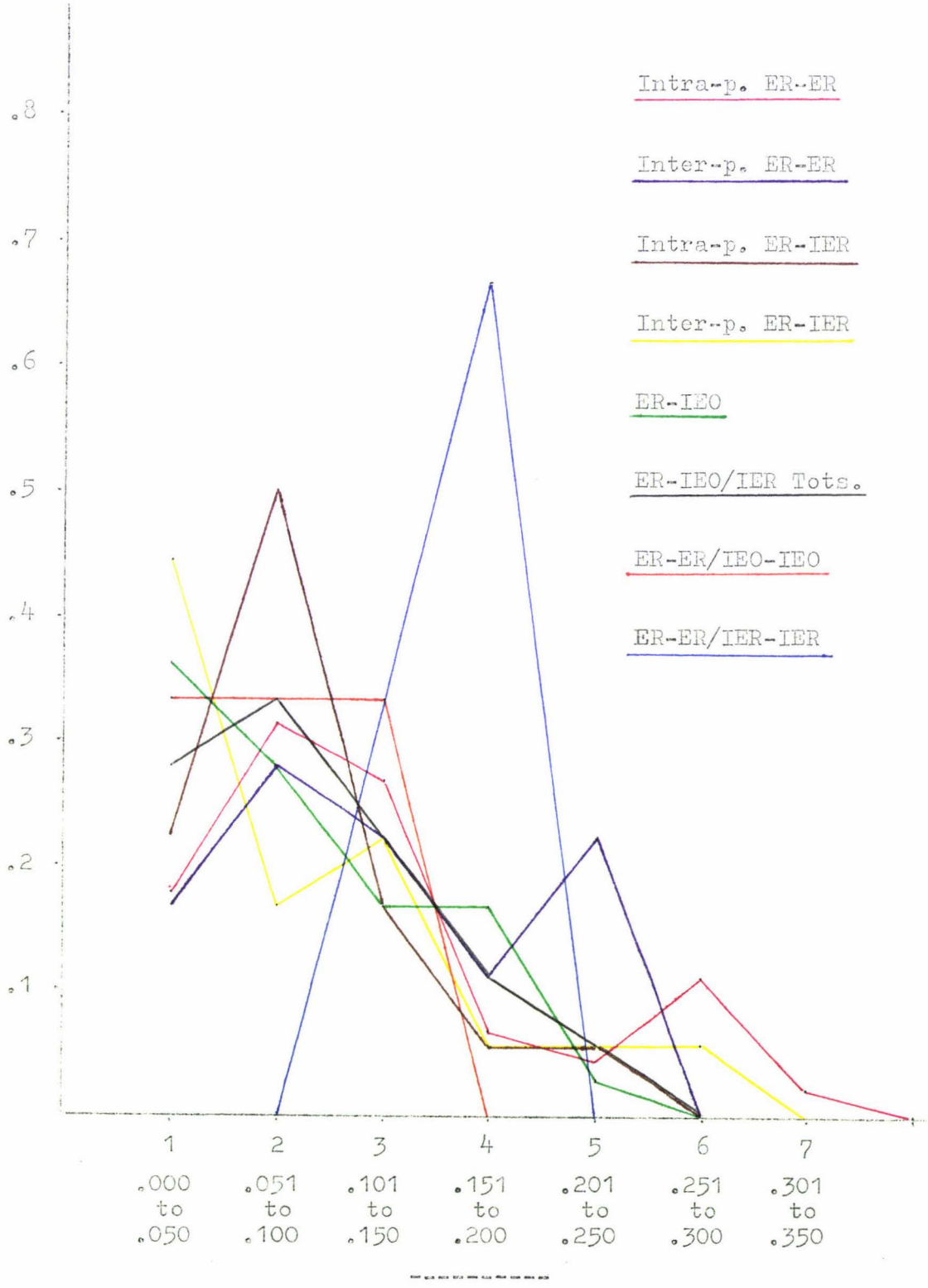
Table 6.7

The distribution of correlations with job satisfaction within each type of discrepancy score

Correlation (from) / range (to)		.000 / .050	.051 / .100	.101 / .150	.151 / .200	.201 / .250	.251 / .300	.301 / .350
Intra-p. ER-ER	n	8	14	12	3	2	5	1
	r	.178	.311	.267	.067	.044	.111	.022
Inter-p. ER-ER	n	3	5	4	2	4		
	r	.167	.278	.222	.111	.222		
ER-IEO	n	13	10	6	6	1		
	r	.361	.278	.167	.167	.028		
Intra-p. ER-IER	n	4	9	3	1	1		
	r	.222	.500	.167	.056	.056		
Inter-p. ER-IER	n	8	3	4	1	1	1	
	r	.444	.167	.222	.056	.056	.056	
ER-IEO/IER Tots.	n	5	6	4	2	1		
	r	.278	.333	.222	.111	.056		
ER-ER/IEO-IEO	n	2	2	2				
	r	.333	.333	.333				
ER-ER/IER-IER	n			1	2			
	r			.333	.667			

Figure 6.1

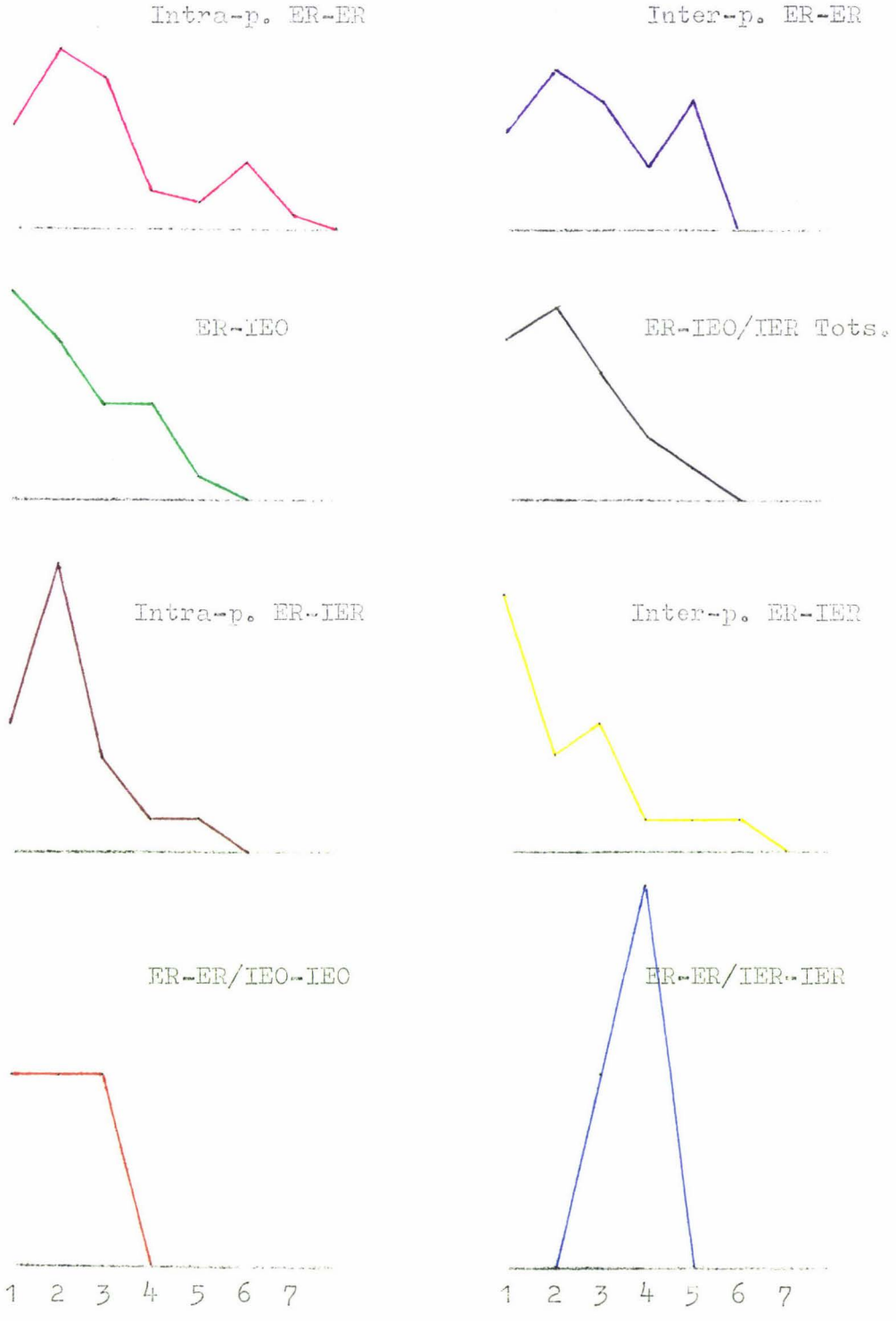
The distribution of correlations with job satisfaction within each type of discrepancy score:



Legend: The points on the X-axis are the 7 correlation ranges of Table 6.7. The Y-axis is the proportion of correlations within each range.

Figure 6.2

The distribution of correlations with job satisfaction within each type of discrepancy score:



Legend: The points on the X-axis are the 7 correlation ranges of Table 6.7. The Y-axis is the proportion of correlations within each range. The scale is constant.

Role Conflict and Likelihood of Leaving the Profession

The second criterion measure is the likelihood of leaving the profession, and the utility of different operationalizations of role conflict in terms of correlation with this criterion will be examined along the same lines as have just been done for the first criterion - job satisfaction. Thus, the Tables and Figures follow precisely the same lines as those already described in detail in the foregoing section. Table 6.8 follows the same format as Table 6.2, with the identification number for the type of score (as defined in Chapter IV) alongside its correlation coefficient with the likelihood of leaving the profession criterion measure. As in the job satisfaction section, Table 6.8 has been summarized into the form shown in Table 6.9. These two Tables show that the operationalizations of role conflict do not produce as many instances of significant association with the job retention criterion variable as they do with the job satisfaction criterion. Moreover, three of the types provide no statistically significant correlations at all. Of the eight discrepancy score types, not one would appear to be very useful in explaining likelihood of leaving the profession. Further, at the .05 level of confidence, 5 significant correlations in every 100 may be expected to be found by chance alone. The present study is concerned with 162 correlations, from which it may be deduced that 8 of the significant correlations of Table 6.9 may be due to chance factors alone. This would tend to suggest that, in contrast to job satisfaction, there is little association between role conflict as operationalized in this instance, and likelihood of leaving the profession.

Corresponding with Tables 6.6 and 6.7 and Figures 6.1 and 6.2, Tables 6.10 and 6.11 and Figures 6.3 and 6.4 respectively contain information on the range and distribution of correlations with the criterion under present consideration. Further, Figure 6.4 repeats the information of Figure 6.2, thus facilitating direct visual comparison between these two criteria.

Three points arise from these analyses.

(i) As with correlation with job satisfaction, correlation with likelihood of leaving the profession produces a range of coefficients within each type of discrepancy score.

Table 6.8

Correlation with Likelihood of Leaving by Operationalizations of Role Conflict:

Type of Discrepancy score	Significance level 0.05				0.01			
	ID No	r	ID No	r	ID No	r	ID No	r
Intra-p. ER-ER	1.3	.220	1.14	.235	1.10	.279	1.33	-.255
Inter-p. ER-ER	2.8	.252	2.13	-.208				
ER-IEO								
Intra-p. ER-IER	5.10	.208						
Inter-p. ER-IER	6.15	.240			6.8	.325		
ER-IEO/IER Tots	7.14	.202						
ER-ER/IEO-IEO								
ER-ER/IER-IER								

Table 6.9

Numbers of different types of discrepancy scores correlating significantly with likelihood of leaving

Score type	Sig. level .05	Sig. level .01	Total significant	Number used in study	%age of no. significant
Intra-p. ER-ER	2	2	4	45	8.89
Inter-p. ER-ER	2	-	2	18	11.11
ER-IEO	-	-	0	36	-
Intra-p. ER-IER	1	-	1	18	5.56
Inter-p. ER-IER	1	1	2	18	11.11
ER-IEO/IER Totals	1	-	1	18	5.56
ER-ER/IEO-IEO	-	-	0	6	-
ER-ER/IER-IER	-	-	0	3	-
Total			9	162	5.56

Table 6.10

The range of correlations with Likelihood of leaving within each type of discrepancy score:

Score type	Max. r		Min. r		Range.
	ID No.	r	ID No.	r	
Intra-p. ER-ER	1.10	.279	1.27	.007	.272
Inter-p. ER-ER	2.8	.252	2.12/17	.007	.245
ER-IEO	4.14	.161	3.15	-.003	.158
Intra-p. ER-IER	5.10	.208	5.17	-.011	.197
Inter-p. ER-IER	6.8	.325	6.17	.002	.323
ER-IEO/IER Tots.	7.14	.202	7.1/2	.001	.201
ER-ER/IEO-IEO	8.6	-.111	8.1	.007	.104
ER-ER/IER-IER	9.1	.122	9.2	.066	.056

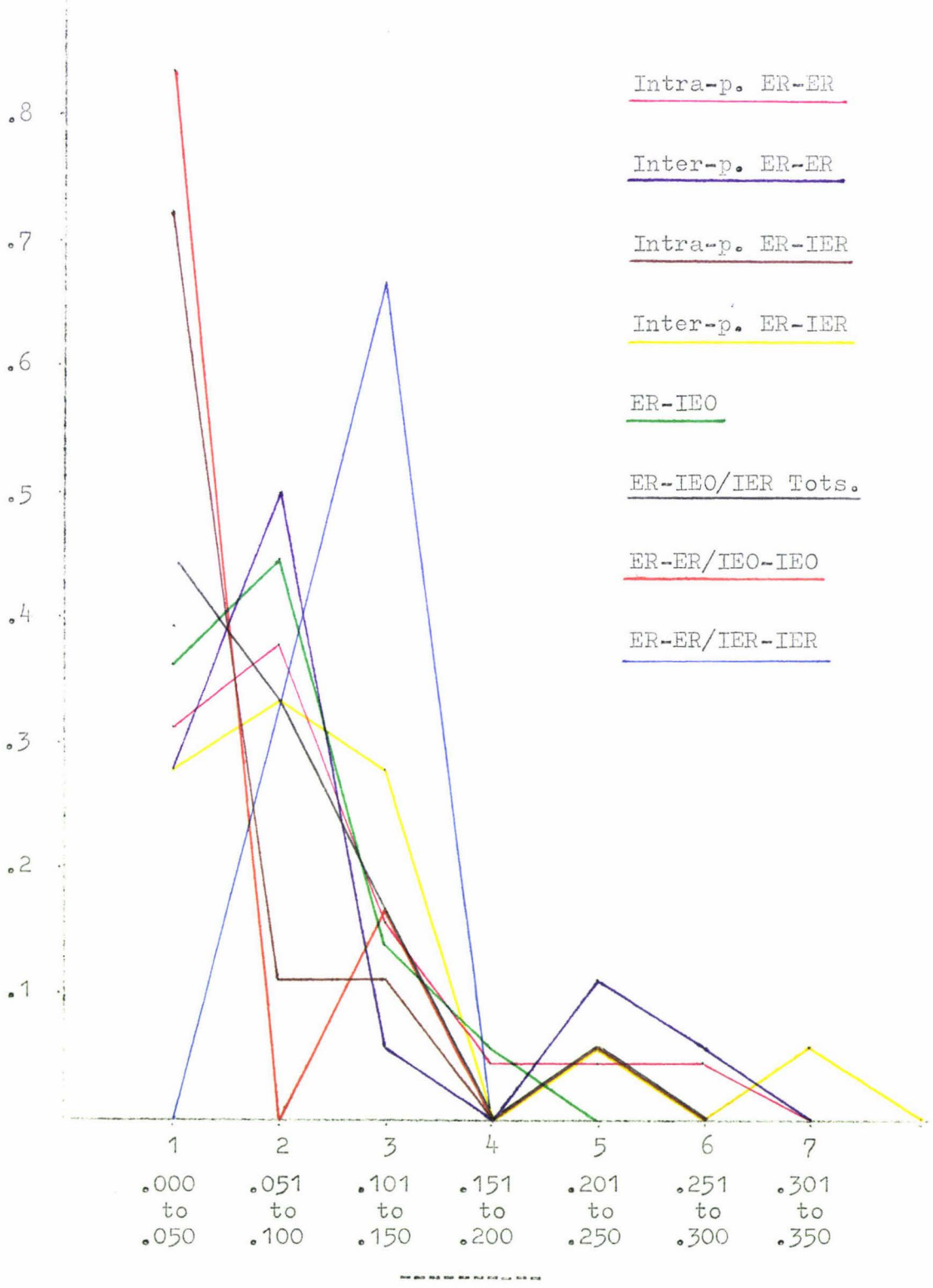
Table 6.11

The distribution of correlations with Likelihood of leaving within each type of discrepancy score

Correlation (from) / range (to)		.000 / .050	.051 / .100	.101 / .150	.151 / .200	.202 / .250	.251 / .300	.301 / .350
Intra-p. ER-ER	n	14	17	7	2	2	2	
	r	.311	.373	.156	.044	.044	.044	
Inter-p. ER-ER	n	5	9	1		2	1	
	r	.278	.500	.056		.111	.056	
ER-IEO	n	13	16	5	2			
	r	.361	.445	.139	.056			
Intra-p. ER-IER	n	13	2	2		1		
	r	.722	.111	.111		.056		
Inter-p. ER-IER	n	5	6	5		1		1
	r	.278	.333	.278		.056		.056
ER-IEO/IER Tots.	n	8	6	3		1		
	r	.444	.333	.167		.056		
ER-ER/IEO-IEO	n	5		1				
	r	.834		.167				
ER-ER/IER-IER	n		1	2				
	r		.333	.667				

Figure 6.3

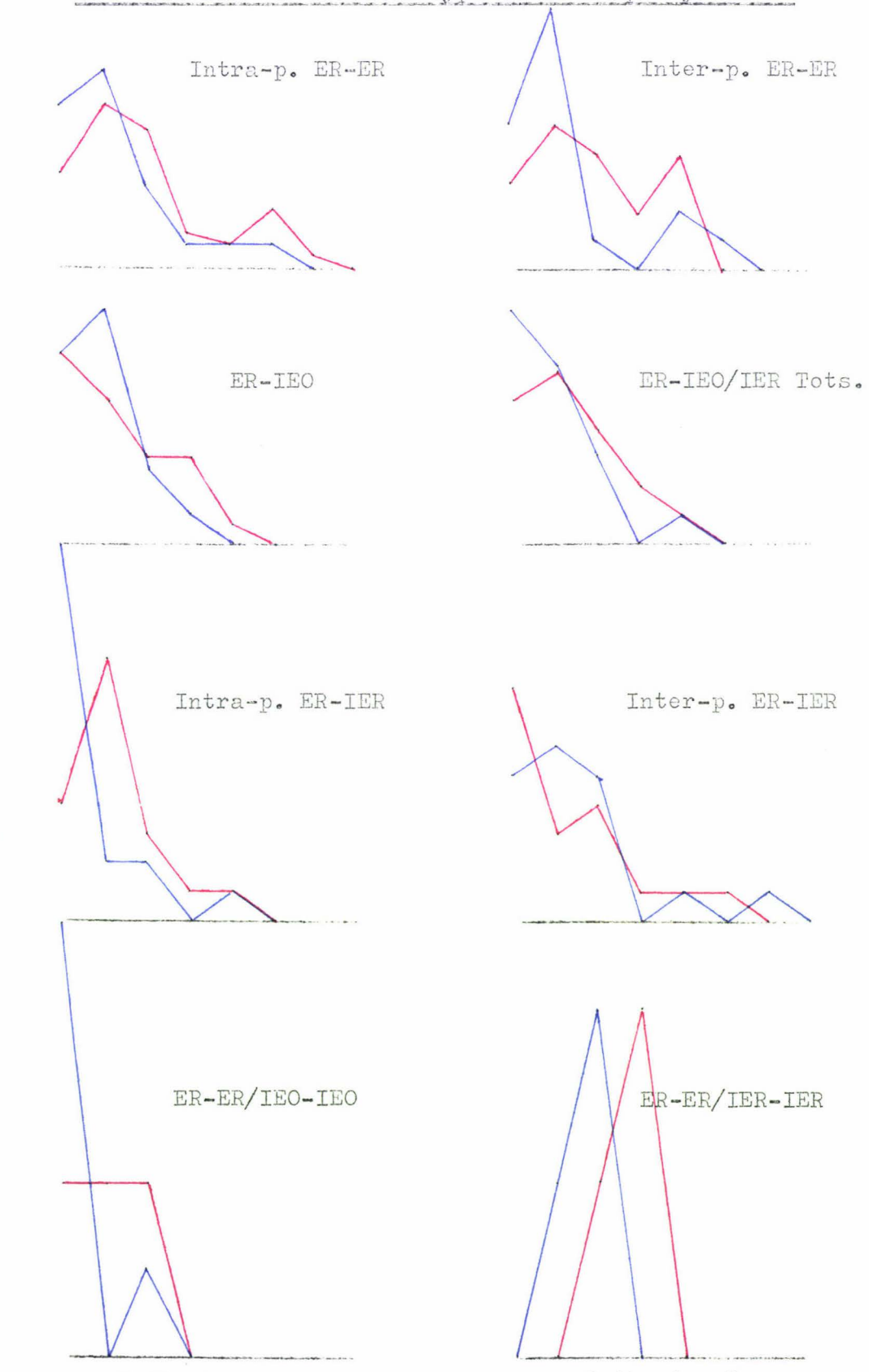
The distribution of correlations with likelihood of leaving within each type of discrepancy score



Legend: The points on the X-axis are the 7 correlation ranges of Table 6.11. The Y-axis is the proportion of correlations within each range.

Figure 6.4

The distribution of correlations with the first two criteria within each type of discrepancy score:



(X and Y axes as for Figure 6.2)

(ii) The distributions of the correlations are markedly biased - with the majority of them being very low. The sole exception to this is the ER-ER/IER-IER type which suggests an even distribution on the graphical representation. But, the fact that it is based on only two coordinates, along with an examination of them, makes it ineligible for the present discussion. The two inter-personnel types both give the appearance in Figures 6.4 and 6.5 of having some higher correlations. However, inspection of Table 6.9 again shows that the graphical representation is based on two correlation coefficients only within each type.

(iii) Poor though the relationship is between role conflict, as operationalized in the present study, and likelihood of leaving the profession; as with job satisfaction, again the intra-personal ER-ER score type would seem to have the closest overall association with the second criterion measure.

Role Conflict and Likelihood of System Breakdown

The third and final criterion against which the utility of various operationalizations of role conflict was tested, is the measure resulting from summing the scores for the first two criterion measures. As such it has a wider range of scores than either of the first two criteria, and hence is more appropriate for the application of the correlation coefficient statistic. The treatment of this section will follow the same lines as those of the previous two sections.

In accordance with earlier procedures, Table 6.13 contains a summary of the preceding Table 6.12. Inspection of Tables 6.13 and 6.9 shows few differences. In other words, again there is overall a very small amount of commonality between role conflict as here operationalized, and the criterion variable - in this case 'likelihood of system breakdown'. The intra-personal ER-ER score type is the only one to show any gain in the number of operationalizations significantly correlated with the criterion. There are only two operationalization types which merit consideration as being possibly related to the third criterion, and these are the same two types already cited in the job satisfaction criterion discussion - the intra-personal and inter-personnel ER-ER discrepancy score types. But, in yet

Table 6.12

Correlation with the Third Criterion by Operationalizations of Role Conflict

Type of Discrepancy score	Significance level 0.05				0.01			
	ID No	r	ID No	r	ID No	r	ID No	r
Intra-p.	1.11	.206	1.29	.246	1.3	.267	1.14	.308
ER-ER					1.10	.315	1.33	-.272
Inter-p. ER-ER	2.13	-.243			2.8	.272		
ER-IEO								
Intra-p. ER-IER	5.10	.200						
Inter-p. ER-IER					6.8	.336		
ER-IEO/IER Tots								
ER-ER/IEO-IEO								
ER-ER/IER-IER								

Table 6.13

Numbers of different types of discrepancy scores correlating significantly with the third criterion

Score type	Sig. level .05	Sig. level .01	Total significant	Number used in study	%age of no. significant
Intra-p. ER-ER	2	4	6	45	13.33
Inter-p. ER-ER	1	1	2	18	11.11
ER-IEO	-	-	0	36	-
Intra-p. ER-IER	1	-	1	18	5.56
Inter-p. ER-IER	-	1	1	18	5.56
ER-IEO/IER Totals	-	-	0	18	-
ER-ER/IEO-IEO	-	-	0	6	-
ER-ER/IER-IER	-	-	0	3	-
Total			10	162	6.17

another way, the situation in this section is similar to that in the job satisfaction section. Six out of 45 intra-personal ER-ER scores are significantly correlated with the criterion under discussion - some 13.33%. Also 11.11% of the inter-personnel ER-ER scores are significantly correlated. However, this 11% comprises only 2 role conflict operationalizations: 2.8 and 2.13, and these two scores have already been shown (Table 6.5) to have a correlation coefficient of -.420. Therefore, it may be deduced that once again the intra-personal ER-ER discrepancy score type is the most useful type of operationalization.

As in the sections which discussed the first two criterion measures, two Tables and two Figures provide a basis for comparing the range and distribution of correlations within each type of role conflict operationalization. Table 6.14 gives the highest and lowest correlation with the criterion and the difference between them for each type, and Table 6.15 provides the figures from which the graphs of Figures 6.5 and 6.6 are drawn. It shows the number and proportion of each discrepancy score type correlated with the 'likelihood of system breakdown' within seven size ranges of correlation coefficient. Once again, prediction to the criterion produces a range of correlations within each type of discrepancy score. However, as noted above, the distributions of correlations within this third criterion show few differences from those with the second. This is illustrated by a comparison between Tables 6.13 and 6.15, and their graphical representation given in Figure 6.6, which repeats for ease of visual comparison, the data of Figures 6.2 and 6.4. The differences visible between the second and third criteria are of small importance. Comparison with the job satisfaction criterion, however, clearly illustrates the differences noted between the latter analysis and those of the other two criteria.

This completes the discussion of that part of the findings in which each of the three criterion measures is treated in turn. The next section looks briefly at the relationship of the role conflict operationalizations used in the present study to all three criteria together.

Table 6.14

The range of correlations with the Third criterion within each type of discrepancy score:

Score type	Max. r		Min. r		Range.
	ID No.	r	ID No.	r	
Intra-p. ER-ER	1.10	.315	1.43	.000	.315
Inter-p. ER-ER	2.8	.272	2.17	.000	.272
ER-IEO	4.15	.180	3.1/4.18	.003	.177
Intra-p. ER-IER	5.10	.200	5.13	-.004	.196
Inter-p. ER-IER	6.8	.336	6.18	.009	.327
ER-IEO/IER Tots.	7.14	.157	7.13	.007	.150
ER-ER/IEO-IEO	8.3	.096	8.2	-.027	.069
ER-ER/IER-IER	9.1	.163	9.3	.112	.051

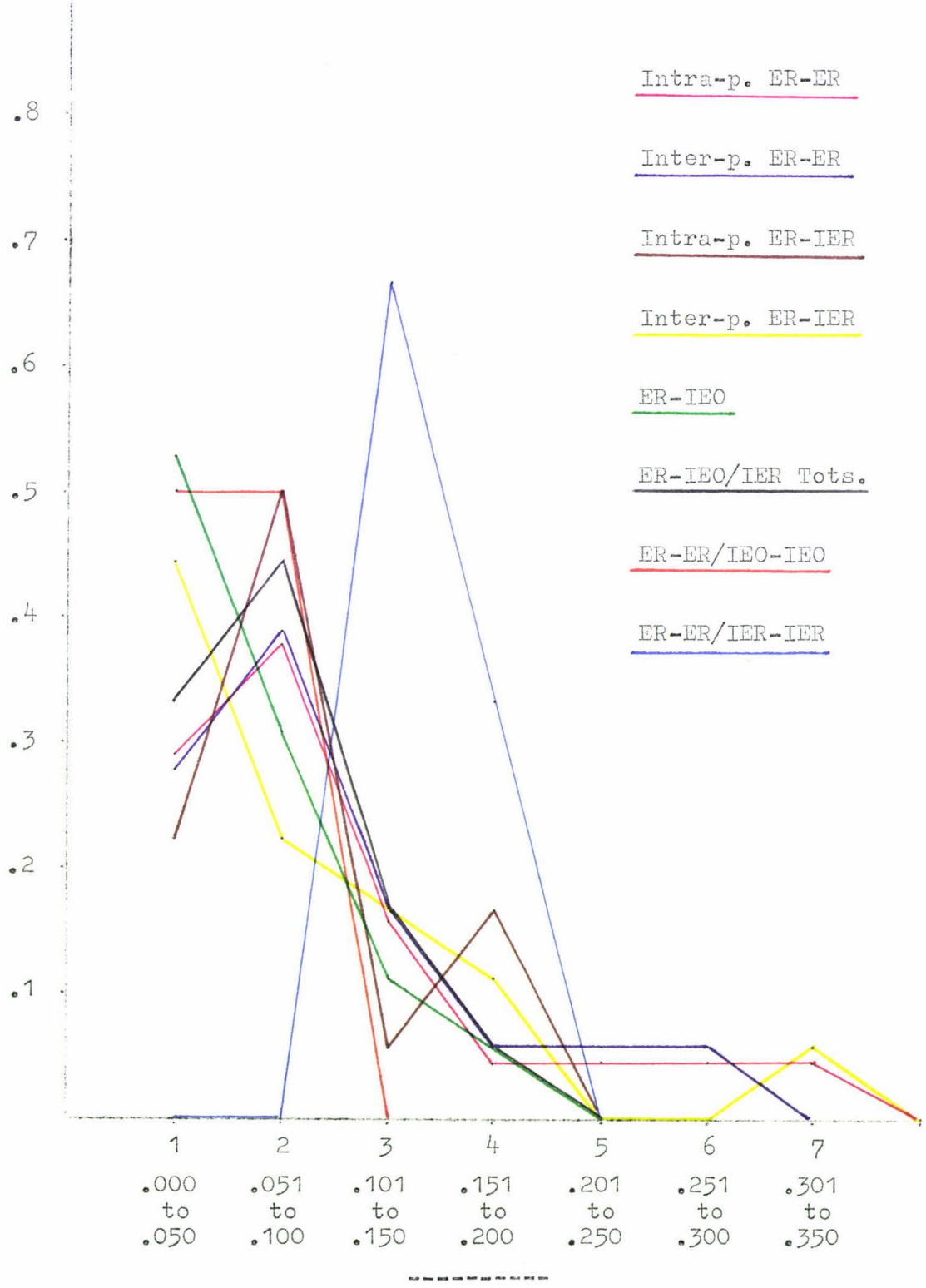
Table 6.15

The distribution of correlations with the Third criterion within each type of discrepancy score

Correlation (from) / range (to)		.000 / .050	.051 / .100	.101 / .150	.151 / .200	.201 / .250	.251 / .300	.301 / .350
Intra-p. ER-ER	n	13	17	7	2	2	2	2
	r	.289	.378	.156	.044	.044	.044	.044
Inter-p. ER-ER	n	5	7	3	1	1	1	
	r	.278	.389	.167	.056	.056	.056	
ER-IEO	n	19	11	4	2			
	r	.528	.306	.111	.056			
Intra-p. ER-IER	n	4	9	1	3			
	r	.222	.500	.056	.167			
Inter-p. ER-IER	n	8	4	3	2			1
	r	.444	.222	.167	.111			.056
ER-IEO/IER Tots.	n	6	8	3	1			
	r	.333	.444	.167	.056			
ER-ER/IEO-IEO	n	3	3					
	r	.500	.500					
ER-ER/IER-IER	n			2	1			
	r			.667	.333			

Figure 6.5

The distribution of correlations with the third criterion within each type of discrepancy score



Legend: The points on the X-axis are the 7 correlation ranges of Table 6.15. The Y-axis is the proportion of correlations within each range.

Figure 6.6

The distribution of correlations with all three criteria within each type of discrepancy score

(X and Y axes as for Figure 6.2)

Operationalization Utility

Whether a 'good' or powerful predictor to different phenomena is one that predicts to all the phenomena equally well, one that predicts differentially to them, or one that is specific to one phenomenon only, with no relationship shown to any of the others, is debatable. Presumably it all depends on the author's purposes and prejudices. The present study will not debate the issue, but will simply report on different operationalizations of role conflict within the study on the basis of these logical alternatives.

Equal correlation with the three criteria

High correlation. The four examples of role conflict operationalization which correlate with all three criterion measures with approximately equal magnitude are tabulated in Table 6.16 where their correlation coefficients with job satisfaction, likelihood of leaving the profession, and likelihood of system breakdown are given in that order.

Table 6.16
Equally high correlation with the three criteria

		Criterion measures		
		1	2	3
Operationalizations	1.10	.277	.279	.315
	1.33	-.220	-.255	-.272
	2.8	.223	.252	.272
	2.13	-.221	-.208	-.242

Low correlation. If operationalizations of a construct which is supposedly associated with certain given phenomena are found to have zero correlation with those phenomena, then their utility will possibly lie mainly in an analysis of them in order to discover why they do not correlate as they 'should'. Four examples of this category of operationalization are given in Table 6.17.

Table 6.17

Equally low correlation with the three criteria

		Criterion measures		
		1	2	3
Operation-alizations	1.23	-.019	.012	-.001
	2.17	-.008	.007	.000
	5.11	-.025	-.024	-.028
	6.17	.026	.002	.014

Differential correlation with the three criteria

By differential correlation is meant the situation when a variable A is not associated at all with another variable B, but is highly related to another one D, and to an intermediate extent to a fourth variable C. Thus, if A is a role conflict operationalization, and variables B, C, and D are the three criterion measures of the present study, then four examples of operationalizations showing this differential correlation appear below in Table 6.18.

Table 6.18

Differential correlation with the three criteria

		Criterion measures		
		1	2	3
Operation-alizations	6.15	-.010	.240	.153
	1.22	.229	.059	.148
	1.31	-.253	-.081	-.174
	6.7	-.222	-.018	-.118

Specific correlation with one only criterion

Four examples of operationalizations that are associated with one criterion only, showing no relationship with any other, are given in Table 6.19 - drawn from the results of this study. In each case, the prediction is specific to job satisfaction.

Table 6.19

Specific correlation within the three criteria

		Criterion measures		
		1	2	3
Operation-alizations	2.6	.222	-.018	.094
	7.18	.206	.038	.073
	7.6	-.195	.057	-.055
	1.5	-.197	.009	-.087

Explanation of Job Satisfaction Variance

If X and Y are two variables, and r their correlation coefficient, then r^2 gives the proportion of the variance of Y which is accounted for by variation in X. That is, when the r between Y and X is .71, r^2 is .50, so that an r of .71 means that 50% of the variance of Y is associated with variability in X. Inspection of the square of small r's emphasizes the very slight degree of association which these r's disclose. An r of .10 for instance, or .20 or even .30 between two variables X and Y indicates only 1%, 4%, and 9% respectively of the variance of Y to be associated with variability in X. At the other extreme, when r = .95, about 90% of the variance of Y is accounted for by variability in X - only about 10% being independent of X.

In the present study, the highest correlation coefficient found between any of the 162 role conflict operationalizations and job satisfaction is .322 (operationalization 1.14). However, it is clear that this explains very little of the mutual variation of role conflict and job satisfaction: only 10.4%, so that when the discussion to this point has talked in terms of "statistically significant" or "significant at the .01 level", it is well to remember that "significance" means simply "most unlikely to have arisen by chance". The actual size of the coefficient is, at that point, ignored. In fact, significance at the .01 level, with a sample size of 100, requires an r of only .254 - a figure which permits only about 6½% of the variance of one of the variables to be explained by the variability in the other.

Multiple regression analysis

It was suggested in an earlier discussion that it might be possible to increase the predictive power of the role conflict construct towards the measure of job satisfaction through the use of a mathematical manipulation which would combine different operationalizations of the construct into a more powerful unit. It was indicated that the right hand side of a regression equation, formulated with job satisfaction as the dependent variable, and operationalizations of role conflict as independent variables, should explain more of the dependent variable variance than does a single independent variable. However, as described in the previous chapter, only 20 independent variables could be used as input into the regression analysis of the present study, so that from the many role conflict operationalizations available, 20 had to be chosen according to some criterion or method. The criterion selected was correlation with job satisfaction. Thus, those 20 discrepancy scores which correlated most highly with job satisfaction were used as the independent variables. The 20 variables chosen are given in Table 6.20 below. As the regression programme uses the first variable inserted as the dependent variable, the 20 independent variables are numbered in the Table from 2 to 21; however, this corresponds with the computer printout included in the supplement to this thesis.

Table 6.20

Input variables for Regression equation:

Independent variable		Correlation with J.S.	Independent variable		Correlation with J.S.
2	1.3	.257	12	4.15	.204
3	1.5	-.197	13	5.15	.205
4	1.10	.277	14	2.6	.222
5	1.11	.260	15	2.8	.223
6	1.14	.322	16	2.13	-.221
7	1.22	.229	17	6.7	-.222
8	1.29	.256	18	6.8	.257
9	1.31	-.253	19	2.16	.202
10	1.33	-.220	20	7.6	-.195
11	4.4	-.196	21	7.18	.206

The results of the two regression equation analyses are outlined below.

Probability level = 0.05. With the probability level set at 0.05, only those variables that are significant at the .05 level in reducing the amount of unexplained variance in the dependent variable were included in the regression equation. The equation computed is given in Table 6.21 below.

Table 6.21

Regression equation given a probability level of .05

Variable	Regression coefficient	Standard error of regression coefficient
6	.1565	.0539
7	.1189	.0571
10	-.1519	.0666
13	.1426	.0571
21	.0204	.0095

Regression constant = 2.1866

In the equation it can be seen that only five of the twenty independent variables remained in the equation at the completion of the computation. Written out in full, and with the variable numbers translated, this means that if one is given values for variables 6, 7, 10, 13, and 21 (i.e., for role conflict operationalizations 1.14, 1.22, 1.33, 5.15, and 7.18) for an individual, his job satisfaction can be predicted by the equation

$$J.S. = 0.1565(1.14) \,\&\, 0.1189(1.22) \,\&\, 0.1519(1.33) \,\&\, 0.1426(5.15) \,\&\, 0.0204(7.18) \,\&\, 2.1866$$

Further, according to the programme printout, this equation explains just under 30.2% of the job satisfaction variance: a considerable increase on the 10.4% explained by operationalization 1.14 alone. However, it should be noted that the standard errors of all the regression equation coefficients are fairly large, so that the score for job satisfaction predicted by the equation for any individual will contain built-in error to the extent indicated by the standard errors listed in Table 6.21.

The supplement to the thesis includes a list of the predicted job satisfaction scores, as calculated from the above equation, alongside the reported job satisfaction scores, as given in the teacher questionnaire of the Bates and Adams study, for all 100 teacher respondents. An examination of this shows that while there is good prediction in the majority of cases, there is greater error at the two extremes of the population - with those teachers who reported either "very satisfied" or "very dissatisfied" to the job satisfaction question.

Probability level = 1.00. With the probability level set at 1.00, all 20 independent variables are included, and Table 6.22 gives the resultant regression equation. This equation explains almost 43.5% of the job satisfaction variance - a considerable proportion when it is realized that prediction of a person's job satisfaction is being undertaken in this analysis solely in terms of role conflict. The traditional predictors such as salary, status in the hierarchy, years of service, age, sex and so on have not come into the analysis at all. However, an inspection of the standard errors of the regression equation coefficients shows that most of these are enormous - with 13 out of the 20 being actually larger than the coefficient itself. Hence, the 43.5% of the variance explained includes a great deal of error, and the equation, many variables which may not be valid predictors of job satisfaction. Even so, the list of "observed" and "computed" job satisfaction scores for the 100 teachers (included in the supplement to the thesis) shows remarkably few poor predictions, and the average error of prediction works out to be 0.59 compared with 0.65 with the former equation.

Comment

The criterion for selecting the 20 independent variables to be used in the analysis was simply the top 20 role conflict operationalizations ranked according to the size of their correlation coefficient with job satisfaction. However, this might not have been the best method of selection available. The multiple regression analysis programme includes a test for "autocorrelation", so that independent variables which are

Table 6.22

Regression equation given a probability level of 1.00

Variable	Regression coefficient	Standard error of regression coefficient
2	.0600	.0867
3	.0218	.0834
4	.0427	.0779
5	.1452	.0801
6	.0850	.0680
7	.0588	.0720
8	.1506	.0857
9	-.0518	.0766
10	-.1071	.0860
11	.0092	.0753
12	.0428	.0673
13	.1242	.0790
14	.0511	.1279
15	-.1152	.1257
16	.0304	.0801
17	-.0237	.0818
18	.1641	.1395
19	-.0126	.0456
20	.0006	.0400
21	.0130	.0131

Regression constant = 1.9953

highly inter-correlated will not all automatically enter the equation if one of them does - even though they might all be equally highly correlated with the dependent variable. The programme's concern is the amount of reduction in unexplained dependent variable variance an independent variable can produce, so that autocorrelated independent variables might well be passed over on this criterion once one of them is already in the equation. This procedure is seen in Table 6.23 where the order in which the 20 independent variables of the probability level = 1.00 analysis were accepted into the equation, is given. (This information is contained in the full printout of the programme included in the thesis supplement.)

Table 6.23

Order of acceptance of variables by the regression equation in relation to the size of correlation with job satisfaction

Order of acceptance	Variable number	Correlation with J.S.	Variable's "correlation ranking"
1	6	.322	1
2	13	.205	15
3	7	.229	8
4	2	.257	4=
5	10	-.220	13
6	21	.206	14
7	8	.256	6
8	5	.260	3
9	17	-.222	10=
10	4	.277	2
11	18	.257	4=
12	9	-.253	7
13	15	.223	9
14	12	.204	16
15	16	-.221	12
16	14	.222	10=
17	3	-.197	18
18	19	.202	17
19	11	-.196	19
20	20	-.195	20

As would be expected, the Table shows that independent variable 6, which has the highest correlation with job satisfaction, was accepted into the equation first. But variable 4, which is ranked second, was left over until 9 variables had already been accepted. The correlation between variables 6 (1.3) and 4 (1.10) is in fact only .177, but this is apparently sufficient autocorrelation to ensure that 8 other variables explain more of the unexplained dependent variable variance than variable 4 does after the insertion of variable 6. Thus it is possible that a different set of 20 might result in a more powerful equation. The easiest way out of this problem, however, would be to use a larger computer than the 1620II, and insert far more variables. In this way maximum power might be achieved - if it has not

been already.

Age, Years of Service, and Discrepancy Scores

It was suggested earlier that a teacher's age, and his years of service have 'face validity' as predictors to or explainers of his job satisfaction, his likelihood of leaving the profession, and, consequently, of the measure of the sum of these two variables. It has generally been found that the older a teacher becomes, and the more years he has given to his profession, the greater the satisfaction he reports, and the less likely he is to leave the profession (save for retirement).

With this in mind, the study correlated the age and number of years of service of the sample's 100 teacher respondents with the three criterion measures in order to compare the magnitude of the measured relationships with those of some of the study's role conflict operationalizations - its discrepancy scores.

With the second and third criteria, correlations between them and the various discrepancy scores are not very high, and it is consequently not surprising to find that both age and years of service have higher correlations with both these criteria than do any of the discrepancy scores. However, the actual sizes of the coefficients do not greatly exceed those of the best of the role conflict operationalizations. Age is correlated -.363 and -.381 with the second and third criterion measures respectively, and years of service is correlated -.366 and -.384.

On the other hand, it has been seen that some of the discrepancy scores correlate quite reasonably with job satisfaction, and, in fact 8 of them have higher correlation coefficients than does the teacher's years of service (which correlates -.225 with job satisfaction). Age fares better in being exceeded by only one discrepancy score's correlation coefficient, but its actual size, at -.298, is well within reach of those of the discrepancy scores.

.....

1 The worst of all are the last two types listed in Table 6.3. However, this may well be a result of the small number of different scores of these types actually generated in this study, and aggravated in the case of the last type by the fact that all three are highly inter-correlated.

Discussion

"The question is," said Alice, "whether you can make words mean so many different things."

This study has made the words 'role conflict" mean many different things - through the use of 'a discrepancy between two scores' as the definition of 'role conflict'. This definition has proved to be highly seminal in the generation of many different meanings for these two words. Furthermore, as the thesis postulated, some of these different meanings (operationalizations) have been shown to possess predictive or explanatory power under the conditions of the study, while others have not. Among those falling into the latter category are those operationalizations which may be classified as 'objective'.

'Objective' and 'Subjective' Role Conflict

In the review of the literature on role conflict undertaken in Chapter II, a differentiation was made between conflict which was perceived by an outside observer, and that perceived by the focal actor. Kraut (1966) referred to these as 'objective' and 'subjective' conflict respectively. It was noted further in this context that comparing different responses made by a single respondent produced 'subjective' meanings of role conflict, while comparing responses made by different respondents resulted in 'objective' measures.

Two types of 'objective' operationalizations were generated in the present study. These were (i) the inter-personnel ER-ER discrepancy scores in which conflict attributed to an individual over a particular role expectancy was the discrepancy between his expectancy, and his perception of the expectancy held by teachers in general; and (ii) the inter-personnel ER-IER scores in which the conflict attributed to the respondent over a role expectancy was the discrepancy between the attitude he thought that other teachers had to that expectancy, and what in fact they did have (the teachers'-in-general attitude being defined in the study as the mean attitude of all the teacher respondents). Altogether, 36 different operationalizations of these two types were generated.

Six types of 'subjective' role conflict were

considered. These were: (i) intra-personal ER-ER scores which were discrepancies between expectancies the respondent held for his own role; (ii) intra-personal ER-IER scores which were discrepancies between expectancies held by a teacher for his role as teacher, and those he believed other teachers held for the same aspects of the teacher role; (iii) ER-IEO scores which indicated discrepancies between the expectancies held by a teacher for his own role as teacher, and those he thought parents and pupils held for his role; (iv) ER-IEO/IER totalled scores which were simply discrepancy scores generated by making appropriate summations within the previous two types of operationalization; and types (v) and (vi) which, as 'discrepancies between discrepancies', represented the definition of role conflict given above taken a step beyond the other types. Altogether, 126 different operationalizations of these six types were generated.

Now, in this particular study, one of these types of role conflict operationalization has stood out as having greater predictive and explanatory power to the main criterion of the study (job satisfaction) than any of the others, and that is the first of the 'subjective' types: the intra-personal ER-ER discrepancy scores. Nine of the 45 of these scores generated (i.e., 20%) were found to be significantly associated with job satisfaction. Furthermore, these scores were shown to be highly independent of one another. Again, in the computation of the regression equation predicting job satisfaction scores from variables which were included in the equation only if confidence in their ability to explain unexplained job satisfaction variance was 95% or better, only 5 role conflict operationalizations were included, and of these 5, 3 were intra-personal ER-ER discrepancy scores. But, 20 operationalizations were actually tested for inclusion in the equation, and of these, 6 were 'objective' conflict types, yet none of these were seen by the regression programme to be valid predictors to job satisfaction - at the 95% confidence level. A closer look at this equation shows that 5 of the 6 actually had higher correlation coefficients with job satisfaction than the second independent variable accepted into the equation, and only one of them had a coefficient less than all five accepted by the analysis; (see Tables 6.20 and 6.21) yet it would seem that no 'objective'

LIBRARY
MASSEY UNIVERSITY

measure can be said with high confidence to be a valid (i.e., not subject to changes in data) predictor to job satisfaction.

Thus, there is the observation on the one hand that the intra-personal ER-ER score type - a 'subjective' measure of role conflict - was the most useful role conflict operationalization found in this analysis of job satisfaction, and on the other, the observation that 'subjective' role conflict was a more valid predictor to job satisfaction than was 'objective' role conflict. However, the results of this study have stemmed from one specific investigation, and by the very nature of the study, are not necessarily applicable to any other situation.

It is perhaps opportune to surface at this point the proposition that role conflict as discussed in this study is simply a discrepancy between two scores. Consequently, the findings of the study, and the arguments leading to and from them have been in terms of score discrepancies only, and that in no way is there any suggestion that the teachers of the Bates and Adams sample experience 'conflict' as understood in everyday speech.

The Regression Analysis

The regression analysis served to provide a good illustration of the proposition made in the study's initial chapter: "that mathematical manipulations can be performed on the different operationalizations, and that the utility of the manipulations can be determined only by an examination of what they 'do' for the predictive power of the construct." Clearly, the regression analysis did improve the power of the construct role conflict. At the 95% confidence level, an equation which consisted of role conflict operationalizations only, explained just over 30% of the sample's job satisfaction variance. A greater amount of variance was explained at a lower confidence level, but this equation included measures of role conflict that were not in fact valid predictors to job satisfaction, so that the equation could not with confidence be applied to any other sample.

However, the apparent utility of the regression manipulation in this study opens the door to the possibility of obtaining an equation which would explain, with high confidence,

a large percentage (in theory, all) of the variance of some focal phenomenon such as job satisfaction, across a range of different populations, by including within it other pertinent variables (such as age, years of service, salary, status in the hierarchy, and so on). It would seem that it could well be profitable to pursue this: both with reference to job satisfaction, and to other similar phenomena.

The Three Criteria

The three criterion variables (job satisfaction, job retention, and their combination) differed considerably in their distributions. The first was nearly normal through selection, but the other two were not so. This is apparent from Table 7.1, where the number of respondents falling into each score category, for each of the criteria, is given.

Table 7.1

Distributions of the three criterion measures:

Criterion	Score									
	1	2	3	4	5	6	7	8	9	10
First	6	24	40	24	6					
Second	20	19	30	13	18					
Third		5	9	12	16	23	9	13	10	3

A Chi-square test for goodness-of-fit to the normal curve on the first criterion gave a result of 4.062 with 4 degrees of freedom. The probability of this result is approximately .4, demonstrating that the selected sample distribution was indeed not too far from the theoretical normal curve. However, the same test applied to the third criterion gave a Chi-square of 42.826 with 6 degrees of freedom; a result which has a probability of occurring well below the .001 level. The distribution of the second criterion measure on inspection is clearly closer to rectangular than normal, and in fact, a Chi-square test for a fit to a rectangular distribution produced a result of 7.70, which, with 4 degrees of freedom, has a probability of occurring of the order of .15. In other words, it was non-normal, but had

a reasonable approximation to the rectangular.

Now, it has been seen that reasonable correlations, and good prediction could be found using different operationalizations of role conflict to relate to job satisfaction, but that the same level of association could not be found between role conflict and either of the other two criterion variables. One is prompted to ask 'why'? Is this an artifact of the normal distribution of the job satisfaction scores, and the non-normal distribution of the scores from the other two? Alternatively, is there a valid association between operationalizations of role conflict and the first criterion which simply does not exist with either of the other two? According to the Norris and Hjelm study, (discussed in Chapter V) if there were a high correlation between role conflict and likelihood of leaving the profession, then because of the latter's rectangular distribution, valid associations between role conflict operationalizations, and that for the job retention variable might not be reported by the correlational analysis. But, no correlations were found to approach the 'high' region, (the highest was .325 - whereas the Norris and Hjelm study was concerned with correlations of the order of .83) so that this could not have been the case in the present study. On the other hand, all four correlations between teacher's age and years of service and the second and third criteria fell within the range -.363 to -.384, while their correlation coefficients with job satisfaction were lower at -.298 and -.225. This suggests then that to the two questions asked immediately above, the answer must be 'no, the apparent association between role conflict and job satisfaction is not an artifact of the normality/non-normality situation, but is the result of a valid association between these two constructs which does not exist to the same extent between role conflict and either of the constructs the other two criteria represent'.

Before leaving this topic, an answer may be given to the legitimate question: 'would a sample selected for normality on the third criterion - with its greater range, and consequent better statistical utility - instead of the first, (as was done in this study) have given more useful results?' Because of the apparent lack of valid association between role conflict and 'Likelihood of system breakdown' (the third criterion), it would seem that for the purposes of this study, the selection of

job satisfaction was the more profitable choice.

Translation

Incidental to the study, but of possible interest, is a translation back into the terminology of the Bates and Adams study of the twenty role conflict operationalizations which correlated most highly with job satisfaction. These will be listed in the order of their definition as set out in Chapter IV, their correlation with job satisfaction given, and a direct translation made. Increased job satisfaction is indicated by a lower conflict score in the case of a positive correlation, or by a higher conflict score in the case of a negative correlation. At no stage will any interpretation be suggested.

1	1.3	.257	The absolute difference between the respondent's scores for the teaching archtypes 'organization-status' and 'subject matter-status'.
2	1.5	-.197	The absolute difference between the respondent's scores for the teaching archtypes 'organization-status' and 'subject matter-affect'.
3	1.10	.227	The absolute difference between the respondent's scores for the teaching archtypes 'organization-utility' and 'subject matter-status'.
4	1.11	.260	The absolute difference between the respondent's scores for the teaching archtypes 'organization-utility' and 'subject matter-utility'.
5	1.14	.322	The absolute difference between the respondent's scores for the teaching archtypes 'organization-utility' and 'social relations-utility'.
6	1.22	.229	The absolute difference between the respondent's scores for the teaching archtypes 'subject matter-status' and 'subject matter-utility'.
7	1.29	.256	The absolute difference between the respond-

			ent's scores for the teaching archtypes 'subject matter-utility' and 'social relations utility'.
8	1.31	-.253	The absolute difference between the respondent's scores for the teaching archtypes 'subject matter-affect' and 'social relations-status'.
9	1.33	-.220	The absolute difference between the respondent's scores for the teaching archtypes 'subject matter-affect' and 'social relations-status'.
10	2.6	.222	The respondent's score for the teaching archtype 'subject matter-affect' subtracted from the average score of all teacher respondents for that archtype.
11	2.8	.223	The respondent's score for the teaching archtype 'social relations-utility' subtracted from the average score of all teacher respondents for that archtype.
12	2.13	-.221	The respondent's score for the teaching behaviour 'organization' subtracted from the average score of all teacher respondents for that classroom behaviour.
13	2.16	.202	The sum of the nine absolute differences between the respondent's scores for the nine teaching archtypes, and the nine average scores of all the teacher respondents for the archtypes.
14	4.4	-.196	The score the respondent attributes to pupils for the teaching archtype 'subject matter-status' subtracted from his own score for that archtype.
15	4.15	.204	The score the respondent attributes to pupils for the teaching behaviour 'organization' subtracted from his own score for that teacher behaviour.
16	5.15	.205	The score the respondent attributes to other teachers for the teaching behaviour 'organization' subtracted from his own score for that teacher behaviour.

17 6.7 -.222 The score the respondent attributes to other teachers for the teaching archtype 'social relations-status' subtracted from the average score of all teacher respondents for that archtype.

18 6.8 .257 The score the respondent attributes to other teachers for the teaching archtype 'social relations-utility' subtracted from the average score of all teacher respondents for that archtype.

19 7.6 -.195 The algebraic sum of the three signed scores arising from the scores attributed to (i) parents, (ii) pupils, and (iii) other teachers, each subtracted from the respondent's own score for the teaching archtype 'subject matter-affect'.

20 7.18 .206 The sum of the three absolute differences between the respondent's scores for the three teacher behaviours 'organization', 'subject matter', and 'social relations', and the three scores he attributes to (i) parents, (ii) pupils, and (iii) other teachers for these classroom behaviours.

Perhaps worth noting are the five role conflict operationalizations which were found by the regression analysis to be the most valid predictors to job satisfaction. These were scores 1.14, 1.22, 1.33, 5.15, and 7.18.

The two main conclusions which would seem to arise from this procedure are (i) that operationalizations of role conflict which would appear to have a 'face validity' in a study are not necessarily the ones with the greatest utility; and (ii) its converse - that operationalizations with good predictive or explanatory power may not necessarily possess readily apparent 'face validity'.

As a result of this study, the author would like to suggest that, contrary to the old proverb, you <u>can</u> make a silk purse out of a sow's ear, but at the same time you can also make a sow's ear out of a silk purse.

Bibliography

Adams,R.S. (Editor). "Symposium on teacher role in four English
1970 speaking countries." Comp. Educ. Rev., 14.

Baker,G.A. "The significance of the product moment coefficient
1930 of correlation with special reference to the character of the marginal distributions." J. of the American Statistical Ass'n., XXV, pp 387-396.

Beale,H.K. "Are American teachers free?" New York: Charles
1936 Scribner's Sons

Becker, H.S. "The career of the Chicago public school teacher."
1952 American J. of Sociology, 57, pp 470-577

Berger,E.H. (U. Denver) "Mature beginning teachers: employment,
1968 satisfaction, and role analysis." Dissertation abstracts, 29, (5-A), 1353-1354.

Bernstein,M.R.H. "A study of teachers' role expectations and
1959 role-perceptions of a principal, superintendent and board of education, and the relationship between convergence and divergence of role expectation and role-perception and teacher morale." Unpublished doctoral dissertation, New York University.

Biddle,B.J., Rosencranz,H.A., & Rankin,E.F.Jr. "Studies in the
1961 role of the public school teacher." Mimeographed, 5 vols. (Columbia, Montana: University of Missouri Press)

Biddle,B.J. and others. "The role of the teacher and occupation-
1962 al choice." School Review, 70: pp 191-206.

Biddle,B.J., Rosencranz,H.A., Tomich,E. & Twyman,J.P. "Shared
1966 inaccuracies in the role of the teacher." In B.J. Biddle & E.J.Thomas (Editors), Role Theory: Concepts and Research, John Wiley and Sons, Inc.

Biddle,B.J., & Thomas,E.J. (Editors) "Role Theory: Concepts and
1966 Research." New York: Wiley.

Bidwell,C.E. "The administrative role and satisfaction in
1955 teaching." J. of educ. Sociol., 29: pp 41-47.

Bidwell,C.E. "Some effects of administrative behaviour: a study
1957 in role theory." Admin. Sci. Quart., 2: pp 163-181.

Borgatta,E. "Attitudinal concommitants to military statuses."
1955 Social Forces, 33: pp 342-347.

Brown,P. "Bureaucracy in a government laboratory." Social Forces,
1954 32: pp 259-268.

Buerkle,J. "Patterns of socialization, role conflict, and
1959 leadership among nurses." Soc. & Soc. Res., 44: pp 100-105.

Burchard,W. "Role conflicts of military chaplains." Am. Soc.
1954 Rev., 19: pp 528-535.

Callaway,A.B. "Some environmental factors and community influ-
1951 ences that are brought to bear upon the lives of Missouri teachers and administrators." Microfilm Abstracts, 11: No. 3, Ann Arbor, Michigan: University Microfilms, pp 554-555.

Campbell,C.L. "The role of the teacher in Cheatham County,
1954 Tennessee." Abstracts of dissertations for the year 1954. Nashville 5, Tennessee: George Peabody College for teachers. pp 31-41.

Cates,J.N. (Western Reserve U.) "Conflict resolution in the
1966 mental hospital." J. of Health and Human Behaviour, 7(2): pp 138-142.

Charters,W.W. "The social background of teaching." In N.L.Gage
1963 (Ed.) Handbook of research on teaching. Chicago: Rand McNally & Co., pp 506-582.

Cook,L.A., & Almack,R.B. "The community participation of 2870
1939 Ohio teachers." Educ. Admin. and Supervision, 25: pp 107-119.

Cook,W.W., Leeds,C.H., & Callis,R. "The Minnesota teacher
1951 attitude inventory." New York: Psychological Corp'n.

Crowell,R.A. "Regulations pertaining to Missouri's teachers,
1950 principals, and superintendents as defined by written rules and regulations of the local boards of education." Microfilm Abstracts, 10: No. 3, Ann Arbor, Michigan: University Microfilms, pp 50-51.

Doyle,L.A. "Convergence and divergence in the role expectations
1958 of elementary teachers." College of Education Quarterly, 4: pp 3-9.

Efroymson,M.A. "Multiple regression analysis." In Mathematical
1960 methods for digital computers. (Eds. A.Ralston, & H.S. Wilf), Wiley: New York, pp 191-203.

Ferneau,E. "Role expectations in consultations." Unpublished
1954 doctoral dissertation. Univer. of Chicago.

Finlayson,D.S., & Cohen,L. "Teachers role: a comparative study
1967 of the conceptions of college and education students

and head teachers." British J. of ed. Psych., 37: pp 27-31.

Fishburn,C.E. "Teacher role perception in the secondary school." 1962 J. of Teacher Education, 13: pp 55-59.

Getzels,J.W., & Guba,E.G. "Role, role conflict, and effectiveness; an empirical study." Amer. sociol. review, 19: pp 164-175. 1954

Getzels,J.W., & Guba,E.G. "Role conflict and personality." J. of Personality, 24: pp 74-85. 1955a

Getzels,J.W., & Guba,E.G. "The structure of roles and role conflict in the teaching situation." J. of ed. sociol., 29: pp 30-40. 1955b

Getzels,J.W., & Guba,E.G. "Social behaviour and the administrative process." Sch. Rev., 65: pp 423-441. 1957

Getzels,J.W., & Jackson,P.W. "The teacher's personality and characteristics." In N.L.Gage (Ed.), Handbook of research in teaching. Chicago: Rand McNally & Co. pp 506-582. 1963

Glatt,E. "Professional men and women at work: a comparative study in a research and development organization." Dissertation Abstracts, 27 (6-A): 1926. 1966

Greenhoe,F. "The community contacts and participation of 9122 public school teachers selected as a national sample." School and Society, 50: pp 510-512. 1939

Gross,N., Mason,W.S., & McEachern,A.W. "Explorations in role analysis, studies of the school superintendency role." Wiley: New York. 1964

Grusky,O. "Role conflict in organization." Admin. Sci. Quart., 3: pp 452-472. 1959

Guba.E.G, & Bidwell,C.E. "Administrative relationships." Chicago: Midwest Administration Center, Univer. of Chicago. 1957

Gullahorn,J. "Measuring role conflict." Amer. J. of Soc., 61: pp 299-303. 1956

Gustad,J.W. "Community concensus and conflict." Ed. Rec. 47: pp 439-451. 1966

Hare,A.P. "Handbook of small group research." Glencoe: Free Press. 1962

Herlinger,H.V. "And gladly teach." Occupations 23: pp 147-151. 1944

Hilmar,N. "Factors related to role conflict solutions in a

1960 formal organization." Paper read to the Amer. Soc. Ass'n. New York.

Hood,C.E. "What's the matter with teaching?" Clearing House, 19:
1944 pp 227-231.

Jacobson,A.H. "Conflict of attitudes toward the roles of husband
1952 and wife in marriage." Amer. Soc. Rev., 17: pp 146-150.

Jacobson,E., Charters,W.W.Jr., & Lieberman,S. "The use of the
1951 role concept in the study of complex organizations." J. of Social Issues, 7: p 22.

Kahn,R.L., Wolfe,D.M., Quinn,R.P., Snoek,J.D., & Rosenthal,R.A.
1964 "Organizational stress: studies in role conflict and ambiguity." Wiley: New York.

Kline,F.F. "Satisfaction and annoyances in teaching." J. of
1949 Exper. Ed., 18: pp 77-89.

Knox,W.B. "A study of the relationships of certain environmental
1956 factors to teaching success." J. Exp. Ed., 25: pp 95-151.

Kraut,A.I. "A study of role conflicts and their relationship to
1966 job satisfaction, tension and performance." (Univer. Michigan), Dissertation abstracts, 26:(12, Pt. 1) 7476.

Krech,D., Crutchfield,R.S., and Ballachey,E.L. "Individual in
1962 society." New York: McGraw-Hill.

Lane,W.R. "The induction of beginning teachers in Wisconsin
1951 public schools." Unpublished doctoral dissertation, University of Wisconsin.

Levin,H., Hilton,T.L., & Leiderman,G. "Studies in teacher behav-
1957 iour." J. of Exper. Ed., 26: pp 81-91.

Lichliter,M. "Social obligations and restrictions placed on
1946 women teachers." Sch. Rev., 54: pp 14-23.

Manwiller,L.V. "Expectations regarding teachers." J. Exp. Ed.,
1958 26: pp 315-354.

March,J. & Simon,H. "Organizations." Wiley: New York. p 65.
1958

Mays,J.B. "Education and the urban child." Liverpool University
1962 Press, Liverpool.

McGill,K.H. "The school-teacher stereotype." J. Ed. Soc., 4:
1931 pp 105-111.

Melby,E.O. "Administering community education." Prentice-Hall,
1955 Inc., Englewood Cliffs, N.J.

Merrill,M.R. & Jex,F.B. "Role conflict in successful science

1964 teachers." J. Ed. Res., 58: pp 72-74.

Merton,R.K. "The machine, the worker, and the engineer." Science
1947 105: pp 79-84.

Miesch,A.T. & Connor,J.J. "Stepwise regression and nonpolynomial
1968 models in trend analysis." Computer Contribution, 27: Univer. Kansas.

Moyer,D.C. "Teachers' attitudes toward leadership as they relate
1954 to teacher satisfaction." Unpublished doctoral dissertation, Univer. of Chicago.

Musgrove,F. "Teachers' role conflicts: (1) In the English
1967 grammar and secondary modern school." Ed. Sci., 2: pp 61-69.

Musgrove,F. & Taylor,P.H. "Teachers' and parents' conception of
1965 the teacher's role." Brit. J. Ed. Psych., 35: pp 171-178.

Norris,R.C., & Hjelm,H.F. "Non-normality and product moment
1961 correlation." J. Exptl. Educ., 29: pp 261-270.

Nussel,E.J. "Conflict and school-community relations." Paper
1969 presented at the annual meeting of the Amer. Educ. Res. Ass'n., L.A., California.

Ort,R.S. "A study of role conflicts as related to happiness in
1950 marriage." J. Abnorm. Soc. Psych., 45: pp 691-699.

Parsons,T. "The social system." Glencoe: The Free Press, p 280.
1951

Pearson,E.S. "Some notes on sampling tests with two variables."
1929 Biometrika, 21: pp 337-360.

Pearson,E.S. "The test of significance for the correlation
1931 coefficient." J. of the Amer. Statistical Ass'n., 26: pp 128-134.

Pearson,E.S. "The test of significance for the correlation
1932 coefficient: some further results." J. of the Amer. Statistical Ass'n., 27: pp 424-426.

Pepper,J.N. "Factors involved in the recruitment and retention
1954 of teachers in Michigan." Dissertation abstracts, 14: No. 11. Ann Arbor, Michigan: Univer. Microfilms, pp 1979-1980.

Phillips,B.N. "Community control of teacher behaviour." J. Teach.
1955 Ed., 6: pp 293-300.

Pugh,D. "Role activation conflict: a study of industrial

1966 inspection." Amer. Soc. Rev., 31 (6): pp 835-842.

Rabinowitz,E., & Rosenbaum,I. "Teaching experience and teachers'
1960 attitudes." Elem. Sch. J. 60: pp 313-319.

Richey,R.W., & Fox,W.H. "A study of some opinions of high school
1951 students with regard to teachers and teaching." Bull. of the School of Educ., Indiana Univ., Bloomington, Indiana, 27: No. 4, p 63.

Richey,R.W., Phillips,B.N., & Fox,W.H. "Factors that high school
1952 students associate with selection of teaching as a vocation." Bull. of the School of Educ., Indiana Univ., Bloomington, Indiana, 28: No. 2, p 46.

Robertson,J.D.C. "An analysis of the views of supervisors on the
1957 attributes of successful graduate student teachers." Brit. J. Ed. Psych., 27: pp 115-126.

Rudd,W.G.A., & Wiseman,S. "Sources of dissatisfaction among a
1962 group of teachers." Brit. J. Ed. Psych., 32: pp 275-291.

Saltz,J.W. "Teacher stereotypes - Liability in recruiting?"
1960 Sch. Rev. 68: pp 105-111.

Sarbin,T.R. "Role theory." In Gardner Lindzey (Ed.), Handbook of
1954 Social Psychology, I, Cambridge: Addison-Wesley Publishing Co., p 228.

Scott,J.F. (Indiana U.) "A study of role conflict among police-
1968 men." Dissertation abstracts, 29 (4-A): pp 1307-1308.

Seaberg,J.J.Jr., & Liberty,P.G.Jr., "Salient areas of conflict
1969 between administration and teachers in a minimally industrialized area." Paper presented at the annual meeting of the Amer. Res. Ass'n., L.A., California.

Seeman,M. "Role conflict and ambivalence in leadership." Amer.
1953 Soc. Rev., 18: pp 373-380.

Shull,F., & Miller,D. "Role conflict behaviour in administrat-
1960 ion: a study in the validation of a theory of role conflict resolution." Paper read at the Amer. Soc. Ass'n., New York,

Siegel,J.P. (U. Pittsburg) "Managerial personality traits and
1968 need satisfaction: the effects of role incongruity and conflict." Proceedings of the 76th. Annual convention of the Amer. Psych. Ass'n., 3: pp 565-566.

Simmel,G. "Conflict, and the web of group affiliations."
1955 Glencoe: Free Press.

Simmons,R.G. (Columbia U.) "An experimental study of the role
1968 conflict of first-line supervisors." Dissertation abstracts, 28 (11-A): p 4723.

Stanton,A., & Schwartz,M. "The mental hospital." New York Basic
1954 Books. p 492.

Stern,G,G. "Measuring noncognitive variables in research on
1963 teaching." IN N.L.Gage (Ed.) Handbook of research on teaching. Chicago: Rand McNally & Co. pp 398-447.

Stouffer,S. "An analysis of conflicting social norms." Amer.
1949 Soc. Rev., 14: pp 707-717.

Stouffer,S.A., Suchman,E.A., DeVinney,L.C., Star,S.A., &
1949 Williams,R.M. "The American soldier: adjustment during army life." Vol. 1, Princeton: Princeton Univer. Press.

Stouffer,S., & Toby,J. "Role conflict and personality." Amer.
1951 J. of Soc., 56: pp 395-406.

Taylor,P.H. "Children's evaluations of the characteristics of
1962 the good teacher." Brit. J. Ed. Psych., 32: pp 258-266.

Taylor,P.H. "Teachers' role conflicts. (2) English infant and
1968 junior schools." Ed. Sciences., pp 167-173.

Thibaut,J.W., & Kelley,H.H. "The social psychology of groups."
1961 Wiley: New York.

Tingey,S.N. (U. Washington) "An empirical test of selected
1966 hypotheses concerning the implementation of change in a complex organization." Dissertation abstracts, 27 (6-A): p 1933.

Twyman,J.P., & Biddle,B.J. "Role conflict of public school
1963 teachers." J. Psych., 55: pp 183-198.

Valenti,J.J. "Measuring educational leadership attitudes." J. of
1952 App. Psych., 36: pp 36-43.

Wagenschein,M. "'Reality shock': A study of beginning elementary
1950 school teachers." Master's Thesis, Univer. of Chicago.

Walberg,H.J. "Dynamics of self-conception during teacher train-
1964 ing." Doctoral dissertation, Univer. of Chicago.

Walberg,H.J. "Personality-role conflict and self-conception in
1968 urban practice teachers." Sch. Rev., 76: pp 41-49.

Wheeler,S. "Role conflict in correctional communities." In D.R.
1961 Cressey (Ed.), The Prison: studies in institutional organization and change. Holt: New York.

Wilson,B.R. "The teacher's role - a sociological analysis."
1962 Brit. J. Soc., 13: pp 15-32.