PREDICTORS OF ORGANIZATIONAL INVOLVEMENT:

A TEST OF THE GENERALITY OF

ETZIONI'S (1961) COMPLIANCE RELATIONS

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Declaration

Except where otherwise indicated
this thesis is my own work.

J. V. Meilak
November 1989
Acknowledgements

I wish to thank all those organizations and group members who participated in this study; without their support, the study could not have progressed very far. Also deserving of special praise are the people contacted at short notice to provide an informed appraisal of matters affecting a particular group. In some cases, these informants were asked to complete reports on more than one group. Other important respondents were those who agreed to participate in the pilot testing of questionnaires when confronted on their front doorsteps. These responses were vital in providing acceptable measures for the main study.

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Of course, a study of this size requires many specialized resources. Office staff of the Psychology Department typed many letters to organizations, and were responsible for typing, mimeographing, and collating the various questionnaires. In more recent times, computing resources have been made available. This document was produced using the SCRIBE document formatting system and a LASERWRITER printer on the University’s VAX computers. Crosswise full-page tables were typed by Wendie Hare. Graphics displays were produced using GRAPH-MAKER, SLIDEMAKER, and a HP7586 plotter.
Abstract

The primary aim of this study was to test the generality of Etzioni's (1961) compliance relations (between particular kinds of organizational power and involvement) over different ranks of a variety of organizations whose members were relatively free to stay or leave. A secondary aim was to compare organizational power to other predictors of involvement suggested in the literature. Four hundred and sixty-six members of 85 groups were solicited from 27 local business, health, welfare, and educational organizations. In addition, for each group, to provide a check on members' replies to some questions, the researcher and (most often) two administrators and two outsiders familiar with the group provided their own ratings of group-level variables.

The organization measures used in the analyses were administrator-reported organizational power (coercive, remunerative, and normative) and organization size. Group measures included observers' reports of the group's cohesion and its members' self-assertiveness, member-reported group goals (relational and altruistic), and group size. Individual characteristics included age, sex, education level, plans for future education, time in the organization, opportunity for advancement, opportunities elsewhere, union membership, achievement motivation, personal autonomy, and liking for change. Alienative and moral involvement were confounded but their composite (net commitment) was distinct from calculative involvement. Hierarchical regression analyses were carried out with the two kinds of involvement as dependent variables, at both the group and individual levels of analysis. The relevant kind of organizational power was entered first, followed by other organization, group, and individual characteristics. Finally, interactions between each kind of organizational power and members' achievement motivation were investigated.

The individual-level analyses were the most informative because all appropriate variables were considered. Remunerative power tended to increase calculative involvement among low achievers, and this was secondary only to the overall negative effect of achievement motivation at high levels of total power. Also tending to reduce calculative involvement were high altruistic group goals, a liking for change, age, high normative power exercised over high achievers, small organization size, low personal autonomy, and low coercive power. Net commitment tended to be increased most by a conjunction of low coercive and high normative power, followed by age, opportunities elsewhere, low personal autonomy, opportunity for advancement, small organization size, and high achievement motivation.
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Chapter 1

INTRODUCTION AND THEORY

For many years, researchers have been interested in the reasons why participants of organizations have different kinds of involvement (different attitudes to the organization and its goals). The everyday importance of involvement and its antecedents may be appreciated by considering a familiar role in an organization. Are students' attitudes towards their University the sole responsibility of students themselves, or are attitudes determined by environmental influences (e.g., the bureaucratic context)? If students are not particularly satisfied with their University, why do they stay? It may seem obvious that student activities vary to serve either the University or its students, giving rise to markedly different attitudes, but do students always choose between the University and themselves? Some could attempt to satisfy both concerns, while others may simply be apathetic. Clearly, individual-organization relationships can become complex, making it difficult to identify any single cause of the attitudes observed and all effects of continued participation.

Attitudes are thus likely to be explained differently by students and administrators, depending on their place in the system. If administrators are primarily concerned with well-being of the University as a whole, they risk viewing the well-being of students as that associated with loyal service, but students affect the University in more ways than keeping it open--some may even bring distinction to it or influence its policies. By any interpretation, it is not immediately clear how innovation (creative individualism; Schein, 1968) and its concomitant attitudes can benefit the University or anyone in it, because inevitable conflict arising between student self-interest and student loyalty would appear to limit University harmony. What really brings about this special relationship, and how is the process related to other types of involvement? These questions must be addressed if involvement in any organization is to be understood and the rewards of particular involvements are to be identified and made accessible to leaders and members alike.

People in modern society participate in a multitude of organizations throughout their lives, often with little say in the matter (Whyte, 1957), so the relevance of member involvement goes beyond organizations of particular interest to any individual. Kanter (1968) suggested that member involvement is an important feature of all social systems because it is central to the understanding
of both human motivation and system maintenance. Involvement therefore has theoretical significance because it links the concerns of phenomenology and structural-functionalism, but it also has practical significance for the understanding of social problems (Kanter, 1968, p. 499). Yet, as Kanter observed, little attempt has been made to integrate involvement with current sociological and psychological theory. Consequently, involvement is little understood and its potential benefits have not been obtained.

It is obvious that an understanding of involvement must begin with the demarcation of different attitudes. Research into organizational commitment (usually conceived as member loyalty) has accelerated in management-related journals in recent years, showing administrators’ interest in the antecedents of favourable participant reactions, but member loyalty may not always be synonymous with member satisfaction and organization effectiveness (achievement of organizational goals). Many attitudes have been discussed in the literature, but no exhaustive distinction has been made among them. Sometimes, similar attitudes are referred to by different names. The most discernible attitude types include alienation, apathy, instrumental relations, loyalty, commitment, and identification—the attitude focused on and the antecedents discussed depends on the theoretical perspective favoured.

These perspectives often attribute cause on an ideological basis. When asked about the development of member reactions, a sociologist of functionalist persuasion is likely to discuss appropriate socialization, an individual-level psychologist may suggest desirable personality traits, and administrators following the ‘human relations’ approach may point to the presence of closely-bonded groups satisfying the individual’s basic social needs. Overt individuality is generally considered detrimental to close-knit relations and the status quo, except when it occurs in the group’s own best interest (e.g., among team specialists). Unfortunately, ‘team’ situations are not clearly distinguished from those of pure loyalty, and people in any situation may be labelled as having personality problems if they do not fit in with the established social order (cf., Herzberg, 1966). Situations obviously vary in the initiative expected of members (e.g., sports teams, business houses, and religious sects all place different emphases on individual performance), and organizations provide the social context affecting members. However, since there is no commonly accepted basis for comparing such diverse groupings, these situations are usually treated as special cases and studied separately. To understand how personal conflicts are related to different settings, a conceptual framework favouring neither the organization nor its participants is necessary.

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1‘Central’ here indicates that involvement, as an attitude to an organization, may be viewed as 1) either the dependent or independent variable, and 2) a variable mediating between human motivation and system maintenance.
Methods of organizational analysis have been designed to more fully take account of extreme situations, but these have been limited by the theories of organization available. Comparative analysis aims to add specific middle-range theoretical statements to those concerning general characteristics of organizations, thereby showing both similarities and differences among organizations on certain dimensions and specifying categories of organizations for which the statements hold. Etzioni (1961) used this method with some success when he classified organizations by means of the compliance concept (based on specific relations between power holders and power recipients). The compliance theory was founded on the structuralist perspective of organization behaviour, a value-free and balanced approach to organizational analysis made considerably more sophisticated by comparative analysis (Etzioni, 1964, pp. 21, 49). Whilst it was somewhat discursive, the structuralist perspective did not assume that cohesion was ideal or that conflict was disruptive—in fact, some conflict between interest groups was seen to be useful in any organization.

Etzioni’s (1961) compliance theory provided the most comprehensive framework for the study of involvement, by accounting for a wide variety of attachments discussed by other theorists and by pointing to organizational practices responsible for those attitudes. He suggested that organizations encourage their members’ involvement, according to the constraints and opportunities provided to them; other social and individual influences are of secondary importance. In other words, although individuals may sometimes self-select organizations on the basis of personal characteristics or prior socialization, certain organizational practices (the means of power) tend to generate particular attitudes to an organization regardless of the individuals and organizations concerned. The postulated relations between power and involvement were called the ‘compliance relations.’ Individuals may bring preconceived attitudes to an organization, but most member orientations will correspond to the predominant control methods exercised by the organization over time. In some circumstances, the control methods will have to be adjusted to suit the predominant involvement. Etzioni’s (1961) theory generated enormous practical interest, but soon lost popularity because of an apparent bias towards large-scale systems (and hence, system leaders).

Etzioni’s (1961) compliance relations are important for everyday organizational life in that they postulate a primary role for the social context in the formation of members’ attitudes, independent of individual differences, and an attempt must be made to show their general applicability. Although the compliance relations were formulated as a typology of organizations, they can be developed for use at an individual or group level of analysis. While critics of the compliance theory found the compliance relations acceptable in principle, they objected to the way these apparently came about in the theory. The compliance theory focused on compliance and the
patterns of compliance required to achieve organizational goals, so the interests of subordinates appeared to be ignored. However, some types of compliance are more voluntary than others, and members may change the system if left unchecked. After examining the compliance theory in relation to other involvement theories and its sociological roots, the compliance relations are seen to be basic to involvement theory (including those concerning complex attitudes) and as an individual-level phenomenon generalizable to groups, organizational ranks, and organizations. The impact of individual and group characteristics may then be considered, in line with the underlying structuralist perspective of organization behaviour. Organizations where individuals may choose to stay or leave are of most interest for a study of involvement, and are ideal to test the generality of the compliance relations.

This study has several practical aims in relation to Etzioni's compliance thesis: The primary task is to develop measures of the types of power and involvement proposed by Etzioni—measures that would be applicable to a wide variety of organizations—and to investigate how each type of involvement is related to assessments of organizational controls, over various organizations and organizational ranks. A test of the generality of the compliance relations necessitates using comparable measures of all kinds of power and involvement throughout a range of organizations, observing effects at both the individual and group levels of analysis. A secondary task is to compare organizational power with other likely predictors of involvement: individual attributes, characteristics of the immediate social group, and extra-organizational influences. These factors are suggested by Etzioni (1961), other theorists, and the empirical research literature.

The vast bulk of this thesis is concerned with reporting the findings of the research undertaken here. The remainder of this chapter examines the compliance thesis in relation to other available theories of involvement, and several hypotheses are generated. Besides reviewing the empirical research literature, Chapter 2 outlines previously used measures of involvement to assess their suitability for the present task. Chapter 3 describes the study sample, methodology, and measures designed for Etzioni's central concepts. General study findings are reported in Chapters 4, 5, 6, and 7, introducing the measures of group and individual characteristics as required. Chapters 4 and 6 present regression analyses at the group level (considering only structural antecedent factors), while Chapter 7 presents individual-level analyses using both individual and structural predictors. A general discussion follows in Chapter 8. Before reviewing theories of involvement in this chapter, however, it is first necessary to clarify what is meant by the concepts 'organization,' 'group,' and 'involvement.'
1.1. CLARIFICATION OF THE CENTRAL CONCEPTS

The aim of this section is to specify what is meant by organizational involvement. The component concepts 'organization' and 'involvement' have been discussed in a number of ways in the literature and in relation to a variety of objects, so their clarification is important. Many writers concerned with participant reactions have used 'commitment,' also the subject of some confusion. Before discussing various member orientations, and organizational involvement in particular, it is necessary to distinguish 'organization' from 'group.'

1.1.1. ORGANIZATION AND GROUP

When discussing collectivities, the concepts 'organization' and 'group' are often confused. It is very difficult to give a precise definition of an organization, since that depends on which of the multitude of approaches to organization analysis is preferred. Etzioni (1964) defined organizations very generally as social units (or social groupings) deliberately constructed and reconstructed to achieve specific goals. In contrast, March and Simon (1958) conceived an organization in terms of the flow of communication and influence processes. Katz and Kahn (1978) provided a broad conception of the organization as a social system consisting of the patterned activities of a number of individuals and functioning in interaction with its environment. This view, allowing for the structure and process alluded to in the above definitions, enables a much more dynamic interpretation of the functioning of an organization. However, there is a variety of 'system' approaches in the literature, each with a different set of assumptions.

Etzioni (1964) observed that important features identify any organization constructed for specific purposes: There is a division of labour, power, and communication responsibilities, the presence of one or more power centres for control, and the ability to substitute and recombine personnel. In Etzioni's analysis (1961, p. xi), organization stands for 'complex bureaucratic organization,' different from the ambiguous term 'institution,' the structural component 'formal organization,' and the more general 'social organization.' March and Simon (1958) remarked that it is probably easier to give examples of complex organizations by contrast with social groupings: Corporations, armies, schools, hospitals, and churches are complex organizations, whereas tribes, ethnic groups, friendship groups, and families are not. According to Etzioni (1964, p. 1), organizations are more efficient than natural groupings because they have a degree of rationality—-they combine resources, evaluate their performance, and make adjustments to achieve goals. The problem of modern organizations is to have sufficient rationality to achieve their goals, but to minimize its undesirable side-effects (Etzioni, 1964, p. 2).

The organizational concern with rationality encourages participants to gratify their unfulfilled
social and emotional needs through informal relations, so people may be members of both formal and informal groupings within many different organizations throughout society. Any organization may contain many groupings carrying out specialized functions, just as second-order organizations up to the level of the state coordinate the efforts of lower-order organizations. A fairly autonomous department or division of a large concern may be seen by participants as 'the organization,' if that is the largest meaningful entity for them.

Organizations may be viewed as a collection of interacting individuals or groups, or as a total entity. Following Smith (1945), a group is a collection of people who have face-to-face interaction, some sense of identity, and a tendency to act in a unitary manner. It should be stressed that a group does not have to be cohesive. While some groups within an organization are deliberately created by the organization (formal groups) and others arise without being planned (informal groups), many groups entail both formal and informal relations among their members. Indik (1963) defined an organization in terms of the groups within it: An organization is two or more groups with a common administrative head who is separated from the productive level by at least two hierarchical levels. That is, an organization contains a hierarchy of at least three levels. Organization members share a common set of goals, at least in part, but there is not necessarily face-to-face interaction among all members.

1.1.2. COMMITMENT AND INVOLVEMENT

As already indicated, various attitudes towards organizations include the commonly used concepts of loyalty, identification, commitment, alienation, and instrumental orientations. Some of these are very similar, and all are subsumed here under 'organizational involvement.' Etzioni (1961) identified several basic types of orientations to organizations, but he did not specify clearly how his concepts differed from alienation and identification. An attempt is made in this section to distinguish types of organizational involvement, in order to show the importance of Etzioni’s concepts and to show that there is a need to consider involvement as a phenomenon common to all social systems. ²

‘Commitment’ has been used in a variety of ways in the literature. Reichers (1985) observed that there have been three main usages of the concept: as either an attributional, investment, or affective phenomenon. In the ‘attributional’ approach (Kiesler, 1971; Salancik, 1977a, 1977b), the individual becomes bound by his past explicit, irrevocable, and volitional actions in relation to social objects, and finds psychological mechanisms (e.g., cognitive dissonance) to adjust to such

²Since the concern at this time is with conceptual clarification, fuller accounts of the relevant theories will be presented in later sections.
commitments. For example, if a person publicly declares support for (or criticizes) a group, it becomes difficult for the person to deny it later to self or others, and stable attitudes develop towards the group. The ‘investments’ approach of Becker (1960) suggests that the individual becomes engaged in a consistent line of activity because anticipated future benefits will be forfeited if the activity is discontinued. ‘Affective’ commitment is a liking for a collectivity regardless of material rewards, and two kinds may be distinguished: 1) identification, or the congruence of personal and group goals (e.g., March & Simon, 1958), or 2) a sense of loyalty or attachment for the collectivity’s own sake (e.g., Etzioni, 1961).

As Mowday, Porter, and Steers (1982) observed, the above concepts may be reduced to behavioural and attitudinal commitments, two basic types which should be kept separate in research. Behavioural commitment (the main consideration of the attributional approach) is a process-level phenomenon whereby various attitudes are formed. In contrast, attitudinal commitment (the concern here) expresses the relationship that develops between the individual and a collectivity as behaviours and attitudes reinforce each other through a cyclical process (Mowday et al., 1982, p. 74). As will be seen later, the process whereby individuals become committed varies with the type of involvement considered and the theoretical perspective favoured. Although the investments model of Becker (1960) discussed behavioural side-bets, the resulting commitment may be construed as an instrumental attitude distinguishable from the affective attitudes outlined above. Some authors have also referred to active and passive commitment. Active commitment has been applied where an individual identifies with a collectivity in a self-motivated way (e.g., Morris & Sherman, 1981; Mowday et al., 1982; Steers, 1977; Welsch & La Van, 1981). Passive commitment has been viewed as nonparticipative loyalty (e.g., Steers, 1977; Welsch & La Van, 1981; Mowday et al., 1982), or as an implied instrumental orientation (e.g., Morris & Sherman, 1981).

Sometimes, other names may be applied to the same attitude, adding to the general confusion. For example, attitudes towards organizations may be investigated as identification (e.g., Lee, 1971) or alienation (e.g., Bacharach & Aiken, 1979), but these attitudes are quite similar to one or other of the above conceptions of commitment. Alienation, often discussed in relation to wider social systems, has clearly been the most difficult for researchers to interpret satisfactorily, although some have suggested that alienation is the inverse of identification (e.g., Antonovsky & Antonovsky, 1974; Faunce, 1968). Other writers (e.g., Angle & Perry, 1981; Hall, 1977) have recommended replacement of the commonly used but commonly confused concept of commitment with a set of inter-related concepts. (Naturally, such a process of clarification would include attention to concepts other than commitment per se.) ‘Involvement’ carries with it connotations of physical participation, but when attitudinal involvement is specified, it is a broad
term covering a variety of orientations to social objects. However, in social systems there are various foci of involvement competing for attention, and these should be contemplated before discussing organizational involvement in particular.

Involvement in an organization is different from involvement in activities or groups associated with the organization, such as involvement in a task, a work group, an ideology, or a union. Several authors have shown that organizational commitment is different from job satisfaction (Kanter, 1977; Mowday, Steers, & Porter, 1979; Wiener & Vardi, 1980): job satisfaction is generally task specific, whereas organizational commitment is a global concept applicable to the organization as a whole. Reference groups inside and outside the organization also compete for the member’s attentions, and these groups may supplement or hinder organizational controls (March & Simon, 1958; Patchen, 1970). Thus, the worker may be committed to work but not to the firm, and an adherent of a faith may or may not be committed to an organization set up under the auspices of that faith. Various typological schemes have been developed for the involvement of professionals towards their colleague group and the employing organization. These include the cosmopolitan-local distinction (Gouldner, 1957; Merton, 1957a) and the public-private-instrumental classification of Box and Cotgrove (1966). Gouldner’s scheme is illustrative of how conflicts develop among reference groups.

According to Gouldner (1957), professionals oriented more towards their employing organizations are 'locals,' and those primarily oriented towards their professions are 'cosmopolitans.' Gouldner (1957) observed that these potentially conflicting orientations arise from inherent contradictions within the system itself. The organization has a need for member loyalty, but it also has a need for expertise. Authority is therefore based on both the incumbency of office and the expertise of individuals. The dilemma posed in some situations causes tensions between an individual’s loyalty to the organization and his or her professional colleague group. Research actually shows that it is possible for individuals to be both cosmopolitans and locals, neither, or one or the other (Porter, Lawler, & Hackman, 1975).

So, the target of involvement has to be specified—here it is a well-defined organization. The object of involvement is the organization as an entity, and this implies involvement with many of its features, such as goals, means, norms, and leaders. While task and work group factors have been shown to be most important for the development of job satisfaction (see Mowday et al., 1979), such factors may directly contribute to organizational involvement if the organization is seen to provide the conditions affecting individuals. It is possible, of course, for some individuals to be attached to certain features of the organization and not others, e.g., the overadherence to and identification with organizational means rather than goals (see Merton, 1940). The appropriate
level and type of involvement depends somewhat on the purposes of the organization—it is not desirable or necessary, for example, to generate the same involvement towards business organizations as would be normal within religious movements (see Etzioni, 1961).

Some organizations are of more research interest than others, although all must be considered if involvement is to be fully understood. The organizations of most practical concern are those whose members choose to stay, and who sometimes spend a relatively long period of their lives in the service of the organization. The emphasis on rationality in work organizations, for example, often carries social and human costs, but the results are sometimes beneficial for all concerned (Etzioni, 1964; March & Simon, 1958). To understand how this occurs, it is necessary to consider all types of involvement possible in a wide range of social contexts.

Organizational involvement (especially commitment) is often operationalized as a unidimensional construct, removing any distinction among attitude types. For example, people who are antagonistic towards organizations score low on a commitment scale, those who are neither favourably nor unfavourably disposed towards the organization score intermediate on commitment, and those who are loyal score high on commitment. Some writers (e.g., Katz, 1964; March & Simon, 1958) have observed that there are three kinds of member-motivated behaviour: joining and participating, providing dependable role behaviour, and being spontaneous and innovative. These three behaviours are often included in a unidimensional scale assessing organizational commitment conceived as identification (e.g., Mowday et al., 1979). Others have attempted to distinguish among different types of involvement, at least superficially. Kanter (1968) noted three types of commitment: continuance (instrumental), cohesion (attraction), and control (moral obligation) commitments, but these were expected to be interrelated and combined into a single measure. Apart from the conception of 'intermediate' commitment, most investigations of instrumental involvement centre on Becker’s (1960) side-bet theory and operationalize commitment as a commitment to stay (e.g., Kanter, 1968; Meyer & Allen, 1984; Wiener & Vardi, 1980). However, ‘committed’ individuals (however defined) would be expected to stay regardless of the type of involvement affecting them. Wiener and Vardi (1980) distinguished calculative-instrumental motivations from normative commitment (defined as a sense of loyalty or duty). Wiener (1982) redefined normative commitment as the totality of internalized normative pressures to act to meet organizational interests. As such, it appeared to move closer to the concept of identification.

Etzioni (1961, p. 10) identified three kinds of organizational involvement: alienative, moral, and calculative. Alienative involvement (or alienation; 1961, p. 10) refers to an intense negative orientation towards the organization, a conscious estrangement of the individual from its goals.
and activities. Moral involvement refers to an intense positive orientation, where the collectivity is valued for its own sake. Etzioni called this type of involvement 'commitment.' Calculative involvement was ambiguously defined by Etzioni (1961) as the mild zone intermediate on an involvement continuum between commitment and alienation (1961, pp. 9, 10), and as that characterizing relations between people and property (1961, p. 10). Actors are means to each other in calculative relationships (Etzioni, 1961, p. 11, 1968, p. 96), so calculative involvement is generally accepted to be an instrumental orientation towards the organization (e.g., Goldthorpe, Lockwood, Bechhofer, & Platt, 1968; Hall, 1977; Porter et al., 1975; Silverman, 1970). Calculative involvement is here conceived as an attachment to the organization for the material resources it provides, thus it is considered as a unidimensional attitude independent of affective loyalties. Since Etzioni (1961) based calculative involvement upon Marxian theory (see 1961, p. xv), this definition appears to be the one required; calculative involvement is seen to be similar to an important component of the Marxian conception of alienation, namely, the treatment of social relations as a commodity (see Fromm, 1966; Israel, 1971; Struik, 1973). Etzioni’s use of ‘alienation,’ apparently guided by popular conceptions of it at the time, deflects attention from other types of involvement he saw as being relevant to Marx.3

Alienation is a relevant concern for organizational research because, as Etzioni (1961) observed, R. K. Merton postulated that organizations are ‘strategic sites’ for the empirical study of social order and, as such, any discussion of organizational involvement must be applicable to all levels of social systems. But the concept of alienation has been, and still is, a problematic one for researchers (Erikson, 1986). Israel (1971, p. 5) observed that alienation has been conceptualized as sociological processes (e.g., in some Marxist representations) and as conscious psychological states (e.g., Seeman, 1959). Although the two approaches may be studied in combination, the double meaning has led to confusion in the literature. At an empirical level, Israel (1971) made a useful distinction between subjective and objective alienation: Subjective alienation refers to social psychological conditions experienced by the individual, while objective alienation refers either to objectively observable behaviour (involving psychological conditions) or objective social conditions and processes. In the empirically oriented American sociological literature, it is the subjective individual states which are usually referred to as alienation; the objective social conditions or processes are generally called anomie, although Merton (1957b) did acknowledge both subjective and objective anomie. However, the subjective concepts, in particular, do not capture the essence of Marx’s alienation concept.

As Eichar and Thompson (1986) observed, Marxian alienation comprised both subjective and

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3A full account of Etzioni’s (1961) approach follows in the next section.
objective phenomena; it is the negation of free and creative individual activity in relation to four foci: work products, life activity, true human nature, and other people (Marx, 1932/1973). Erikson (1986) noted that the occurrence of Marxian alienation cannot be adequately judged from objective conditions alone, and individuals also cannot be assumed to be necessarily aware of alienating social conditions and their effects (as Seeman’s measures suggest they are). Thus, observed Erikson, researchers must ask new questions to ascertain the existence and effects of the alienation (or facets of it) discussed by Marx. Since Etzioni (1961) based calculative involvement upon the insights of Marx while recognizing the importance to Marxian theory of other types of involvement, the assessment of calculative involvement (and the study of its antecedents) will assist the study of Marxian alienation. Etzioni’s ‘alienative involvement’ is similar to ‘alienation’ as used in the American sociological literature, and distinct from the usual Marxist interpretations, so to prevent confusion only the Marxian variety of alienation will hereafter be referred to by that title.

1.2. ETZIONI’S COMPLIANCE THESIS

The task here will be first to describe Etzioni’s compliance model, focusing only on the relevant concepts, and to follow this with its main criticisms. A lengthy account of the model is necessary to introduce sufficient detail as background for critical discussion and possible refinement. Several correlates of compliance not discussed here (concerned with elite groups, cultural integration, the environment, and the distribution of charisma) add validity to the compliance thesis by showing how organizations with different compliance structures vary. Only the most problematic correlates of compliance, those affecting the validity of the compliance relations, will be discussed. When presenting the model, some comments may be required to clarify certain points (including later contributions by Etzioni), but any major discussion will be deferred until later.

1.2.1. THE MODEL OUTLINED

As a means of classifying organizations and analyzing behaviour in organizations, Etzioni (1961) developed a typology of compliance relations derived from the three main approaches to the study of social order. These were the elite approach, the Marxian approach, and the normative approach (Etzioni, 1961, p. xv). The normative approach emerged primarily from a synthesis of Weber’s work on the role of ideas in social action and Durkheim’s study of shared sentiments. An assumption made by Etzioni was that there were three major sources of control embodied in these approaches, whose allocation and manipulation account a lot for the foundations of social order. The controls were coercion, economic assets, and normative values (1961, p. xvi). Social relationships differ according to the relative predominance of the major
source of control, so any hierarchical relationship could be characterized by a control component and the recipient’s orientation towards that control. This analytical principle was applied to organizations. No assumption was made that force is necessarily disruptive, or that economic factors determine the others, or that an organization must be integrated (1961, p. xvi). Etzioni called the structural relation between control and orientation ‘compliance.’ Compliance refers ‘both to a relation in which an actor behaves in accordance with a directive supported by another actor’s power, and to the orientation of the subordinated actor to the power applied’ (1961, p. 3).

Thus there are two parties to the compliance relationship: power holders and subordinate actors who hold orientations towards the power. Power is an actor’s ability to influence others to carry out directives, power holders (elites) have access to means of power, and power differs according to the means employed (1961, pp. 4-5). The means of power (physical, material, and symbolic controls) were considered to be exhaustive. Etzioni (1961) thus identified three kinds of power that organizations can exercise over their participants: coercive power, remunerative power, and normative power (1961, p. 5). Coercive power refers to the application or threat of physical sanctions; the use of physical force to control the satisfaction of needs. Remunerative power is based on control over material resources and rewards, through the allocation of wages, salaries, fringe benefits, services, etc. Normative power rests on the allocation and manipulation of symbolic rewards and deprivations, through leadership, manipulative methods, prestige symbols, administration of ritual, and other similar techniques. Etzioni later referred to normative power as identitive power (1965) or persuasive power (1968), and refined two types of power for wider application: coercion was placed on a continuum of degree of choice, varying in severity depending on the degree of choice available (1968, p. 321), and normative (persuasive) power was defined as an appeal to the values and sentiments of participants (1968, p. 358).

Etzioni (1961, p. 6) noted two kinds of normative power: ‘pure’ and ‘social.’ The former is based upon the manipulation of esteem, prestige, and ritualistic symbols (e.g., flags, benedictions, etc.), and the latter concerns the allocation and manipulation of member acceptance and positive response. Although the ‘pure’ type is most frequent in hierarchical relations and the ‘social’ type is most common in horizontal informal relations, each type of normative power is found in both vertical and horizontal relationships. Each rests upon the manipulation of symbolic rewards and belongs to the same category of power (1961, p. 6). The two types of normative power present the organization as being worthy of membership, regardless of the recipients and the attentions given them, so every normative act is likely to contain both pure and social elements. As Katz and Kahn (1978, p. 289) observed, values may be implanted by indoctrination or socialization, but if these values do not have relevance for members’ immediate experience in the organization, they will lack depth of internalization and will quickly fade. Systems achieve internalization of
values in four main ways: by intrinsically rewarding tasks, the use of small face-to-face groups, worker participation in goal setting and implementation, and the sharing of rewards (Katz & Kahn, 1978, p. 288). Normative power is therefore manifest in all those organizational practices defining a value system directed at members’ attentions and sentiments, regardless of the content and righteousness of those practices. In sum, normative power is value-free and may include ideological manipulation, provision of member services, and highly intimate relations.

Etzioni’s three-fold classification of power is similar to French and Raven’s (1959) bases of interpersonal power, but has an analytical advantage in that it is applicable at the organizational level (Hall, 1977; Warren, 1968). French and Raven (1959) identified five bases of power: coercive, reward, referent, expert, and legitimate power. Coercive, reward, and referent power are similar to Etzioni’s coercive, remunerative, and normative powers, respectively, but Etzioni did not distinguish expert power and legitimate power because he considered these as being embraced by his own concepts.

Etzioni’s analysis is concerned with the involvement of lower participants towards the organization’s power system, including the directives issued by the organization, the sanctions by which it supports its directives, and the persons who are in the power positions issuing directives (1961, p. 11). The three types of involvement described above—alienative, moral, and calculative involvement—were applicable to all social units and to all kinds of objects (1961, p. 10). Involvement contains both an evaluative and a cathectic component; that is, involvement is affected both by the legitimacy of a directive and by the degree to which it frustrates the subordinate’s need-disposition. Coercive power is least likely to be seen as legitimate, normative power the most likely, and remunerative power intermediate (1961, p. 15). Alienative involvement is most likely to be produced by illegitimate power which frustrates needs, wishes, and desires. Commitment (moral involvement) is most likely to be generated by legitimate directives in line with the internalized needs of the subordinate. Involvement is intermediate or calculative ‘when either legitimation or gratification is lacking’ (1961, p. 16). Calculative involvement is obviously most likely where legitimacy is intermediate and particular (e.g., material) needs are satisfied, but Etzioni evidently also included imbalances between legitimation and gratification (e.g., where material needs are satisfied under conditions of normative power).

Etzioni was aware of the roles of different parties to the compliance relationship in the exercise of organizational power: Power is always relational and relative (1968, p. 314). Under conditions of coercive power, each party to the compliance relationship treats the other as an object, while remuneration encourages the relating actors to treat each other as means to personal ends (1968, p. 96). In situations where normative power is predominant, each party may treat the other
as either means or ends, depending on whether the type of normative power exercised is markedly ‘pure’ or ‘social,’ respectively. In extreme situations, sect members may treat others as means to attain the organization’s goals (unlike calculative involvement), whereas under more equalitarian conditions, participants are more likely to treat others as ends in themselves (1961, p. 11). However, for either type of normative power, members are expected to be similarly involved in the organization.

The predominant power applied by superiors and the modal involvement displayed by subordinates are combined to produce a typology of nine types of compliance (1961, p. 12). Only one type of compliance usually applies to any situation. The concomitance of 1) coercive power and alienative involvement, or of 2) remunerative power and calculative involvement, or of 3) normative power and moral involvement are called congruent compliance types. Among these, the coercive-alienative relation was referred to as coercive compliance, common in custodial institutions such as prisons. The remunerative-calculative relation was labelled utilitarian compliance, characteristic of blue- and white-collar industries. The normative-moral compliance relation was called normative compliance, applicable to a diverse range of organizations, from religious congregations to professional agencies. Organizations were designated as coercive, utilitarian, or normative, according to the predominant compliance relation affecting their lower participants. Some organizations could have ‘dual’ structures, i.e., have two equally strong compliance structures. Compliance may remain noncongruent for various reasons, e.g., administrative constraints or community socialization.

Congruence between power and involvement arises fundamentally because each component tends to generate the other under normal circumstances within systems (see 1961, p. 12). This process includes the cathetic and evaluative components of subordinate involvement (see p. 13, above), and leaders’ decisions to use particular rewards and sanctions. According to the ‘dynamic hypothesis’ (1961, p. 14), congruent compliance relations are more frequent than noncongruent ones because they are more effective in achieving particular goals, and organizations tend to shift their compliance structure from noncongruent to congruent by changing power or involvement. For example, involvement may be altered ‘through socialization, changes in recruitment criteria, and the like’ (1961, p. 14). In effect, decision-makers attempt to alter noncongruence by such means as resocialization methods in order to overcome hindrances to the development of congruent relations. Once hindrances have been removed, congruence may come about. However, the appropriate congruent relation has to be encouraged.

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*By ‘effective,’ Etzioni was concerned with how well an organization achieved a given goal, or how it maintained particular structures and levels of processes (see Etzioni, 1961, p. 78).*
Etzioni's (1961) analysis of organizations distinguished two kinds of systems model: survival models and effectiveness models. The survival model specified all requirements for system operation, such that the system would cease to function if one of those requirements (e.g., high member loyalty) were absent (1961, p. 78). Effectiveness models, those favoured by Etzioni (1961; 1964), were to some extent based on Merton's (1957b) functional theory (1961, p. 78; 1975, p. 137) and defined the most effective pattern among elements to bring about goal achievement (1961, p. 78); several functional alternatives may satisfy the system's needs, but some are better than others when compared to earlier states or similar organizations (1964, p. 19). 'The question here is: Which type of spark plug makes the engine run smoothest?' (1964, p. 19). Although effectiveness models gave some attention to the nature of system parts, the over-riding concern was still the smooth operation of the whole system in a functionalist sense. Etzioni's conception of a system was similar to Gouldner's (1959a; 1959b) 'natural systems' model except that it avoided several assumptions made by Gouldner and others, e.g., that organizational structure is spontaneously and homeostatically maintained (Etzioni, 1975, p. 135). Thus, if some elements leave the system (i.e., the organization), their activities may be taken up in various ways by others, and elements attempting to alter the course of the system need not necessarily be removed or 'made loyal' for the system to operate--they must be controlled differently.

So, there is a 'strain' towards an effective goal-compliance combination (1961, p. 87). The typology of nine combinations of goals and compliance (1961, p. 74) summarized how organizations usually have compatible goal and compliance structures; one kind of goal tends to predominate within an organization and corresponds to the predominating compliance structure. Organizations serving 'order' goals (e.g., prisons) tend to have coercive compliance structures, organizations serving 'economic' goals (e.g., businesses) tend to have utilitarian compliance structures, and those serving 'cultural' goals (e.g., churches) tend to possess normative compliance structures (1961, p. 74). Other types of (predominant) compliance are possible in organizations with different (predominant) goals, and these combinations are referred to as 'incongruent goal-compliance structures' (1961, p. 87). However, these forms of compliance are relatively infrequent. Effective goal-compliance combinations are influenced by environmental factors affecting any of power, involvement, or goals--sometimes, the groups who set goals may limit the means available (1961, p. 86).

The typology of goals and compliance does not consider multiple compliance or goals within any one organization, but Etzioni was aware of secondary control methods (1961, p. 6) and compound goals (1961, p. 265): Because of the required association between goal and compliance structures in the interest of effectiveness, multi-goal or multi-task organizations typically face a
dilemma (1961, p. 266). This conflict may be resolved in two ways: by concomitant division of compliance (where a different compliance structure is used in different parts of the organization), or by successive division of compliance (where different compliance structures are used at different times in the same locations). The presence of multiple goals should be reflected in the compliance structure (i.e., this should occur within ‘dual’ organizations).

Etzioni was concerned with classifying organizations in terms of the compliance relations affecting lower-level participants, but he did point out that these compliance relations would hold for people higher up in the organization as well (1961, p. 202). For higher ranks, the compliance relations would be different from those affecting the lower participants, but they would still follow the above congruent relations most of the time. As Etzioni noted (1961, p. 6), organizations concurrently exercise the three kinds of power to different degrees, but one kind of power is usually predominant for an organization, subject to the goals of the organization and the compatibility of the kinds of power exercised. The prevailing power and the modal involvement for a particular rank constitute the relevant compliance relation.

Some combinations of power tend to neutralize each other, in some organizations more than others, so particular compliance relations may not be possible within organizations having widely varying purposes. Applying coercion creates such a high degree of alienative involvement, in prisons for example, that normative power (e.g., rehabilitation methods) cannot be applied successfully (1961, p. 7). Similarly, remuneration is partly wasted in conjunction with coercive power, and also makes the appeal to pure normative power less fruitful. Thus, remunerative power within a church may be seen as illegitimate and perhaps alienating (1961, p. 8).

Some may object that different expectations regarding authority, community values, etc. may be tied to different situations, so similar control methods in extreme situations cannot be assumed to produce comparable effects. For example, different factors may be held responsible for the development of alienative involvement within prisons versus that obtained in factories. Etzioni (1961, p. 31) did say that statements about white-collar workers in white-collar industries would apply to office workers in factories, but to a lesser degree because the compliance structure of the focal social unit may be affected by the compliance pattern in the rest of the organization. Hospital clerical staff, for example, may be expected to be more normatively controlled than office workers in blue-collar industries, and their involvement is likely to be different. Thus, similar jobs tend to produce the same attitudes to the organization inasmuch as the organization’s control methods are similar, and similar control methods tend to produce the same involvement in any situation (see Etzioni, 1961, p. 202). However, it was made clear that the resulting involvement among members is affected to some degree by individual circumstances.
At all ranks, factors other than power will influence participants' involvement in the organization, and thus affect whether the compliance relation is congruent or not. Such additional factors include prior socialization, membership in other collectivities, basic value commitments, and personality characteristics (1961, pp. 13, 188), but these are considered to be secondary influences on involvement. These factors would be likely to affect professionals, for example, in any organization. Where the power exercised by the organization is predominantly normative, the professional is likely to be morally involved in the organization. However, where the normative-remunerative balance of control methods is altered, either by the professional's failing to legitimize the organization's control methods (against, say, professional standards), or by the organization's placing most emphasis on remunerative controls, then the professional will most likely adopt a calculative involvement towards the organization. He or she would then probably become, in Gouldner's (1957) terminology, a cosmopolitan.

Etzioni also had something to say about the relationship between cohesion and involvement. Cohesion was defined by Etzioni as 'a positive expressive relationship among two or more actors' (1961, p. 176), and it was seen to occur among members of the same organizational rank (peer cohesion) or among different ranks (hierarchical cohesion). Etzioni (1961, p. 182; 1975, p. 384) regarded the often-reported correlation between peer cohesion and involvement as a spurious one: Cohesive groups may occur where either coercive or normative control methods are used, so instead of causing any particular kind of involvement (its direction), cohesion merely accentuates the involvement already present (its intensity); other factors prior to actual participation determine both the direction of involvement and the degree of peer cohesion (1961, p. 186). Such factors include the rewards affecting members, the duration of members' organizational relations, and their socio-economic status, prior socialization, religious affiliations, political beliefs, personalities, etc. (see Etzioni, 1961, pp. 182-187). If all these variables were controlled, any relationship between cohesion and involvement was expected to disappear. Etzioni (1961, p. 181) suggested that a 'medium' level of cohesion is ideal in groups working towards organizational goals, in order to 'balance' instrumental and expressive relationships and to increase group effectiveness. He quoted Blau:

The coexistence of these two contradictory requirements [instrumental and expressive relations] has given rise to a form of social relationship in bureaucratic work groups that resolves the contradiction. The associations between particular individuals are valued, as in the case of friendships...but mutual obligations are definitely circumscribed... (Blau, 1955, p. 143; parentheses added).

Etzioni's (1961) treatment of cohesion highlighted the difference between his mode of organizational analysis and that of his predecessors. In a later publication, Etzioni (1964, pp. 20-21) explained that the underlying structuralist perspective of organizations created a complete picture of the organization by combining the diverse concerns of classical management theory and
human relations theory. The classical approach saw workers as motivated by material rewards and concerned itself with the formal, rational organization, a blueprint by which all organizations should be constructed and controlled: Hard and efficient labour leads to high productivity and hence high profits, pay, and worker satisfaction. The human relations theorists, on the other hand, emphasized the informal, nonrational elements of organization behaviour—the social and cultural needs of workers must be met to increase both productivity and worker satisfaction. Democratic leadership, the creation of supportive groups, and participation were therefore considered most important. Worker discontent was often seen to be emotionally and irrationally based (e.g., Herzberg, 1966; Wilensky & Wilensky, 1951). The structuralists saw inevitable (but not undesirable) strains between the organization's needs and the individual's needs, between rationality and nonrationality, discipline and autonomy, formal and informal relations, and between management and the workers. By drawing on theorists like Weber and Marx, and by extending their field of enquiry to nonindustrial organizations (using comparative analysis), the structuralists created a value-free approach to organizational analysis where power relations among interest groups could be considered along with the more customary tendencies towards system integration. However, the compliance theory has received some criticism.

1.2.2. CRITICISMS OF ETZIONI'S MODEL

Many writers saw value in Etzioni's compliance theory because it aimed to include actor orientations and structural constraints in the one model, and thus combine the concerns of the 'consensus' and 'conflict' theorists of the day (see Rose, 1975, pp. 263-264). As will be seen shortly, others saw it as yet another consensus theory. Consensus theories, deriving from general systems theory and functionalism (Bowey, 1980), emphasized the way system elements are normatively constrained by the wider system to serve its needs, and systems are effective if they survive and grow. Both classical management theory and human relations theory used a closed systems model (focusing only on in-plant factors), while others (e.g., Katz & Kahn, 1978; von Bertalanffy, 1950) conceived organizations as systems open to environmental inputs. Conflict theory, on the other hand, held the view that system elements contribute to system change (rather than stability) as conflicts among them escalate and are resolved through power struggles. Each of these approaches have problems, and the differences have been difficult to reconcile (Ritzer, 1983). The structuralist perspective of organizations outlined above displayed a concern with both consensus and conflict, but the compliance theory has been criticized for, in effect, failing to realize the ideals of the structuralists (Burns, 1967). The major criticisms will be reviewed in this section to ascertain the validity of the compliance relations, and this necessitates discussion of organization effectiveness and organizational goals.
Burns (1967) is the most quoted critic of Etzioni’s compliance theory. Perhaps the most cogent criticism was contained in the question ‘for whom and for what are organizations to be reckoned “effective”?’ (1967, p. 121). There are problems in determining the predominant goal of an organization, as Etzioni recognized (1961, p. 72): It could be set by the people (or groups) who place limits on the means used for organizational control (Etzioni, 1961, p. 86), so the compliance structure could coincide with organizational goals (even the actual goals) simply because parties influencing both prefer it that way. It was clear from Etzioni’s account that leaders attempt to change noncongruent compliance by altering power or involvement and encouraging one type of congruent compliance to suit the organization’s purposes, and that his view of effectiveness was very much system-oriented (see Etzioni, 1975, pp. 139, 147). The second part of Burns’ (1967) criticism questioned whether the attainment of one predominant goal is an adequate means of assessing the effectiveness of an organization.

Burns (1967) further questioned Etzioni’s system model: How do organizations obtain noncongruent compliance structures if there is a dynamic pressure towards congruence, and why doesn’t the environment afford blanket cover for all contingencies? As Silverman (1970) observed, Burns’ criticisms imply that individuals are not likely to permit systemic forces to determine their perceptions and expectations regarding themselves and their roles. If goals are tied to organizational power and member involvement fails to adjust to changes in power, this may simply reflect how the interests of participants guide their behaviour in the circumstances. Etzioni’s ‘dynamic hypothesis’ apparently favoured an open systems model overlaid with the Bales-Parsonian four-phases model (Etzioni, 1975, pp. 140-141), which he admitted allows no conceptualization of conflict or change in terms other than deviance (1975, p. 139). However, in contrast to the open systems view, Etzioni conceived no necessity for system integration (via homeostasis) and individuals could modify the system if left unchecked (see p. 15, above). The latter conception appears to be more compatible with Merton’s (1957b) brand of structural-functionalism and Merton’s (1975) structural analysis of society than it is with a consensus theory. As many critics found, it is difficult to appreciate a system model that has a ‘dynamic’ tendency towards ideal states but which does so differently from an open system.

Salaman (1979, p. 60) saw the strain towards effectiveness as the main problem with Etzioni’s classification scheme, although he accepted Etzioni’s (1961) assertions that 1) organizations differ in the type of power exercised, 2) different kinds of power are related to different kinds of involvement, and 3) the resulting compliance type is related to other organizational attributes. In Salaman’s view, the strain towards effectiveness, following the goals of the organization, presents observed features of the organization (e.g., compliance) and relationships among organizational attributes (e.g., goals and compliance) as ‘functional imperatives,’ independent of members’ in-
terests and choice. If most manufacturing organizations, for example, employ largely utilitarian compliance (usually with strong inputs of coercive compliance), this need not be an inevitable result of the organization's attempts to achieve certain goals efficiently. Would not industrial organizations be run more effectively if less conflict-arousing practices were used, thereby preserving workers' welfare, autonomy, and individuality? Salaman concluded that Etzioni's (1961) classification 'is more successful as a description of common organisational correlations than it is as a statement of any necessary, causal relationship between organisational goals, compliance and structure' (1979, pp. 60-61).

In Etzioni's classification, if other than remunerative power were predominant in utilitarian organizations, compliance will change to one considered inappropriate for the firm, but (unlike coercive and normative organizations) secondary types of power may be prominent in the background of utilitarian organizations to maintain order and perhaps manipulate involvement (Salaman, 1979, pp. 114-115). Although Etzioni acknowledged that organizations exercise different controls to varying degrees, and that it is difficult to predict where specific organizations will be placed in his classification (1961, p. 25), the typology omits mention of the potential power play within utilitarian organizations and leaves the precise mix of controls to management. The predominant attitude among lower participants of those organizations is always calculative involvement (a member has only one type of involvement), so the industrial worker apparently cannot escape from calculative involvement, its connotations, or its effects. Disregarding secondary compliance structures in the typology (particularly for utilitarian organizations) therefore gives the theory an apparent ideological bias. To state that calculative involvement is to be found among lower participants of utilitarian organizations implies that 1) work organizations are the only sites for such attitudes, and 2) it is normal for lower workers to be opportunistic and apathetic. By definition, calculative involvement must be possible in other organizations and not always associated with monetary rewards (e.g., status may be prized). Also, other writers (e.g., March & Simon, 1958) have suggested that it is actually beneficial to industrial organizations and their members if members identify with the organization and, presumably, have minimal calculative involvement in it.

Etzioni's conception of effectiveness (in terms of one goal and one compliance structure) is too restrictive, and not in accordance with the structuralist perspective of organization behaviour (p. 18, above). Single-variable typologies are inadequate to account fully for the complexities of modern organizations (see Pinder & Moore, 1979). Even human relations adherents saw the need for some normative controls to increase worker satisfaction and efficiency of the organization. Likewise, classical management theorists postulated that, if the organization was to achieve its goals, close control of workers' performance was a necessary addition to monetary rewards.
Therefore, it is necessary to consider all compliance structures and all organizational goals when assessing effectiveness in any situation. Individuals may be affected by different congruent and noncongruent compliance structures at the same time, but one may predominate and be used for classification purposes. Movements to or from congruent compliance structures and goals may be better explained by this approach, and the effectiveness of different organizations compared. Utilitarian organizations (where economic goals predominate, but cultural and order goals are also present to some extent) may be most effective when remunerative power is predominant, but provided that the secondary controls are, say, moderate normative power and low coercive power.

Etzioni's view of effectiveness also inhibits his effectiveness systems model, concerned with 'which spark plug makes the engine run smoothest?' (see p. 15, above). In contrast to Parsonian structural-functionalism, Merton's (1957b) functional theory attended to both the sources of order and disorder within social structure (Stinchcombe, 1975), and it was minimally committed to a systems model (Gouldner, 1959a). Social structure was seen to result from the interplay of system-type contextual constraints and the goals of subcollectivities or their members (Gouldner, 1959a; Stinchcombe, 1975). Dysfunctional structures could continue to exist and eventually change the system (Ritzer, 1983). In the compliance theory, compliance (by definition) obviously contributes to the system's needs, but an individual's willingness to comply is markedly different within coercive, utilitarian, and normative organizations. Within these organizations, Etzioni's classification did not fully take into account the varying contributions of individuals to system operation, emphasizing instead how members were alike, and the scheme perhaps should conform more closely to Merton's (1957b, 1975) interpretation of social behaviour. Etzioni (1975, p. 92) observed that the compliance theory could be termed such an approach. It is suggested here that this would occur if a variety of compliance structures were considered in any situation, so that the members' total contribution towards system success (or members' total compliance) may be appreciated, especially in utilitarian organizations. Later in the chapter, the implications for individual behaviour will be discussed.

A brief consideration of systemic processes in the compliance theory will clarify to what extent the compliance relations are produced by the system (and are hence beyond individual control). Etzioni (1975, p. 92) stressed that elites do not determine the compliance relationship; the pattern is codetermined by lower participants. Environmental pressures (e.g., from shareholders of firms, parents of school children, etc.) may act upon leaders and subordinates alike to maintain a particular compliance structure. Subordinates are thus constrained, to a degree, to have a particular involvement according to the organization's demands, but this constraint obviously does not explain all members' behaviour and their varying inputs to the system. In any organization, some of those complying (e.g., those with alienative involvement and a low willingness to comply) would
undoubtedly prefer to change the system or leave it, while others may make positive contributions. If leaders manipulate compliance (via power and involvement) to achieve the goals dictated by outside pressures, the alteration of involvement is achieved mainly by altering power (e.g., socialization may comprise either coercive or normative control). Thus, leaders' practices may be seen to directly affect member involvement (and vice versa), rather than systemic forces being responsible for congruent compliance. Certain types of power and involvement tend to generate each other, so that high levels of one will be associated with high levels of the other (Etzioni, 1961, p. 13), but regardless of the observed levels of power and involvement (and all other things being equal), the compliance structure will remain the same. Thus, the compliance structure is varied by the system according to the mixture of controls exercised, but each compliance relation is a contingent relation between the organization and its members.

In conclusion, Etzioni's compliance theory obviously has its problems, particularly with regard to its conception of effectiveness, but the compliance relations may be studied independently of those problems. Since Etzioni was concerned with compliance (and system maintenance) he appeared to be little concerned with individual interests and choice, but individual willingness to participate is implicit in his compliance concept (a conjunction of power and involvement) and some types of compliance are more willing than others. To be in accordance with the effectiveness systems model and the structuralist perspective of organizations, all types of compliance and organizational goals should be considered when studying organization behaviour, and this would facilitate comparison of organizations having different purposes (or predominant goals). The compliance structure may be influenced by the system's environment (hence, both the power exercised and the involvement of members is constrained), but the compliance relations are contingent relations between power-holders and power-recipients, rather than relations generated directly by the system. The compliance relations will be investigated further as an individual-level phenomenon after other theories of involvement have been outlined.

1.3. THEORIES OF INVOLVEMENT

It was suggested earlier (p. 2) that theories of organizational involvement usually concentrate on particular types of involvement and suggest individual or structural factors as the important antecedents. Corresponding to the preferred mode of analysis, the consequences discussed are those affecting individuals or organizations. Those favouring an individual-level analysis tend to focus on opportunistic attitudes, while those favouring a large-scale structural analysis tend to discuss normative attitudes (e.g., commitment). Some involvement theorists have attempted to include attention to many different attitudes (e.g., Etzioni, 1961), and others have restricted their discussion to one (e.g., March & Simon, 1958, concerned with identification). In contrast to
Etzioni's (1961) focus on the structural-level functioning of organizations, March and Simon (1958) favoured a social psychological analysis, although the latter also pointed to the importance of structural factors.

Models of the antecedents of organizational involvement or commitment may be seen to consist of those that search for the single cause of involvement and those that suggest multiple antecedent factors (Angle & Perry, 1983). Two types of models that have searched for the single cause of organizational commitment (here included under 'involvement') have been labelled by Angle and Perry (1983) as 'member-based' and 'organization-based' models. Member-based models (e.g., Becker, 1960) consider the individual to be the initiator of actions leading to an increase in commitment, whereas organization-based models (e.g., Levinson, Price, Munden, & Solley, 1962) treat organizational practices as determining the level of commitment obtained. Multiple-antecedent models (e.g., Etzioni, 1961) consider many different factors—the attributes members bring to the organization, what he or she does there, and what happens to them within the organization—but one set of factors is usually considered to be more influential than another. Whereas member-based and organization-based models are largely concerned with self-interested action and harmonious relations, respectively, multiple-antecedent models investigate these different aspects of behaviour concurrently. Within each type of model, the independent variables may be subjective psychological processes or more objective, verifiable, structural features of the situation.

In the following section, the principal member-based, organization-based, and multiple-antecedent models will be presented. An attempt will be made to identify the theoretical framework favoured in the different viewpoints, to show points of contact and possible contributions to Etzioni's (1961) model outlined above. The compliance thesis is shown to subsume other popular theories of involvement.

1.3.1. MEMBER-BASED MODELS

Of concern here is what the individual brings to the organization and what he or she does there. The attributional approach of Kiesler (1971) and Salancik (1977a, 1977b) viewed commitment as a 'state of being where an individual becomes bound by his actions' (Salancik, 1977a, p. 62). As noted above (p. 7), attribution theory provides a process-level explanation of attitude development, so its suggested antecedents are of interest here. The actors' knowledge of the situation produces feelings of felt responsibility, instrumental orientations, or estrangement (Salancik, 1977b), and structural conditions are important priorities for behaviour and attitudes; Salancik (1977a) outlined several techniques for managers to increase the felt responsibility and committed behaviour of subordinates. Semin and Manstead (1983) have shown, however, that attribution
theory ambiguously classifies causation into situational (external) and dispositional (internal) foci, with inevitable problems in interpretation. Attribution theory is also prescriptive, and man is generally viewed as a statistician continuously constructing reality. Although the attributional approach is difficult to apply to complex situations (it relies more on experimental manipulations of particular behaviours), it does provide a limited view of the processes contributing to a variety of involvement types.

Social psychological models of exchange, such as those of Homans (1961) and Thibaut and Kelley (1959), derive from principles of learning theory and emphasize the self-interested nature of exchange. Rewards and costs may be associated with certain behaviours, making the continuance of behaviour likely or not, respectively. When organization-related behaviours are favourable to participants (i.e., rewards are greater than costs), commitment to these behaviours (and hence the organization) is increased. (Due to a focus on actor self-interest in these theories, the type of involvement obtained is likely to be a calculative one.) However, these models of exchange have problems. As Burnstein (1969) observed, strategic behaviour concerns outcomes over a long period, and behaviour may not be greatly modified by the immediate consequences of reward or cost. Also, it is not easy to specify rewards and costs for all situations. Becker (1960) refined the notion of exchange and saw commitment as a structural phenomenon accruing over time. Becker's theory has inspired most research into a calculative type of involvement and will be outlined in more detail shortly, but another model deserves at least passing mention here because it concerns factors brought to the organization.

Some theorists were concerned to show that expectations regarding the workplace were generated by experiences outside the organization. Ingham (1967), sympathetic to an interpretive approach, produced a typology of work orientations: 'economic man' (to whom material welfare is of prime concern), 'Marxian man' (those who have material interests and who attempt to control or challenge authority), and 'Hawthorne man' (those who are oriented towards work satisfaction and a desire to be close to authority). This typology purportedly explained different attitudes to work that are generated through community socialization and various life stages. Individuals then self-select into organizations according to the likelihood of gaining satisfaction of expectations there, and nothing the organization does would be likely to change the way workers feel about the organization. However, the successful self-selection of organizations assumes conditions of relatively full employment where workers obtain their preferred jobs, and the scheme neglects the importance of workplace experiences. The categories are also difficult to apply in all cases, so the model has limited usefulness.
1.3.1.1. BECKER'S SIDE-BET THEORY

Commitment is treated as a structural or accrual phenomenon, where a series of investments, or side-bets, come to commit one to a role. The individual stakes something of value that, while not directly related to the present action, would be forfeited if the person deviated from certain consistent future behaviours (Becker, 1960). The behaviour (accrual of side-bets) is frequently rather passive in nature, so that commitment can come about by default (Becker, 1960). Side-bets may be placed by the focal person, or the system, in the form of 'impersonal bureaucratic arrangements' (Becker, 1960). The approach may be seen as one of exchange—the individual makes investments in the expectation that rewards will be forthcoming some time in the future. More and bigger investments lead to stronger ties to the organization, but in the form of a calculative type of involvement (every benefit is seen in a material sense, and their potential loss is important).

Side-bets vary widely in their degree of volition, and indicators may include personal characteristics, job-specific skills, pension funds, adjustment to social positions, cultural expectations, and ceremonies marking status passages (Angle & Perry, 1983; Becker, 1960). Certain involuntary attributes such as age and sex have been treated by some researchers as side-bets in view of their constraining influence on alternative employment (e.g., Grusky, 1966; Hrebiniak & Alutto, 1972). However, other authors (e.g., Meyer & Allen, 1984; Salancik, 1977b) argue that older and longer-serving members may be more satisfied with an organization for its own sake—in Etzioni's terminology, workers have moral (rather than calculative) involvement. Common to the varieties of side-bets is that, whether they originated in behaviour or in defaults that were under voluntary control, or whether they were imposed, they all constitute present-day attributes of the individual (Angle & Perry, 1983). These attributes, what the individual brings to the organization or what the individual does there, have cost and forfeiture implications.

Although Becker's theory is a member-based model, the importance placed on structural variables is evident. Some of these variables may be more relevant than others for the involvement obtained in particular organizations, so care has to be taken by researchers in deciding which variables to study in different situations. Macro-level factors (e.g., voting preference) may not exert any influence on members' involvement unless those factors are relevant to the focal organization. Also, Becker's approach is somewhat restrictive in that it tends to focus on actor self-interest; in some situations, the common good may guide one's attachment to the organization.
1.3.2. ORGANIZATION-BASED MODELS

This approach considers that the organization's treatment of the individual contributes to the level and type of member involvement. Organization-based models rest chiefly on the notion of 'psychological contract' (Levinson et al., 1962), itself based on Bakke's (1955) 'fusion,' Argyris' (1960) 'mutual adaptations,' and an interpretation of Gouldner's (1960) norm of reciprocity (Kotter, 1973; Levinson et al., 1962). The individual brings needs and goals to the organization and agrees to participate in exchange for organizational resources. Reciprocity as exchange is different from Becker's (1960) 'investments' in that reciprocity provides immediate benefits and expects repayment of debts some time in the future (Scholl, 1981). Included as a possible cause of involvement is anything happening to the individual within the organization (e.g., work experiences, job characteristics, and treatment by the organization hierarchy). The need satisfaction model of Hackman and Lawler (1971) discussed how objective job characteristics may satisfy individuals' higher-order needs, but as suggested earlier, job design and technology factors may be more closely related to work performance and job satisfaction than to organizational involvement (Lincoln & Kalleberg, 1985; Wall, 1978; Wiener & Vardi, 1980). Job conditions may directly contribute to the development (or demise) of member involvement to the extent that those conditions are seen to be provided by the organization.

Argyris (1960, 1962, 1964), a contemporary organizational psychologist of the self-actualization school, applied a similar argument to work organizations. Argyris held that there is a basic conflict between the individual and the organization--each has needs which they attempt to satisfy. The highest need of an individual, according to Maslow (1954), was self-actualization, i.e., the realization of one's true potential when provided with the appropriate social conditions. Argyris assumed that individuals are incomplete by themselves; self-actualization can only occur in relation to others, so there is a requirement to fuse the needs of individuals with the demands of the organization (cf., Bakke, 1950, 1955). Beneficial effects are produced for both the organization and the individual only when the needs of each are satisfied. Where there is a conflict of needs, or where the needs of each party are unfulfilled, organization effectiveness suffers and the behaviour of workers is conflict-laden. Disturbances likely to occur under such conditions are apathy towards the organization, individuals confining themselves to minimum or routine tasks, self-preservation in conflict, climbing of the corporate ladder (opportunism), and viewing nonmaterial factors as unimportant (see Argyris, 1960).

According to Argyris, three foci of attention are required to bring about this process of self-actualization: the maturity of individuals, the structure of the organization, and the interpersonal competence of managers. There is a need to change the organization's structure and to
enlarge jobs so that meaning is provided to workers. The interpersonal competence of senior management must be increased at the same time, so that workers may be treated as mature adults—it is the organization’s responsibility to encourage the maturity of its members. Individuals must then be encouraged to pursue their own interests best by following the organization’s interests. In this way, the interests of the individual and the organization become ‘fused.’ A similar view of self-actualization (and its benefits) was advocated by McGregor (1960). Silverman (1970) pointed out that there are difficulties involved in using ‘needs’ to explain behaviour, since these cannot be validated, but the interests pursued or the satisfactions obtained in different situations may be studied instead. This is provided by the ‘psychological contract.’

1.3.2.1. THE ‘PSYCHOLOGICAL CONTRACT’

The psychological contract (Levinson et al., 1962; Schein, 1965) between the individual and the organization is a series of mutual expectations of which each party may not be aware but which nevertheless governs relationships. There is always the possibility that previous perceptions will be disconfirmed, because expectations continue to change and evolve as long as the participant remains. To the extent that there is a balance between the expectations of the individual and those of the organization, the member’s commitment is maximized. Thus, the approach explains the development of diverse attitudes such as identification, loyalty, and calculative involvement. Schein (1965) discussed the relations among Etzioni’s (1961) concepts of power and involvement as instances of the psychological contract; elements of the contract (organizational rewards and sanctions) will determine the nature of the motivation and involvement of the individual member.

In the organization, the contract is implemented by the system of authority used. The decision to join an organization normally implies a commitment to give up some freedom and to accept the authority system in operation (Porter et al., 1975). The organization can make legitimate demands which limit alternative behaviours, and shape individual behaviour to suit its needs (e.g., socialization). But the individual may attempt to exert influence in order to gain additional satisfactions, a process called individualization (Levinson et al., 1962), innovation (Schein, 1968), or personalization (Bakke, 1955). Schein (1968) observed that there are three major types of innovation: rebellion, creative individualism, and conformity. If the individual does not consent to the authority system and the organization cannot coerce him to stay, then he or she will leave. The individual must feel capable of exerting some influence upwards, some control over the immediate situation, and that he or she will be protected and not taken advantage of (Weissenberg, 1971). The individual makes decisions to join, to stay, to produce more or not, and how creative he or she should be (Katz & Kahn, 1978). The organization develops incentives
by means of which it tries to influence the nature of each decision (Weissenberg, 1971). So there is a bargaining process between individual motivation and organizational incentives, whereby individual involvement is contingent upon the organization’s control methods.

The view taken of the development of organizational involvement is a simplified one, since Gouldner’s (1959a, 1960) model of functional reciprocity placed importance on both ego and alter’s interests when explaining the development of ego’s conforming behaviours. Gouldner (1959b, p. 425) observed that the tendency of alter to reciprocate ego’s behaviour is maximized when alter desires (or agrees with) ego’s act and perceives that ego’s behaviour is voluntary rather than imposed. All other conditions make it less likely that conforming behaviour will occur. Likewise, the various types of innovative behaviour (Schein, 1968) are all seen to be individual traits balanced by organizational incentives, but creative individualism could easily be interpreted in some writings (e.g., Argyris, 1964) as a contextual (and hence, bipolar) phenomenon. By concentrating simply on a match of expectations, Levinson and others did not pay sufficient attention to the individual’s ability to initiate action in systems. This is rectified to some extent in multiple-antecedent models.

1.3.3. MULTIPLE-ANTECEDENT MODELS

It is evident from the above accounts that member-based and organization-based models of involvement attribute the cause of involvement to different sides of the individual-organization relationship and focus on different types of involvement, even though each points to the importance of structural antecedent factors. Multiple-antecedent models, on the other hand, consider anything of relevance to the formation of attitudes, e.g., individual, task, group, organizational, and extra-organizational influences. These models of involvement are best represented by Etzioni’s (1961) compliance theory described above and March and Simon’s (1958) theory of organization. Other approaches showing the importance of both structural and individual influences on behaviour include Blau’s (1964) large-scale exchange theory, Kanter’s (1968) model of commitment, and (despite the ‘psychological contract’) Gouldner’s (1959a, 1960) concept of functional reciprocity. March and Simon’s (1958) model, based on the Barnard-Simon theory of organizational equilibrium, will be summarized before summing up Etzioni’s model as a theory of involvement. This theory is important because, as Perrow (1979, p. 140) observed, it provides ‘the muscle and flesh for the Weberian skeleton.’

March and Simon (1958) viewed the organization as a system of decision-making individuals, and were insistent that the individual mediates decision-making (Pugh, 1966). Although their variables were defined in subjective terms, it did not prevent the authors from including attention to structural influences on behaviour. According to their social psychological analysis, identifica-
tion with an organization increases the member's motivation to contribute to the organization and derive personal satisfactions. Both individual and structural factors influence an individual's identification with three social targets: suborganizational groups (e.g., work groups), extraorganizational groups (e.g., unions), and the focal organization (see March & Simon, 1958, p. 62). The needs of individuals, primary work groups, the organization, and extraorganizational groups may interact and affect one another (1958, p. 47), so work groups in particular may supplement or hamper organizational controls (1958, p. 78). Identification with the organization depends on the perceived prestige of the organization, the extent to which goals are shared, the frequency of participant interaction, the number of individual needs satisfied, and low levels of internal competition (1958, p. 66). When judging an organization or group, a person's perceptions are seen to be a function of personal standards as well as those of others. There are limits to human rationality in all decision-making, because leaders have the power to structure the environment and the perceptions of subordinates, so individuals 'satisfice' in their decisions, i.e., they make satisfactory, rather than optimal, choices among alternatives. Individual preferences, personalities, and goals can be varied by the organization through recruitment procedures and organizational controls (1958, p. 65).

Within the organization, some individuals may have to be given inducements (e.g., pay) to participate towards the organization's goals, while others derive intrinsic satisfactions from organization membership (e.g., within a religious sect). As Perrow (1979, pp. 149-151) illustrated, March and Simon (1958) point to mechanisms by which organizations keep their members in line and control the premises of those members' decisions. Fully obtrusive controls (e.g., giving orders) tend to produce antagonistic reactions among participants. Bureaucratic controls (e.g., specialization, standardization, etc.) provide efficient administration and allow few opportunities for members to make decisions maximizing their own rather than the organization's interests. Fully unobtrusive controls (e.g., socialization, indoctrination, etc.) internalize cognitive premises of behaviour in individuals, enabling them to make their own decisions and to pursue the organization's goals unsupervised (i.e., participants identify with the organization). Fully unobtrusive controls are most often used for professional and managerial staff, through their training institutions. Organizations mix these three controls to varying degrees, but often emphasize one or the other.
1.3.3.1. TOWARDS AN INTEGRATED MODEL

Taken together, the multiple-antecedent models of March and Simon (1958) and Etzioni (1961) do everything the other models do, but in a more exhaustive way. Member-based models noted the importance of structural antecedent factors, but these were not precisely specified and only a calculative kind of involvement was discussed. Evidence suggests that other involvement types may better explain behaviour in some situations. Organization-based models, centred on the ‘psychological contract,’ did not differentiate reciprocity and similar concepts from a simple balance of expectations, but they did include attention to a range of member reactions (e.g., those associated with creative individualism or self-actualization). Multiple-antecedent models must be proficient likewise. March and Simon’s (1958) theory provides complementary support for Etzioni (1961) in this regard, and together these theories fulfill the requirements of multiple-antecedent models. Etzioni’s theory indicates important types of power and involvement implicit in other theories of involvement but requires further interpretation at the level of individuals.

In particular, it is Etzioni’s (1961) compliance relations which must be shown to be interpretable at the individual level of analysis. March and Simon’s (1958) social psychological analysis showed up a deficiency of Etzioni’s model: the latter failed to deal adequately with individual-level factors and hence complex involvement relationships. The compliance theory therefore left itself open to confusion with conventional structural-functionalist interpretations of social behaviour. As Pugh (1966) observed, such structural theories tend to view conformity as the only effective motivation for participants and use psychological concepts as explanatory intervening variables without attempting to verify them. Little consideration is given to how individuals affect organizations, and how group behaviour is related to organizational functioning. On the other hand, individual-level theorists (e.g., individual-level psychologists) tend to emphasize personality characteristics while neglecting the structural context; individual feelings and perceptions of participation are regarded as more important than actual participation (Pugh, 1966). Social psychologists tend to align themselves with one or other of these positions (Stryker & Statham, 1985; Perrow, 1970). However, an individual-level interpretation of Etzioni’s compliance relations does not require any de-emphasis of ‘objective’ structural factors, because March and Simon were able to include a structural analysis by showing how individual decisions are shaped by the social context.

For some time, many writers have favoured a cross-disciplinary study of organization behaviour, taking account of both psychological and sociological factors by relating behaviour to individual, group, and organization characteristics (e.g., Argyris, 1972; Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964; Pugh, 1966). While Blau (1960) reinforced the sociological perspective when he showed that structural effects may occur regardless of individual differences, Tan-
nenbaum and Smith (1964) went further and showed that group members' participation in organizations is not just a function of individual perceptions of influence, but also the actual power exercised over the group (reflected by the average perceptions of influence within the group). After individual perceptions of influence were aggregated, a significant relationship remained between group average perceptions and the level of loyalty and activity of group members. Thus, to the degree that members' perceptions reflect the objective social conditions, the structural context must also be considered to be a causative influence on member behaviour (Pugh, 1966). This approach has been contributed to by organizational psychologists (who study the interplay between man and the organization; Bass, 1965) and researchers who linked attitudes to positions in the formal organization (see Pugh, 1966). In the absence of an integrated theory of organization behaviour acceptable to both sociologists and psychologists (see Stryker & Statham, 1985), the link between social structure and member behaviour should be interpretable via members' perceptions and expectations. To make Etzioni's compliance relations more generally applicable, we must consider how his concepts of organizational power compete with group and individual characteristics to affect an individual's involvement in their organization.

1.4. GENERALIZING THE COMPLIANCE RELATIONS

As suggested above (p. 21), it is necessary to consider all compliance relations affecting individuals in any situation, to ascertain the total compliance of participants and organizational effectiveness. The compliance relations were also viewed there as contingent relations between the organization and its members, rather than the result of systemic influences beyond individual control. Evidence for the individual-level development of the compliance relations has already been provided by Etzioni's observations that involvement has evaluative and cathetic components, and that some members of organizational ranks have noncongruent compliance structures affecting them. Schein (1965) also viewed compliance as processes of reciprocation (see p. 27, above), and Salaman (1979) accepted the compliance relations as common organizational correlations (p. 20, above). If individuals may be considered to have more than one kind of involvement (in contrast to Etzioni's analysis), then each member may be affected by different congruent and noncongruent compliance relations at the one time, but one is likely to predominate. The compliance relations may then be generalized to groups and organizational ranks. Individual and group factors may add to or detract from the involvement obtained via organizational controls, but their effects would remain secondary because member satisfactions may not all be attributable to the organization. This section considers the compliance relations for individuals, how these may be applied to groups, and important individual and group characteristics for involvement. Several hypotheses are generated.
Etzioni (1961) defined his concepts of power to maximize differences between organizations, and to minimize differences within them, but if his compliance relations are to be generalized to all organizations, the conceptions of power must also be general. Etzioni (1961) discussed both remunerative power and normative power in diverse settings, but largely restricted discussion of coercive power to coercive organizations (and its secondary role in educational institutions). Etzioni conceived coercive power in terms of strong physical sanctions which do not apply in utilitarian organizations, although milder forms of coercion may be present. March and Simon (1958) indicated (p. 29, above) that fully obtrusive controls (e.g., giving orders) tends to produce antagonistic reactions from subordinates. The problems of maintaining a purely rational administration have also been outlined by several writers (e.g., Gouldner, 1955, 1959b). Many other writers (e.g., Fox, 1974; Pugh, Hickson, & Hinings, 1971; Salamon, 1979) have called attention to the coercive nature of some controls within work organizations, and the alienating effects on workers. Illegitimate restriction of choice is likely to be produced by low discretion jobs and low trust relations, and accompanied by threats of dismissal, constant surveillance, disciplinary regulations, punitive sanctions, etc. Therefore, a broader conception of coercive power would be required to cover all organization types.

If compliance were considered to be primarily an individual-level process, rather than one arising at the level of organizational ranks, Etzioni’s classification may be seen as only an approximation to the situation affecting individuals. The effect of power on involvement remains a structural effect, however, and beyond personal preferences. The practices of dominant groups may simply indicate to all subordinates (whatever their dispositions) how they fit into the system structurally and whether they have, or may expect to hold, separate, utilitarian, or common interests (Katz & Kahn, 1978, p. 322). As Etzioni observed, under coercive, utilitarian, and normative compliance, each party treats the other as objects, means, and ends, respectively (p. 13, above). Subordinates may thus evaluate, in relation to their own interests, the legitimacy of the various controls used and derive (or fail to derive) satisfactions. Coercive, remunerative, and normative controls are likely to be associated with Maslow’s (1954) lower-order (e.g., physical), middle-order (e.g., security), and higher-order (e.g., belongingness) needs, respectively, so individuals may hold concurrent (but different) involvements in an organization. As Katz and Kahn (1978, p. 398) observed, lower-order needs must be satisfied before (and remain satisfied after) higher needs become important. Etzioni’s typology of compliance may then be obtained without recourse to ‘dynamic’ influences: The compliance relation affecting an individual most is the predominant relation, and the compliance structure for the organizational rank is the most frequent compliance relation affecting individuals in that rank.

5 Alternatively, members’ interpretations reflect their circumstances, as shown by Tannenbaum and Smith (1964).
Hypotheses pertinent to the compliance relations may now be stated, and the nature of these is obviously constrained by the research problem. Etzioni's (1961) compliance relations apply at lower ranks of distinct types of organizations (among other locations), where a particular kind of organizational power is expected to be the strongest predictor of each kind of involvement. However, in organizations where members are free to stay or leave (considered here to be an important research ground), one kind of organizational power may not predominate (particularly where different organizational ranks are considered). Besides the view of involvement taken here (namely, that all kinds may coexist), Etzioni's conceptions of organizational power have been modified to be applicable to all organizations, and these may not transfer well to all roles or be distributed over organizational ranks as Etzioni intended. Also, the usual analytical technique for this problem (multiple regression) may cause difficulties with interpreting the relative importance of predictors. Thus, it would be unrealistic to hypothesize that one predictor would be stronger than another so the hypotheses will be restricted to causal relations. The following relationships are expected at both the individual and group levels of analysis.

**Hypothesis 1:** Alienative involvement is positively related to coercive power.

**Hypothesis 2:** Calculative involvement is positively related to remunerative power.

**Hypothesis 3:** Moral involvement is positively related to normative power.

### 1.4.1. OTHER LIKELY PREDICTORS

In this study, Etzioni's (1961) concepts of organizational power are to be compared to other predictors of involvement suggested by theory and past research. Empirical evidence for all likely predictors will be presented in the next chapter; the concern here is to identify the most important alternative predictors and to provide a conceptual basis for their inclusion. These predictors (organization, group, and individual characteristics) are all considered to be secondary to Etzioni's concepts of organizational power because there is little basis for distinguishing among them in importance. Etzioni's scheme covered the organization's type (e.g., by different compliance structures) and to some extent its size (where variations in compliance were likely), and these may be included to check the validity of the compliance relations, particularly at the individual level of analysis. By considering compliance as basically an individual-level process of reciprocation (as the earlier discussion suggests is necessary), the influence of individual and group characteristics becomes directly relevant. Many individual (demographic and role) characteristics have been suggested as predictors, but since these are generally operationalizations of Becker's (1960) side-bet theory (see p. 25, above), discussion of these will be deferred until the next chapter. On the other hand, according to some (including organizational psychologists; see p. 26, above), certain personality characteristics are both directly and indirectly relevant for or-
ganization behaviour. Finally, sociotechnical theorists and March and Simon (1958; p. 28, above) have suggested how group characteristics may influence organizational involvement.

Organizations where members are free to stay or leave, including both normative and utilitarian types, are of most interest for the study of involvement (see p. 9, above) because individual and group characteristics are likely to influence the involvement obtained there. Salaman (1979, pp. 199-202) indicated an important individual characteristic for involvement when he discussed the structuralist ideology of organizations, particularly as it affected work organizations (where members may, to a degree, choose to stay or leave). Organizations are structured according to scientific, rational principles that remove the irrationality of personal responses and prejudices. Structure is the consequence of the application of these principles and of external factors beyond anyone’s control, so the individual has to take responsibility for success or failure. The ideology of achievement dictates that people are allocated to positions on the basis of expertise and knowledge which must be achieved by the incumbent. Gaining the knowledge is a tough, competitive, and demanding process, but once gained, expert knowledge is a sign of the moral worth of those who hold it. Organizational compensations are distributed in accordance with personal achievement, and persons with low status have only themselves to blame for their position.

Members’ achievement may not be the best (or only) indicator of members’ goals and motivations discussed by Argyris (1964) above; a set of personality characteristics may better describe the interests of individuals, but the achievement of members’ interests was a necessary component. People gain intrinsic satisfactions from the accomplishment of interesting and challenging tasks (Katz & Kahn, 1978, p. 366), so high achievers (in comparison to low achievers) would be expected to have lower alienative involvement, lower calculative involvement, and higher moral involvement in the organization (if only for the tasks provided to them; Katz & Kahn, 1978, p. 381). Lower participants of utilitarian organizations are expected to be low in achievement motivation (they are motivated mostly by economic rewards; Etzioni, 1961, pp. 35-37) and to have higher calculative involvement (and lower moral involvement) than high achievers (e.g., normatively-controlled professionals). Disregarding economic incentives, a similar distribution of involvement may be expected at different ranks of normative organizations, although the absolute level of involvement may vary across the different organizations. Thus, in addition to the effect of organizational power, the effects of members’ achievement motivation on involvement is likely to depend on the organizational power exercised over the members concerned, regardless of the organization and organizational rank.

High achievement motivation and supportive organizational control appeared to be important components of Argyris’ account of the development of self-actualization (see p. 26, above). All
other combinations of structural (i.e., control) and motivational conditions were seen by Argyris to increase calculative involvement and to decrease the likelihood of organizational identification (and presumably moral involvement). Using Etzioni’s ‘exhaustive’ classification of power (see p. 12, above), the most effective methods of organizational control to achieve the results Argyris talked about for utilitarian organizations may be seen to include low coercive power, high remunerative power, and high normative power. In Gouldner’s (1957) cosmopolitan-local distinction (p. 8, above), it may be expected that a professional will become a ‘cosmopolitan’ when the organization uses little other incentive besides remuneration, and a ‘local’ when both normative and remunerative power are high and coercive power is low. The involvement obtained in each case is then likely to depend not only on the predominant control method (which tends to affect all people), but also on the conjunction between the organizational control structure and the member’s achievement motivation. These effects would be expected in all situations where the controls are varied to satisfy both the individual’s and the organization’s needs (the organizations of concern here). Thus, interactions between the three types of organizational power and members’ achievement motivation are expected to contribute to both high moral involvement and low calculative involvement; the conditions to provide this involvement are low coercive, high remunerative, and high normative power, and high member achievement motivation. Thus, if Etzioni’s utilitarian compliance relation is true, remunerative power could be expected to have a large positive effect on calculative involvement for low achievers. The effects for alienative involvement may be assumed to be opposite to those for moral involvement.

Compliance may be a direct relation between the individual and the organization, or it may be mediated by the immediate social group. A change in self-esteem within suborganizational groups (where members spend most of their time) must also carry over and affect the individual’s direct relations with the organization. It will be remembered from Etzioni’s discussion of cohesion (p. 17, above), that ‘medium’ cohesion was considered most beneficial within work groups, i.e., when members’ instrumental and expressive relationships were ‘balanced.’ Cohesion was seen to have no effect on involvement when individual and contextual factors were taken into account. Sociotechnical theorists were concerned with group-level phenomena and advocated the deliberate creation of small autonomous work groups where workers were able to perform several tasks and achieve ‘responsible autonomy’ (Parker, Brown, Child, & Smith, 1977). Rather than maximizing cohesion as a means of worker control and performance, as was the case in earlier theoretical approaches (Carey, 1976), autonomous work groups simultaneously pursued the satisfaction of individual and group interests in order to improve group and organization effectiveness. As Katz and Kahn (1978, p. 377) observed, such groups provide meaningful activities (enabling value-expression and self-identification), some degree of responsibility (enabling self-determination and self-expression), and a satisfactory set of interpersonal relationships (enabling
affiliative expression). These arrangements would be likely to further organizational goals (hence moral involvement) for all, primarily because the activities provided by the organization are expressions of the ego and its central values (Katz & Kahn, 1978, p. 361). The intrinsic satisfactions obtained under those conditions also make it less likely that calculative involvement will be high.

Thus, the group's value system provides effects on involvement in addition to (or independent of) those of members' achievement motivation. This necessitates consideration of the group's purposes. Katz and Kahn (1978, p. 388) observed that there are two types of values which justify system behaviour: 1) moral or sacred values, and 2) pragmatic values associated with functional outcomes. The former provide intrinsic satisfactions for individuals and are likely to facilitate commitment to the group or organization (depending on the group's relations with the organization). Clark and Wilson (1961) provided a classification of organizations as incentive systems, and this may be applied to groups. Organizations were classified as 'material,' 'solidary,' or 'purposive.' 'Material' organizations (like utilitarian organizations) use material incentives (e.g., money), so members benefit directly by participating. 'Solidary' organizations consider affiliative expression to be of primary concern, independent of the stated goals. In 'purposive' organizations, nonmembers (rather than members) are the prime beneficiaries of the organization's activities. The goals of purposive organizations provide the incentive for members' efforts, and tend to be imbued with a moral or ideal rationale (Clark & Wilson, 1961, p. 148).

These categories are more appropriately applied to small groups because the authors did not include attention to coercive organizations, and we may distinguish among instrumental, relational, and altruistic groups. Predominantly instrumental groups refer to work groups, predominantly relational groups include friendship groups, and predominantly altruistic groups refer to those concerned with ideological issues or with helping others.

The organizational involvement expected in these groups depends on how the group's goals are related to the organization's goals, the influence that groups have over their members, and members' participation in the group. Predominantly instrumental groups are expected to have predominant calculative involvement among their members. Predominantly relational groups are likely to be subject to any controls and to emphasize group cohesion above instrumental or altruistic goals, so members' involvement would be expected to be as Etzioni (1961) suggested for group cohesion. Predominantly altruistic groups would be expected to be subjected to predominant normative power and to provide intrinsic rewards to participants—e.g., at high organizational ranks, or in normative organizations, although such groups may occur elsewhere. If altruistic groups were opposed to the organization's goals, they may serve to increase members' alienative and calculative involvements and to decrease their moral involvement (members may identify with the group rather than the organization). However, in organizations where members
are free to stay or leave, groups having altruistic goals are likely to support organizational goals, at least in part, and to have increased moral involvement and decreased calculative involvement among their members (e.g., autonomous work groups).

Thus, the theoretically-relevant variables to consider in addition to organizational power are organization size, organization type (e.g., different compliance structures), group cohesion, group goals (instrumental, relational, altruistic), group size, and individual achievement motivation. Other individual characteristics (operationalizations of Becker's (1960) side-bets, or alternative personality characteristics) will be obtained from the research literature in the next chapter.

The concept of group cohesion has been problematic for researchers and, before stating hypotheses pertaining to group and individual characteristics, brief consideration will be given to its definition. Most contemporary writers accept one of the definitions offered by Festinger, Schachter, and Back (1950): Cohesion is the resultant of all forces acting on members to remain in the group, or the attraction of a group for its members. Consequently, cohesion has been studied generally as attraction to the group (e.g., Cartwright, 1968). However, there have been objections to the original definitions since cohesion has been measured in so many different, poorly related ways (Albert, 1953; Eisman, 1959; Evans & Jarvis, 1980; Gross & Martin, 1952).

Van Bergen and Koekbakker (1959) defined cohesion broadly as the degree of unification of the group field, making it amenable to an analysis using either structural or psychological factors. Akers (1970) and Newcomb, Turner, and Converse (1965) also suggested that the most important contributors to cohesion are members' integration, perceived group attractiveness, and perceived group agreement, although neither provided empirical support for this assertion. Integration may be defined as the interconnectedness of system parts or roles (Olsen, 1965; Scott, 1962). Group attractiveness is similar to the concept of solidarity (or 'we feeling'), which implies members' preference for inside, as opposed to outside, interactions (Scott & Scott, 1981). Group agreement may be viewed as consensus; as Scott and Scott (1981) defined it, group consensus is the degree to which members display similar attitudes, values, and relevant personality characteristics, or show agreement about matters of common concern. By considering cohesion as total unification (irrespective of values), a realistic assessment of its effects should be obtained.

To conclude this section, certain individual and group characteristics may add to or detract from the involvement obtained, and a number of secondary hypotheses may be explored. These pertain to the effects of group cohesion, individual contributions to systems, and the congruence of individual and organizational goals. Again, the hypothesized relationships are expected at both the individual and group levels of analysis, using a group-level measure of achievement motivation in the latter case. The following hypotheses will be tested in organizations where members are free to stay or leave:
**Hypothesis 4:** Group cohesion has no effect on member involvement.

**Hypothesis 5:** High achievement motivation among group members tends to be related to low alienative involvement, low calculative involvement, and high moral involvement.

**Hypothesis 6:** Interactions between each type of organizational power and member achievement motivation show a differential effect on calculative involvement for high and low achievers: Compared to high achievers, the calculative involvement of low achievers is expected to decrease more with high coercive power, to increase more with high remunerative power, and to decrease less with high normative power.

**Hypothesis 7:** Interactions between each type of organizational power and member achievement motivation show a differential effect on moral involvement for high and low achievers: Compared to high achievers, the moral involvement of low achievers is expected to decrease less with high coercive power, to decrease more with high remunerative power, and to increase less with high normative power.

### 1.5. CHAPTER SUMMARY

Organizations are referred to as 'complex bureaucratic organizations.' Organizational involvement covers many concepts and is distinguished from other foci of involvement (e.g., work groups). The concept includes involvement in facets of the focal organization (e.g., its leaders and goals). Etzioni's (1961) compliance theory provides a sophisticated framework for the study of involvement, and identifies several basic types: alienative (a negative attitude), calculative (attachment primarily for the material benefits provided), and moral (a positive attitude; commitment). Etzioni postulated organizational control methods to be important predictors of organizational involvement, but his theory has been neglected by researchers because of its typological nature and difficulties with the underlying systems model. It is suggested here that most problems will be overcome if all compliance relations are seen to affect each situation, thereby placing greater emphasis on how individuals may influence systems.

Theories of organizational involvement include member-based models (what the individual brings to the organization and does there; e.g., Becker’s side-bet theory), organization-based models (what happens to the individual in the organization; e.g., the ‘psychological contract’), and multiple-antecedent models (combining the concerns of the other two models; e.g., Etzioni’s
compliance theory). These theories, typically based on one or other model of exchange, often
discuss similar types of involvement and point to the importance of structural and individual
influences on behaviour. Etzioni's theory is seen to subsume the other involvement theories in
content, but in order to overcome criticisms directed against it and to be a true multiple-
anteecedent model, compliance must be examined as an individual-level process. Etzioni's com-
pliance relations are viewed as contingent relations between the organization and its members, via
processes of reciprocation, and individuals may hold more than one kind of involvement. The
classification of compliance may be interpreted as a generalization of these relations at the lowest
organizational rank.

The present study will test the generality of the compliance relations in organizations where
members may choose to stay or leave. While one kind of organizational power may not
predominate at all ranks, each is expected to predict involvement as Etzioni (1961) postulated,
when compared to other organization, group, and individual characteristics. The variables con-
sidered most important to include in a study of involvement are generalizable conceptions of
Etzioni's organizational power, organization size, organization type (e.g., different compliance
structures), group cohesion, group goals (instrumental, relational, altruistic), group size, and
members' achievement motivation (for individuals and the group norm). Group cohesion is not
expected to contribute to involvement when a wide range of individual and group characteristics
are taken into account, but achievement motivation is expected to be important. Also, interactions
between organizational power and achievement motivation are expected to add to the involve-
ment obtained. Empirical evidence for the variables suggested here, and other descriptive in-
dividual and personal characteristics, will be presented in the next chapter.
Chapter 2
THE INVOLVEMENT RESEARCH LITERATURE

This chapter reviews the research literature to see if any previously used measures of involvement are useful for the investigation of Etzioni’s (1961) compliance relations, and to provide empirical evidence for predictors of involvement. Several studies have found support for the compliance relations at the level of organizations. In addition, empirical evidence is provided for the other likely predictors identified in the previous chapter. These include organization size, organization type (e.g., by compliance structure, as in prisons and hospitals), group cohesion, group goals, group size, members’ achievement motivation, and interactions between organizational controls and member achievement. At the same time, further individual characteristics previously found to be predictors of involvement will be described. These are either operationalizations of Becker’s (1960) side-bet theory or personality characteristics of possible interest to this study. The variables to be included in this study will be summarized at the end of the chapter. The immediate concern is with how involvement has been measured by past researchers.

2.1. EXISTING INVOLVEMENT MEASURES

As discussed in Chapter 1, involvement has been conceptualized in many ways (e.g., as commitment, loyalty, identification, instrumental relations, and alienation). Attitudinal involvement may include instrumental relations (e.g., calculative involvement) or affective relations (e.g., loyalty, identification, or alienative involvement). Measures of involvement have been as diverse as the conceptualizations. In most cases, researchers conceived commitment as the totality of forces to remain in the organization, and measures thus included both calculative and affective involvements in the one index. Tests of the compliance theory in various organizations (reported in a later section), have not provided generally applicable measures of Etzioni’s (1961) central concepts; where attempts have been made to assess more than one kind of power or involvement at once, the measures have either been specific to particular organizations or have been quantified in terms of percentages (see Etzioni, 1975). Quite clearly, such measures are unsuitable for testing the generality of the compliance relations, where considerable methodological sophistication is essential. This section presents the principal measures of involvement used in the
literature and the necessity for developing measures of the distinct types of involvement suggested by Etzioni (1961).

Several measures have been developed to assess a concept similar to calculative involvement. In a test of Etzioni's (1961) theory, Azim and Boseman (1975) used a single rating scale to assess calculative involvement among students. The question ascertained the degree to which students adjusted their behaviour to avoid conflict. Most measures of calculative involvement, however, have been attempts to operationalize Becker's (1960) concept of commitment (see p. 25, above), which was based on an economic rationale: a person makes side-bets or investments (placed either by the individual or the organization), and the threat of loss of these investments makes leaving less likely. Butler and Holmes' (1984) measure of commitment, purportedly based on Becker's (1960) side-bet theory and Kanter's (1968) continuance commitment (see p. 9, above), was a single dichotomously scored item which asked whether respondents intended to stay in the organization for 20 years. Single item scales are generally undesirable for their lack of reliability.

The measures used most often to assess Becker's (1960) commitment concept are those developed by Ritzer and Trice (1969) and Hrebiniai and Alutto (1972). Ritzer and Trice (1969) developed a scale (hereafter referred to as R-T) based on whether managers would leave the organization or not, for a variety of reasons posed: none, little, or a large increment in each of pay, freedom, status, responsibility, and opportunity for advancement. Concerning pay, for example, commitment was considered to be highest when the individual would not leave for a large increment in pay, and was deemed to be low when he or she would leave with no pay increase. Hrebiniai and Alutto (1972) and Alutto, Hrebiniai, and Alonso (1973) each in turn made minor modifications to this scale. Hrebiniai and Alutto's (1972) scale (hereafter referred to as the H-A) reduced the foci to four job dimensions: pay, freedom, status, and coworker friendliness. Alutto et al. (1973) later reduced the inducements to one level: 'slight increments' in the four dimensions suggested by Hrebiniai and Alutto (1972). Meyer and Allen (1984) criticized such measures and developed an alternative scale of continuance commitment (based on Kanter, 1968). An 8-item scale assessed the extent to which employees were committed by virtue of costs associated with leaving the organization, and the scale was found to be both reliable and valid. Among 130 employees in several administrative departments of a University, and in an experimental situation, the continuance commitment scale (CCS) was not significantly correlated with the H-A or the R-T. Instead, the latter scales were correlated with two other scales used to measure affective attitudes. Thus, both the R-T and the H-A appear to be poor operationalizations of commitment based upon an economic rationale, and have a strong affective component. The CCS measure will be returned to after the measures of affective involvement have been outlined.
Several studies have measured a relatively pure commitment concept similar to Etzioni’s (1961) moral involvement (a positive orientation to the organization for its own sake), but these have usually been specific to particular organizations or they have been unreliable. Julian (1966, 1968) measured moral involvement as a positive perception of 36 sanctions used by supervisors (negative and neutral sanctions were also assessed). Smith’s (1973; cited in Etzioni, 1975) measure of moral involvement for recruits was two items: respect of superior officers and likelihood of following them into combat. Azim and Boseman (1975) assessed moral involvement from a single item directed at students’ dedication to learning. Some commitment researchers have studied commitment as loyalty, belongingness, or attachment. Schwyhart and Smith (1972) defined company satisfaction as pride in the organization, after Morse (1953); a 20-item scale consisted of positive attitudes towards the organization’s policies, products, public image, and future prospects. Three items were reverse-worded and reverse-scored, and the measure was shown to load factorially on previous measures of commitment. Wiener and Vardi (1980) conceived ‘normative’ commitment as based on expectations and values of loyalty and duty. A three-item scale was developed for use with insurance agents and professionals in a chemical manufacturing firm, but its reliability was poor due to the low number of items and the generally modest item intercorrelations. Werbel and Gould (1984) used a 4-item scale with a 5-point response format. Extensive validation research had previously shown the scale to achieve high reliability over a number of different samples. This measure is perhaps the most generally applicable measure of moral involvement, but the low number and high similarity of items may not discriminate among diverse groups.

Alienative involvement has also been measured by a variety of methods, but it is usually interpreted as the reverse of moral involvement and measures of it are specific to the organizations of interest (e.g., Bigelow and Driscoll, 1973; Randell, 1968). Thomas and Zingraff (1974; cited in Etzioni, 1975) assessed alienation among prison inmates as a sense of powerlessness within the prison. Azim and Boseman (1975) used a single item (‘I feel alienated’) in their study of University students and thus relied on common perceptions of the phenomenon. Bacharach and Aiken (1979) used a complex measure of alienation, conceived as both the reification of work processes and a sense of powerlessness among workers. However, the effects of the various components on worker satisfaction were analyzed separately (perhaps they were not meant to be combined).

One of the most common conceptions of affective involvement has been that of organizational identification. As noted earlier (p. 7), identification has been conceived as the congruence between personal and organizational goals, and as including three kinds of member-motivated behaviour--joining and participating, providing dependable role behaviour, and being spontaneous and innovative (see p. 9, above). It is useful to investigate the various operationalizations
of the construct, to compare it to moral involvement and to interpret the findings of research studies where different kinds of involvement were studied. Brown (1969) interpreted identification as a satisfying self-defining relationship between the individual and the organization, after Kelman's (1958) work in influence theory. Brown’s scale, providing adequate test-retest reliability, consisted of four components: 1) attraction, 2) individual-organization goal congruence, 3) loyalty, and 4) reference of self to organizational membership. Patchen (1970) conceived identification as being made up of three characteristics possessed by individuals: 1) feelings of solidarity or belongingness, 2) active support for the organization, and 3) perception of shared characteristics with other members or groups. A 7-item scale was developed and achieved adequate reliability and validity (Patchen, 1970, p. ix). A similar concept of identification was provided by Hall, Schneider, and Nygren (1970), who used a four-item scale directed at belongingness, identification, pride, and reputation. The authors suggested that two kinds of ‘identification’ were possible (self-actualization and dependency), and that the distinction should be kept clear in later studies. Kidron (1978) developed a 9-item scale of identification, borrowing items from Hall et al. (1970) and others, and the scale achieved acceptable reliability.

Lee’s (1971) concept of identification was conceived as a degree of belongingness or loyalty, but it was assessed from a single item which asked scientists whether they identified with their organization. Sheldon (1971) defined commitment as an attitude that attaches the individual to the organization, and this was again similar to identification. A three-item Guttman scale was used, and an endorsement of two out of three items was deemed to indicate commitment. Hall and Schneider (1972) assessed identification in two ways: one method used a 3-item scale derived from Hall et al. (1970), and the other used content analysis of interview protocols. However, no information about reliability was provided for the measures. Buchanan (1974) defined organizational commitment as an affective attachment to the organization apart from its instrumental worth, and the construct comprised three components: 1) identification (goal congruence), 2) involvement (immersion in one’s activities), and 3) loyalty (affective attachment). Again, because individual effort is included, these components are typical of the identification concept. The scale developed by Buchanan (1974) consisted of 14 items derived from Hall et al. (1970), the Lodahl and Kejner (1965) job involvement scale, and a specially constructed index of loyalty. The reliability coefficient for this scale was .94 in a sample of public and private sector managers. Cook and Wall (1980) used the conceptual distinction of Buchanan (1974) to develop a 9-item scale of commitment: three items assessed each component of the construct, and one item in each of the three components was reverse-scored. The scale was found to be psychometrically adequate, stable, and reliable. Meyer and Allen’s (1984) 8-item affective commitment scale (ACS) consisted of the three components suggested by Buchanan (1974), and it compared favourably with other commonly used commitment scales.
By far the most prevalent measure used in management-related journals is the Organizational Commitment Questionnaire (OCQ), reported by Mowday, Steers, and Porter (1979). This measure is also based on a conception of commitment as identification. The OCQ is a 15-item scale having three indicators: desire to stay in the organization, willingness to exert considerable effort on its behalf, and belief in its goals. Six of the items are reverse-worded, but five of these are 'desire-to-stay' items. The response format employs a 7-point scale ranging from 'strongly agree' to 'strongly disagree.' Mowday, Steers, and Porter (1979) report reliability and validity data from a series of studies among 2563 employees of 9 divergent organization types. A 9-item short form (containing no reverse-worded items) has been used in some studies (see Mowday et al., 1979). The OCQ has been used to measure commitment as either the dependent or independent variable, and is favoured by many researchers because its wide application allows useful comparisons of results. However, there have been criticisms of the measure.

Angle and Perry (1981) carried out a factor analysis on the OCQ scale data for their sample and found two factors where they were supposed to find one. The authors called these subscales 'value commitment' and 'commitment to stay,' the latter comprising all the reverse-worded items plus one other, and likened the subscales to Etzioni's (1961) concepts of moral involvement and calculative involvement, respectively. (Wiener and Vardi (1980) also saw the OCQ as containing both calculative and moral involvements.) Angle and Perry (1981) discounted the possibility that the two subscales resulted in their study because of an artefact of measurement (subjects' response set), but the reverse-worded items have been reported elsewhere as a potential problem. When the six samples utilizing the 15-item OCQ were factor analyzed by Mowday et al. (1979), the reverse-worded items had generally lower item-total correlations and lower and more complex factor loadings than the remaining items. An inspection of the offending items led those authors to question the face validity of the reverse-worded items. The 'desire-to-stay' items are in fact close to 'intention to quit or stay' items which have been shown to be related to turnover and produce the same artefactual effects (Reichers, 1985). Reichers also criticized the OCQ because it measures behavioural intention, rather than attitudes. Katz and Kahn (1978) supplied a similar criticism when they suggested that the cognitive and telic components of the OCQ should be separated out. The OCQ does not explicitly provide for an opportunistic, calculative kind of involvement, which, if we are to accept Etzioni’s interpretation, is precisely the kind of involvement that should be most prevalent among the lower ranks of those organizations where the OCQ is now being used, namely, in employing organizations.

Other scales have used a composite of calculative and affective involvements to represent overall commitment to the organization. Kanter (1977) used a 34-item scale of commitment, comprising the three components discussed in Kanter (1968): continuance (instrumental), cohesion
(belongingness), and control (moral) commitments (see p. 9, above). One item measured overall loyalty, and 11 assessed each of the three types of commitment. Unfortunately, Kanter (1977) failed to report data on the scale’s reliability and validity. Fukami and Larson (1984) developed a measure of company commitment, conceived as a sense of loyalty and identification; its 12 items drew upon the diverse sources of Buchanan (1974) and Hrebiniak and Alutto (1972). The scale reliability was .89, indicating the similarity of items from the different scales.

Studies have provided evidence for the discriminability of calculative and moral involvements. Grusky (1966) developed a measure of organizational commitment conceived as positive feelings towards a business firm. Four indices were used. Two were single items which assessed company seniority (years of service) and identification (intention to remain in spite of economic incentives offered elsewhere). The other two indices were multiple-item scales of attitudes towards administrators and general attitudes towards the company. The median intercorrelation among these indices was only .15, and close inspection of the indices and their intercorrelations indicated that the single items were assessing something different from the two attitude scales, probably opportunism. Marsh and Mannari (1977) developed a measure of lifetime commitment, norms, and values for use in a Japanese factory. It consisted of four items: perception of how widespread lifetime commitment was among male employees, approval of change for males, values regarding lifetime service for males, and intention to remain with the firm. The scale reliability was only .51 for males, and .38 for all employees. The first and fourth items had low item-total correlations and appeared to measure intention to stay rather than values.

A few studies have examined relationships among some of the involvement types assessed in the literature, and provide further empirical evidence for the discriminability of different attitudes. Various measures exist for commitment to stay (for instrumental reasons), but the measures of Ritzer and Trice (1969) and Hrebiniak and Alutto (1972) are regarded as the most common measures of calculative involvement (Ferris & Aranya, 1983; Kidron, 1978). The latter measures (R-T and H-A) have been found to be correlated with each other (Meyer & Allen, 1984; Stevens, Beyer, & Trice, 1978), with the OCQ (Ferris & Aranya, 1983; Meyer & Allen, 1984), and with various measures of affective involvement (Fukami & Larson, 1984; Kidron, 1978; Meyer & Allen, 1984). The OCQ and other measures of identification have also been found to be intercorrelated (Meyer & Allen, 1984). So, the R-T, H-A, and OCQ, in particular, all measure identification and do not adequately separate affective and instrumental involvements (Wiener & Vardi, 1980). Wiener and Vardi (1980) conceptually distinguished normative commitment (close to Etzioni’s moral involvement concept) from identification (where personal goals were also important), and did not find a significant correlation between a measure of normative commitment and the H-A. Also, Meyer and Allen (1984) empirically distinguished their ACS and CCS scale constructs (see
above pp. 43 and 41, respectively); the two scales were uncorrelated. These findings, together with those reported above—lower than average correlations between different clusters of items of a commitment scale (e.g., Grusky, 1966; Mowday et al., 1979), and high item intercorrelations within subscales (e.g., Angle & Perry, 1981)—suggest that different types of involvement may be distinguished empirically if operationalized carefully.

The empirical research literature does not indicate how an operationalization of Etzioni’s (1961) calculative involvement concept would correlate with the H-A, R-T, OCQ, or ACS scales. Even if the component concepts of the OCQ and the H-A could be separated out and found to be negatively correlated (where people do not hold high levels of both attitudes at the same time), each scale signifies the totality of forces to remain in the organization. As seen in Chapter 1, high levels of moral involvement may coexist with various levels of calculative involvement, and perhaps alienative involvement (it is conceivable that an individual may feel somewhat cut off from an organization while admiring it for its own sake). As has been shown here, when relatively ‘pure’ measures of moral involvement (e.g., Wiener & Vardi, 1980) and calculative involvement (e.g., as suggested by Meyer & Allen, 1984) are used, the overlap in constructs is reduced; the correlations among these and other variables are likely to be reduced beyond those for identification scales. The ‘pure’ scales are therefore more likely to be discriminated from one another. However, despite suggested contributions in the literature, there is an obvious lack of such a scale for calculative involvement.

Meyer and Allen’s (1984) continuance commitment scale (CCS) appears to tap intention to stay because of the costs associated with leaving and, as such, has a strong instrumental focus, but despite its attractiveness as an alternative scale of calculative involvement, it focuses on behavioural intention rather than an attitude. There may be intention to stay whatever the type of involvement—there may be calculative involvement or moral involvement among those who wish to stay. Thus, the CCS is not an ideal measure of calculative involvement. Calculative involvement may be seen as the inverse of identification (and not merely uncorrelated with it), but calculative involvement is possibly only one component of identification and therefore an approximation to it: Calculative involvement is a conditional relation between the individual and the organization, based on the material rewards offered, whereas identification is concerned with the possible congruence of all goals affecting the individual and the organization. However, a negative relation between measures of calculative involvement and identification would be expected, and calculative involvement may be interpreted as the inverse of the the OCQ and similar affective measures in the research literature, for the purposes of locating predictors.

As is evident in this section, no generally applicable measures of Etzioni’s (1961) involvement concepts are available, so these will have to be developed for this study.
2.2. STUDIES OF COMPLIANCE

Tests of Etzioni's (1961) compliance relations at the level of organizations or organizational subunits have generally provided support for the theory. Etzioni (1975) summarized the results of the main studies bearing on the compliance theory, out of more than 60 studies carried out since the theory first appeared. Before these are described, a study by Azim and Boseman (1975) will be outlined.

Azim and Boseman (1975) investigated the compliance relations affecting 253 doctoral students across a large university, and sought to classify the organization according to the compliance theory. Students responded to three questions (scored on 4-point scales) representing each kind of power. These questions, one for each kind of power, had been selected from 11 factors identified in a previous factor analysis. Coercive power was the degree to which faculty members rigidly imposed their views and expectations on students, remunerative power was the degree to which faculty members accommodated the interests of students (as long as they did not conflict with their own interests), and normative power was the degree to which faculty members displayed a warm and genuine interest towards students. Three questions, also scored on 4-point scales, assessed student involvement. Alienative involvement was gauged from 'I feel alienated,' calculative involvement was 'I adjust my behaviour whenever necessary to avoid conflict,' and moral involvement was 'I feel dedicated to learning.' Using canonical analysis, alienative involvement was most closely related to coercive power, and moral involvement was most closely related to normative power. However, calculative involvement was not only a response to remunerative power, because it was generated by coercive power as well. Azim and Boseman concluded that the University was a 'dual' organization, because calculative involvement and moral involvement were most often reported, along with remunerative power and normative power. Etzioni (1961) would not have designated doctoral students as the lower participants, but the classification is only of passing interest here.

Julian (1966, 1968) investigated the compliance structures of five hospitals. Power was assessed from a 36-item scale based on patients' statements about staff conduct. A panel of judges was used to order the items from coercive to normative. Involvement was measured from responses indicating perception of and orientation towards staff sanctions. Julian's data supported the expected power and involvement distributions in these hospitals, as well as the congruency thesis. In addition, Julian (1968) suggested that the total amount of control must be considered to fully explain involvement--it may be that when total control is low, commitment will be at its highest.

Franklin (1972; cited in Etzioni, 1975) tested the compliance relations affecting nonsupervisory
employees in six organizations (two newspapers, a general hospital, a small manufacturing plant, a creamery, and a public service company), and found that all organizations relied more on remunerative than normative controls. The data were obtained from interviews with the employees. Power was calculated from the degree to which employees' supervisors exhibited a preference for utilitarian or normative control methods. These values were standardized and an overall 'power-mix' score was calculated for each organization by subtracting the utilitarian power score from the normative power score. Involvement (commitment) was inferred from four indicators: turnover rates, willingness to uphold the organization's norms and goals, and desire to remain within the organization. The more utilitarian organizations had fewer committed members than the less utilitarian (and relatively more normative) organizations. Furthermore, within the less utilitarian (and more normative) organizations, commitment among white-collar workers was greater than commitment among blue-collar workers.

Similar confirming tests of the theory have also been conducted in coercive organizations. Bigelow and Driscoll (1973) compared the compliance structure of dormitories and workshops in a federal prison. A scale of coercive power was administered to inmates, together with two 6-item involvement scales: cooperative attitudes, and cooperative norms. Workshops were less coercively controlled than dormitories, and inmates in workshops had higher involvement scores (on both scales) than inmates in dormitories. Randell (1968) investigated the compliance structure affecting 1) draftees in a reserve officers' school of the Finnish armed forces, and 2) potential draftees (senior students of high schools across the nation). Both groups were expected to be coercively controlled, but to different degrees. Alienative involvement (towards army representatives) was assessed from two measures: subjects' inclination to choose being a military officer as a career, and attitudes towards military officers. Randell found that draftees had significantly higher alienative involvement than students, but they were more committed to national goals of defence. Randell's explanation was that the Finnish military is not a purely coercive organization, but one that combines normative and coercive controls.

Mitzner (1968; cited in Etzioni, 1975) provided an indirect test of the compliance thesis in 52 coercive, utilitarian, and normative organizations. Questionnaires were administered to 589 of the lowest-ranking paid employees in 63 distinct units in those organizations. Employees were asked to allocate prestige scores to different organizational roles, and these were correlated with the official prestige rankings (given in the organizational chart by organizational rank). High, medium, and low proportions of significant positive correlations within each organization type were seen by Mitzner to indicate the moral, calculative, and alienative involvement of participants, respectively. Groups in coercive organizations had the lowest proportion of significant positive correlations, those in utilitarian organizations had a higher proportion, and those in nor-
mative organizations had the highest proportion. Etzioni (1975, p. 82) observed that differences between organization types would have been greater if Mitzner (1968) had focused on participants at the lowest organizational rank (e.g., patients in hospitals, and inmates in prisons) instead of the lowest-paid employees.

The compliance theory has also been confirmed in different divisions of a large organization. Miller (1967) studied two organizational units (a laboratory and a production unit) in an aerospace corporation. The involvement of nonsupervisory scientists and engineers was assessed from their responses to questionnaire items which focused on alienative involvement. Organizational control of supervisors was classified as directive, participatory, and laissez faire, and the incentives offered to subordinates were classified as normative and utilitarian. Miller (1967) found that highly utilitarian incentives coupled with highly directive control produced high levels of alienative involvement. As expected, alienative involvement was highest in the production division. Etzioni (1975, p. 83) concluded that the compliance theory worked as well for subdivisions as it did for entire organizations.

Hudson (1973; cited in Etzioni, 1975) carried out a 'hostile test' of the theory among white-collar employees in a public welfare agency, and the compliance theory explained more variance in involvement than an alternative model. The measure of power was based on supervisors' conduct as reported by former employees, and obtained through interview. Involvement (commitment) was assessed by a 5-item scale derived from the same source. Utilitarian (i.e., remunerative) power was found to be more prevalent than either normative or coercive power (coercive power was operationalized in psychological, rather than physical terms). In a multiple regression analysis where all three kinds of power were entered, the beta coefficient for utilitarian power was .50, and for normative power .11. Coercive power was not a significant predictor of involvement. To control for possible effects due to having included only those personnel who were leaving the company, Hudson held constant background factors (age, sex, etc.), and obtained virtually the same result. Finally, Hudson attempted to develop an alternative typology using predictors other than power. These he drew from his data using factor analysis, and obtained 4 factors: peer relations, relation to supervisor, training and work volume, and physical environment. However, the alternative model uniquely explained 16% of the total commitment variance (versus 19% for the power model). The two models separately explained 23% and 31% of the variance in involvement, respectively.

Smith (1973; cited in Etzioni, 1975) carried out a secondary analysis of a survey of infantry recruits (conducted by Selvin in 1952), and showed the usefulness of the compliance concept in a dual organization (where two compliance structures are equally strong). The sample included
infantry basic-training units which were expected to combine normative and coercive compliance. From recruits' reports of officers' behaviour, Smith classified the controls employed by officers as coercive, utilitarian, and normative, but because coercive and utilitarian controls were highly correlated, the latter were collapsed into a single measure of 'domination.' Involvement was assessed from two items: the willingness to follow officers into combat, and respect for officers. Most recruits were found to be subject to dual compliance patterns, and involvement increased to the degree that the proportion of domination in the power mix used by officers declined. The effect of dual power on involvement was intermediate between those for domination and normative control considered separately.

Smith (1973; cited in Etzioni, 1975) also assessed the effect of peer cohesion on the involvement of recruits. Two indicators of cohesion were used: fighting with others and participation in sports--those recruits who had no fights and participated in sports were scored as contributing to high peer cohesion. Although there appeared to be a significant positive relationship between peer cohesion and the percentage of those with high involvement, this had to be seen in the context of the other variables said to affect involvement. Both power mix and leadership climate were found to contribute more to involvement than peer cohesion; the contribution of the type of power exercised (the degree of normativeness) was four times that of peer cohesion. Etzioni (1975, p. 386) suggested that the dominant group norm had to be considered to fully explain the observed effect of cohesion: When the group is favourably disposed towards the organization, group cohesion and involvement are expected to be positively related, but if the group norm is unfavourable to the organization, the relationship will be negative. As Etzioni (1975) noted, Guterman (1970) has found evidence that peer cohesion is related to management-employee relations in this way.

Etzioni (1975, p. 90) outlined several other studies that applied the compliance thesis, but enough evidence has been provided here to show that the compliance relations are valid (at least, in a large-scale sense from the perspective of members) for different organizations, different organizational ranks, different parts of the same organization, and dual organizations. Also, peer cohesion does not appear to add much to member involvement when other relevant factors (especially organizational power) are taken into account. Furthermore, it is apparent from the studies reviewed that all measures of power and involvement should be investigated concurrently, particularly in the lower ranks of organizations, to more fully explain the effects of various combinations of power. It is evident that the measures used in the above studies were relatively unsophisticated (as discussed on p. 40, above). In addition, when independent and dependent variables are assessed from the same source (as was usually the case in these studies), the observed relations between organizational power and involvement may be spurious (perceptions of
power may be influenced by member reactions). Thus, further confirming evidence of the compliance relations is necessary, using validated measures of organizational power in particular.

2.3. OTHER RESEARCH STUDIES

Many studies have been conducted with involvement (or commitment) as the dependent variable, and show organization, group, and individual characteristics to be predictors of various measures of involvement. As outlined in Chapter 1, researchers employ member-based, organization-based, or multiple-antecedent models of involvement. Most studies have focused on professional, managerial, or highly skilled technical personnel, but some have included clerical and blue-collar workers (e.g., Angle & Perry, 1981, 1983; Chelte & Tausky, 1986; Cook & Wall, 1980; Dubin, Champoux, & Porter, 1975; Fukami & Larson, 1984; Kidron, 1978; Morris & Steers, 1980). A measure of affective involvement has usually been used, directed at either identification or a sense of loyalty (see Section 2.1, above). Consequently, there is little direct empirical evidence for effects on calculative involvement, except those included as part of a measure of identification (e.g., the OCQ). Both the subjective interpretations of participants and more objective measures of various structural-level predictors provide support for the hypothesized relations and other effects at the individual and group levels of analysis. However, measures of both the independent and dependent variables were often obtained from the same subjects, thus increasing the likelihood of finding a significant relationship between them. The following sections outline findings relevant to the organization, group, and individual characteristics identified in the previous chapter, and for other individual characteristics of possible interest.

2.3.1. ORGANIZATION CHARACTERISTICS AS PREDICTORS

This section outlines empirical evidence for the effects, on individuals, of coercive, remunerative, and normative controls within utilitarian and normative organizations, and for the observed effects of organization size and of different organization types (e.g., work versus other organizations). The first to consider will be the effects of coercive controls in work organizations.

In addition to the theoretical evidence provided in Chapter 1, a number of studies have shown that coercive controls (as perceived by subordinates or as objectively assessed) produce antagonistic reactions among subordinates. White and Lippitt (1968) found that authoritarian leader behaviour in childrens’ groups (giving orders, disrupting commands, and nonobjective criticism) tended to produce hostility, aggression, and latent discontent among group members. In an experimental study on male University students, Goodstadt and Kipnis (1970) confirmed many relations earlier observed in field studies: attitudinal and disciplinary problems of subjects evoked coercive controls by leaders and aggressive responses. Katz and Kahn (1978, p. 636)
observed that studies of conflict indicate that an aggressive response is produced by being subjected to persistent aggression or by the unconditional compliance (submission) of its recipients. In organizations, conflict implies conflicts of interest (e.g., workers versus management), but rules guiding behaviour normally limit the disruption occurring. However, if rules proliferate to a point of diminishing return and become inappropriate (as is likely in bureaucracies; Merton, 1957b), conflict between elements of the organization may be increased with adverse effects (Katz & Kahn, 1978, p. 648). Gouldner (1955) found that stricter bureaucratic control in a gypsum plant increased the alienative involvement among subordinates. Thus, alienative involvement in work organizations may be produced by such means as excessive rules, disregard for subordinates' interests, low trust relations, aggressive leader behaviour, threats of dismissal, punitive sanctions, restriction of movement in the plant, and other similar practices.

Research has also shown the importance of remunerative power for member involvement. In Argyris' (1959) study of an industrial organization, two departments otherwise using equivalent control methods provided jobs differing in the degree of worker control over the work process. Those with less control over their work (i.e., unskilled and semiskilled workers) placed more importance on wages, and displayed less 'mature' behaviour (i.e., higher calculative involvement) than skilled workers who rated wages of secondary importance to having control over their work. In a well-known study, Goldthorpe et al. (1968) attributed workers' instrumental orientations (to work or the organization) to community socialization, although the level of pay was the most frequently quoted reason for staying in the organization (1968, p. 27). Among studies of organizational commitment, Ritzer and Trice (1969) failed to find support for Becker's (1960) side-bet theory, other than the effect of pay. Kidron (1978) also found income to be significantly and positively correlated with both the H-A and a measure of moral commitment for the two largest subsamples (mainly clerical and unskilled personnel from an insurance company and a hospital). (The remaining sample comprised quasiprofessionals in a University, a more normative organization). Other studies have found similar results (e.g., Aranya & Jacobson, 1975; Graddick & Farr, 1983; Rhodes & Steers, 1981). In a study of blue-collar workers, Angle and Perry (1983) found that extrinsic rewards were more satisfying and more strongly related to the measure of commitment (the OCQ) than intrinsic rewards. Treatment by the organization, the largest single predictor of commitment, was seen to contain many extrinsic rewards.

The effects of normative controls in work organizations are also evident in many analyses and research studies conducted in a variety of settings, although in the latter these are not always clearly distinguishable from other control methods. Evidence for the effects of normative controls on member involvement include employee-centred structures designed by Japanese organizations and their western counterparts (Cool & Lengnick-Hall, 1985; Lincoln & Kalleberg, 1985; Pascale
& Athos, 1981), and the involvement of subordinates in Burns and Stalker’s (1961) ‘organismic’
organizations (where information and advice are exchanged; see Pugh, 1966). Various measures
of organizational commitment have been found to be positively related to satisfaction with overall
treatment by the organization (Angle & Perry, 1983; Brown, 1969; Graddick & Farr, 1983; Lee,
1971; Martin & O’Laughin, 1984), participation in decisions (Morris & Steers, 1980; Patchen,
1970), feelings of being able to depend on the organization and perceived personal importance
there (Bacharach & Aiken, 1979; Buchanan, 1974; Steers, 1977). Some of these provide group-
level analyses (e.g., Brown, 1969; Patchen, 1970), so the effects would be expected using either
subjective or objective measures of organizational controls.

A global feature of organizations frequently studied in relation to member reactions is organization
size, but the results are interpreted by some as contradictory and perhaps a null effect. In
small firms, social relations between workers and the organization are frequently seen as mutually
satisfying because of their closeness (e.g., Indik, 1963). Large firms are more bureaucratized
(Indik, 1963; Katz & Kahn, 1978) and the potential effects of bureaucratization on member in-
volvement have been well documented (Gouldner, 1955: Merton, 1940). Katz and Kahn (1978,
p. 108) observed that problems resulting from large size (and greater bureaucratization) include
loss of the primary group as a force to motivate people towards organizational goals, increased
errors of communication, poor utilization of member resources, and increased use of rules and
regulations to depersonalize activities. Ingham (1970) did an important study showing the
benefits of small firms: workers in small firms bring noneconomic expressive orientations to
work and place emphasis instead on intrinsic satisfactions. The close vertical relations in small
firms are likely to lead to high moral involvement among such subordinates. Workers in large
organizations were seen by Ingham to attach most importance to material rewards (e.g.,
Goldthorpe et al., 1968) and to have a calculative orientation to work and the organization. Cur-
ran and Stanworth (1979) argued that the studies of Ingham and others made little reference to
conflicts of interests between workers and management; these may also occur in small firms and
reduce the moral involvement among subordinates.

An alternative argument for the effects of organization size in the literature is that large firms
provide higher wages, benefits, training, status rewards, and promotion opportunities than do
small firms (Curran & Stanworth, 1979; Lincoln & Kalleberg, 1985), thereby contributing to
overall commitment. Thus, commitment could be produced within large or small firms. Curran
and Stanworth (1979) investigated worker involvement and social relations in eight small firms in
the printing and electronics industries, using a control sample of equivalent workers in two large
firms. The authors concluded that the capitalistic basis and industrial subculture peculiar to an
industry, particularly as they affect vertical relations, are more important than any alleged size
effect in small firms. Studies of commitment testing for the effects of size also have not found any relationship with member commitment (Brown, 1969; Stevens et al., 1978). Etzioni’s (1961) compliance relations may explain much of the effects attributed by Curran and Stanworth (1979) to subcultural factors—the type of involvement encouraged in each case may be different. However, because of the increased communication errors, greater extrinsic rewards, and decreased personal involvement of participants in large organizations, small organizations may still be expected to have morally involved members, and large organizations may be expected to have members with calculative involvement at the lower ranks.

Several authors besides Curran and Stanworth (1979) have indicated that organizational goals are important when assessing involvement among lower participants (e.g., Katz & Kahn, 1978). Curran and Stanworth (1979) sampled different industries to see if meanings, definitions, and attitudes are important within each; some industries may have distinct subcultures which permit the use of controls not tolerated in other industries. As already noted, the authors found support for this notion. Other studies have also found different patterns of involvement by organization type (e.g., Chelte & Tausky, 1986; Hall & Schneider, 1972). Aranya, Kushnir, and Valency (1986) controlled for organization type to more fully account for the effects of gender on commitment, and found no differences in commitment across different organizations. Finally, evidence has been presented which supports Etzioni’s (1961) postulate that different patterns of involvement are expected in organizations having particular predominant goals (see Section 2.2), but instead of assessing one predominant goal, account should be taken of a mixture of goals or of particular compliance structures (e.g., a classification by industry).

2.3.2. GROUP CHARACTERISTICS AS PREDICTORS

In the previous chapter, several group characteristics were suggested as important for involvement in the organization, especially those characterizing autonomous work groups. The characteristics of groups found to predict commitment in the research literature are usually included under workplace experiences. Workplace experiences do include jobs, but job characteristics are expected to be more closely related to job satisfaction than to organizational commitment. If favourable job characteristics are seen to be provided by the organization, commitment may be increased for the reasons given in the previous section. In any case, it is presently impossible to compare all jobs (or tasks) in different organizations, and here it was considered better to divide up a person’s work experiences to include social relations within the immediate group (where jobs are centrally located), individual characteristics (which may include the professional, job-specific, and personal interests of group members), and member relations with the wider organization. Member relations with the organization were examined in the previous section, and
the remaining workplace experiences are of interest here. This section presents empirical evidence for the effects on involvement of group cohesion, group goals, member characteristics encouraged by groups, and group size.

In contrast to Etzioni's (1961) expectation, there is much evidence that organizational commitment or identification is generated in work organizations by cohesive group relations, or where group members are satisfied with peer relations. The empirical indicators of cohesion have been diverse. Commitment has been found to be positively related to perceived cohesion among coworkers (Marsh & Mannari, 1977; Martin & O’Laughin, 1984; Welsch & LaVan, 1981), the importance of social ties with coworkers (Eisenberg, Monge, & Miller, 1983; Fukami & Larson, 1984; Rotondi, 1975; Sheldon, 1971), feelings of solidarity with coworkers or colleagues (Patchen, 1970; Shoemaker, Snizek, & Bryant, 1977), satisfaction with coworkers (Brief & Alldag, 1980), and satisfactory interpersonal relations (Antonovsky & Antonovsky, 1974). In a few cases, no relation between cohesion and commitment was found (e.g., Angle & Perry, 1983; Brown, 1969; Buchanan, 1974). Cohesion may be such a common predictor of commitment because most investigations have been for professionals within normative organizations, where Etzioni (1961) expected cohesive groups (when these occurred) to actively contribute to the organization’s goals. Also, not all studies have concurrently investigated the effects of organizational controls and other important factors which Etzioni (1961) suggested had to be controlled if the true effects of cohesion were to be observed.

Clearly, the measures of cohesion used in the above studies included mainly subjective, and some objective, indicators of the degree of group unity, but only represented group unity in a partial sense. As noted in Chapter 1, a more appropriate measure of cohesion would be a composite of group integration (member interconnectedness), group solidarity (attraction), and group consensus (agreement). There is evidence in the literature that integration, solidarity, and consensus are related (Back, 1951; Bovard, 1951a, 1951b; Byrne, 1961; Festinger et al., 1950; Homans, 1950; Scott & Scott, 1979, 1981). Group cohesion may be operationalized as both a global structural property of a group and as members’ contributions towards group unity. Some cohesive groups may not pursue specific goals, and since cohesion is not expected to be significant here, the group’s goals may be investigated as well. In reality, conflict between the interests of groups and their members may be most important for member involvement.

Where groups provide meaningful activities and tasks become self-rewarding (e.g., via value-expression), member involvement in the wider organization is facilitated. The autonomous work groups studied in the Swedish experiments and in sociotechnical studies have shown increased worker satisfaction, together with reduced absenteeism and turnover (Katz & Kahn, 1978,
Many writers (e.g., Tziner & Vardi, 1984) have seen certain characteristics of occupations (e.g., internalized altruistic values and professional ethics) as important for satisfaction and absenteeism. The importance of values has been shown for the behaviour of professionals (e.g., Blau, 1960; Etzioni, 1969), and some have suggested that altruistic values are more important than skill building, for the moral obligations they engender (see Tziner & Vardi, 1984). Studies of the socialization of professionals have shown that the amount of shift towards the norms of professional groups varies directly with the degree of attitude and value consistency among significant others in the socializing group (see Katz & Kahn, 1978, p. 378). So, if the values of the group are of the moral type, commitment to those values is likely. However, some conflict with the organization’s interests may result. Tziner and Vardi (1984) suggested that the effects of altruistic values on moral and calculative involvement in organizations should be studied.

Also, it is important to consider the group’s norms for individual performance, particularly when the behaviour of groups is to be studied. As Argyris (1964) observed, the pursuit of individual interests is important for personal growth through self-actualization, as long as these do not conflict with the organization’s interests. The ideal situation for involvement would be where both personal and organizational goals were served. There is evidence that member motivation and effort can be investigated as a structural property of a group (e.g., Brown, 1969; Patchen, 1970), provided that such a measure is applicable to the group as a whole and is not more applicable to individuals (e.g., achievement motivation). At an individual level of analysis, commitment has been positively related to the Protestant Work Ethic (Brief & Aldag, 1980; Kidron, 1978), professionalism (Bartol, 1979), self-image or self-fulfilment (Aranya & Jacobson, 1975; Buchanan, 1974; Hall & Schneider, 1972; Lee, 1971; Schwyhart & Smith, 1972), and feelings of personal importance or competence (Buchanan, 1974; Morris & Sherman, 1972; Steers, 1977). An appropriate structural measure of the degree to which group members pursue their own interests, versus those of the group or organization, may therefore be developed. For the want of a better term, this may be called members’ self-assertiveness. Research showing the effects of conflicts of interests, or interactions between personal and organizational goals, will be discussed in a later section, after individual-level predictors have been outlined.

Autonomous work groups were also typically small in size. Large groups tend to form subgroups (usually based on differences in status, etc.) and produce problems, while members of small groups are able to work out a satisfactory social system and obtain more personal satisfactions (Steiner, 1972). However, as Steiner (1972, p. 87) observed, gross undermanning of groups may also make members’ efforts seem unworthy and less satisfying. Groups of around five members have generally been found to be the most effective (Steiner, 1972). Thomas and Fink (1963) reviewed 31 studies of small groups, relating group size to several classes of dependent
variables including member satisfaction. Small groups tended to have the most satisfied members, both with regard to the group task and the members’ part in the task. Where there is no interdependence or communication, size is irrelevant for member behaviour. Morris and Steers (1980) found group size to be negatively related to commitment (the OCQ measure) among nonfaculty members of a University, but no other direct effects on commitment were found in the literature. We may expect, however, that small formal groups tend to have lower alienative involvement, lower calculative involvement, and higher moral involvement among their members than do large groups.

2.3.3. INDIVIDUAL CHARACTERISTICS AS PREDICTORS

In the literature, many individual characteristics have been found to be significantly related to member commitment to the organization, but these have usually been of lesser importance than workplace experiences (e.g., Hrebinik & Alutto, 1972; Patchen, 1970; Stevens et al., 1978). Except for Meyer and Allen’s (1984) continuance commitment scale (CCS), most commitment measures were directed at affective involvement, as they were for group characteristics in the previous section. However, most commitment studies include some consideration of instrumental reasons for staying and suggest important predictors of calculative involvement. The individual characteristics found to be predictors of commitment in the literature describe individuals and their personal experiences in the organization. As evident from the previous section, a wide range of individual characteristics are important for showing the effect of group cohesion on involvement, and to take account of individual variation (both in structural location and disposition) at the individual level of analysis. For simplicity, these predictors may be divided into demographic, role-related, and personality characteristics, and a few of each (the most common) may be included for descriptive purposes. Of course, these may vary to some extent in their verifiability by others.

2.3.3.1. DEMOGRAPHIC VARIABLES

Demographic variables describe people in relation to populations, and the most common of these found to predict commitment are age, sex, marital status, education level, and plans for future education. These will be discussed in turn.

Age has often been found to be significantly and positively related to commitment in a variety of organizations, in different cultures, and for participants ranging from blue-collar workers to professionals. The usual argument is that, in line with Becker’s (1960) ‘side-bet’ theory, increasing age tends to reduce the feasibility of leaving and losing benefits accrued in the organization over time (e.g., superannuation). Age has been found to be positively related to the OCQ (Angle & Perry, 1981; Brief & Aldag, 1980; Graddick & Farr, 1983; Meyer & Allen, 1984; Morris &
Sherman, 1981; Steers, 1977; Welsch & LaVan, 1981), the H-A scale (Alutto et al., 1973; Hrebiniak & Alutto, 1972; Kidron, 1978), and other commitment scales (Cook & Wall, 1980; Fukami & Larson, 1984; Kidron, 1978; Lee, 1971; Sheldon, 1971). As already noted, Meyer and Allen (1984) concluded that age was not a good example of a side-bet; with increasing age and experience, more intrinsic rewards may be obtained, leading to greater affection for the organization. Other researchers also have not found age to be a predictor of commitment measured by a variety of methods (Bhagat & Chassie, 1981; Martin & O’Laughin, 1984; Ritzer & Trice, 1969; Rotondi, 1975).

Sex differences found for organizational commitment have been varied. Sex is sometimes treated as a side-bet: females are constrained by few opportunities outside the organization and are thus tied to the organization more than men. Studies taking this view have often found that females are more committed than males (Angle & Perry, 1981; Chelte & Tausky, 1986; Grusky, 1966; Hrebiniak & Alutto, 1972), while others have been inconclusive (Aranya et al., 1986; Bruning & Snyder, 1983; Stevens et al., 1978). On the other hand, some studies have found support for the view that females are less committed than males because they are often forced to give up careers for family duties (e.g., Graddick & Farr, 1983). As some researchers have observed, no sex differences would be expected if the potentially confounding effects of education, age, job level, and occupational setting were taken into account (see Aranya et al., 1986).

Marital status has also been treated as a side-bet because married people are expected to be more dependent on the organization for steady employment and security. Single people are more likely to view alternative opportunities favourably, and to be less committed to the organization. Studies generally show a positive relationship between marriage and affective involvement (Alutto et al., 1973; Brief & Aldag, 1980; Chelte & Tausky, 1986; Rhodes & Steers, 1981), but some have not found any relationship at all (Aranya & Jacobson, 1975; Hrebiniak & Alutto, 1972).

Education has also been treated as a side-bet because a poor education is expected to reduce one’s chances of obtaining alternative positions that provide better benefits, so the individual becomes tied to the organization. Level of education has often been found to be negatively related to commitment (Alutto et al., 1973; Angle & Perry, 1981; Brief & Aldag, 1980; Fukami & Larson, 1984; Grusky, 1966; Morris & Sherman, 1981; Morris & Steers, 1980; Steers, 1977). Others have not found any relationship (Bhagat & Chassie, 1981; Chelte & Tausky, 1986; Lee, 1971; Welsch & LaVan, 1981). Most studies have concentrated on professionals or higher-level positions, but an overall negative relationship between education and commitment can be expected. Higher levels of calculative involvement are expected among the more educated as they
pursue their interests, so the relation between education and calculative involvement is expected to be positive.

Planning for future education has also been found to be negatively related to commitment (Alutto et al., 1973; Hrebiniak & Alutto, 1972) for the same reasons. In Gouldner's (1957) cosmopolitan-local distinction, desire for a future education implies professionalism or cosmopolitanism, while a lack of it implies a local orientation. Thus, having such plans is likely to be associated with high calculative involvement and low moral involvement in the organization.

2.3.3.2. ROLE-RELATED VARIABLES

Role-related variables pertain to an individual's participation in the organization, and several have been found to be predictors of involvement. Variables of interest to a person's situation include organizational rank (or level of duties), time in those duties, time in the organization (or tenure), union membership, opportunity for advancement, and opportunities elsewhere.

As noted above, level of duties is a variable that is relevant to many aspects of individual behaviour in organizations. Higher ranks are expected to contain a different mixture of individuals (e.g., fewer women) and individuals at those levels receive more intrinsic (normative) rewards and have greater responsibilities. These rewards and responsibilities imply different 'sunk costs.' Research shows that higher levels of commitment tends to occur among the higher ranks (Aranya et al., 1986; Sheldon, 1971; Welsch & LaVan, 1981). Higher calculative involvement is expected for those in the lower or middle ranks (e.g., in utilitarian organizations), as Etzioni (1961) suggested.

The length of time that a person has spent in a job is expected to be negatively related to commitment and positively related to calculative involvement because those in their jobs only a short time are likely to view the organization as responsible for opportunities which may not be provided by other organizations. Those in their duties a long time are more likely to have high calculative involvement in the organization, because any intrinsic satisfactions derived are often associated with experience acquired elsewhere. However, the results are not clear-cut. Stevens et al. (1978) found that time in duties was negatively related to commitment, while Welsch and LaVan (1981) and Alutto et al. (1973) found a positive relationship. The latter studies used years of professional employment and years of service as indicators of time in duties, respectively. These indicators are closer to tenure in the organization, which is expected to show different effects on commitment.

Length of service in the organization is often studied as a side-bet: long-serving employees have made many investments in the organization, and the potential loss of these tie the person to
the organization. Meyer and Allen (1984) found that length of service was not a good example of a side-bet because long-serving individuals may internalize the organization's norms over time and grow to like it there. Length of service was related positively to several measures of affective commitment, but not the CCS. Length of service has consistently been found to be positively related to a measure of affective involvement (Alutto et al., 1973; Angle & Perry, 1983; Buchanan, 1974; Hall et al., 1970; Hrebiak & Alutto, 1972; Kidron, 1978; Lee, 1971; Meyer & Allen, 1984; Stevens et al., 1978). It may also be the case that individuals with short service view their own opportunities as most important, and have higher calculative involvement.

Neither Brown (1969) nor Patchen (1970) found any support for the hypothesis that participation in a union would decrease commitment to the organization (cf., March & Simon, 1958), but unionized blue-collar employees have been shown to place more importance on pay than white-collar employees (Ganguli, 1954; Hahn, 1977; both cited in Katz & Kahn, 1978). So, union members may have higher calculative involvement and lower moral involvement than nonunionized employees.

Opportunity for advancement has been found to be positively related to affective involvement (Brief & Aldag, 1980; Buchanan, 1974; Grusky, 1966; Hrebiak & Alutto, 1972; Lee, 1971; Patchen, 1970). Access to higher ranks and its normative rewards are likely to increase moral involvement and reduce calculative involvement, compared to those with few opportunities for advancement.

Finally, as has been suggested for other predictors, when there are many opportunities perceived elsewhere, commitment is expected to be low, and when there are few such opportunities, commitment to the organization is expected to be high (Becker, 1960). However, the results have been ambiguous. Angle and Perry (1983) found commitment to be negatively related to perceived job alternatives (with the same level of pay and benefits), but positively related to perceived skill transferability. The authors expected both these variables to function as side-bets, because low levels of each were expected to tie the individual to the organization. The authors concluded that when individuals have transferable skills they are more likely than those with fewer skills to choose to stay. Highly skilled individuals may see few alternative jobs as providing the same total benefits, leading to high commitment and low calculative involvement.
2.3.3.3. PERSONALITY VARIABLES

The personality variables of interest here are the behavioural characteristics peculiar to an individual. Personality characteristics are usually studied as needs, but these are difficult to validate. Individual 'needs' found to be important for member involvement include achievement, autonomy (mainly with respect to professions), and change. The findings pertaining to these variables will be outlined in turn.

Achievement motivation was discussed in Chapter 1 as important for moral involvement and calculative involvement in particular. Need for achievement has been found to be positively related to commitment in a range of situations and with a variety of commitment measures (Angle & Perry, 1983; Brown, 1969; Buchanan, 1974; Hall & Schneider, 1972). Brief and Aldag (1980) and Kidron (1978) found that commitment was positively related to the Protestant Work Ethic, another indicator of an individual's willingness to succeed and achieve. Some researchers, however, have not found any relation between achievement motivation and organizational commitment (e.g., Bhagat & Chassie, 1981; Patchen, 1970).

It is to be expected that autonomous individuals (i.e., loners) would be less likely to be committed to an organization, directing their efforts instead towards their own interests. Thus, their calculative involvement tends to be high and moral involvement tends to be low. Autonomy has often been associated with position (e.g., Salaman, 1979), but while this does not necessarily mean that people who have autonomy at work have high personal autonomy generally, we would expect that the effects for autonomy in such positions would apply to individual autonomy as well. Professional and skilled workers have more autonomy than low-level workers, but the level of autonomy they hold is constrained by the organization so that it may achieve its goals (Salaman, 1979, p. 136). Professionals do attempt to secure their own interests (Salaman, 1979, p. 151), and conflict may arise between professional autonomy and bureaucratic control, leading to reduced moral involvement and even increased alienative involvement. Miller (1967) found that differences in supervision, freedom in research choice, professional climate, and company encouragement in bureaucratic organizations were associated with increased work alienation among professionals. That is, where personal autonomy is high, we would expect calculative involvement to increase, and moral involvement to decrease. As seen in an earlier section, this effect is expected to be offset to some extent by the use of normative controls, when the professional may become identified with the organization.

Individual need (or liking) for change has been little studied, but it may be important in determining whether a person stays or leaves. There is some evidence that a liking for change tends to reduce moral involvement and increase calculative involvement. Stevens et al. (1978) found that
a tendency for managers to favour change was negatively related to two commitment measures (R-T and H-A). Those with a liking for change were seen to incur less personal loss in leaving. On the other hand, Brown (1969) found a positive relationship between attitudes towards job-related change and identification, so the evidence for the effects of change appears to be contradictory. Stevens et al. (1978) studied managers of large government institutions, while Brown (1969) attended to skilled and professional employees of several small divisions of the Tennessee Valley Authority. There was a tendency among the professionals to favour innovation, so a propensity for change was a feature of their work. The consequences of change would be different in government institutions, where routine activities are expected. So, besides the different type of change assessed, the circumstances of the findings were quite different.

2.3.4. INTERACTIVE EFFECTS

In this section, empirical evidence will be presented for the interactions between organization and individual characteristics hypothesized to be predictors of involvement in Chapter 1. Several such effects have been described in the literature, often in terms of job characteristics or satisfaction with superiors, and these are included here for completeness. If these characteristics are seen to include orientations towards self or the organization, the effects can be more readily interpreted in the light of the present purposes. For simplicity, only the main findings will be reviewed.

Individuals with higher-order need satisfaction (Maslow, 1954) and greater control over their jobs have been found to be more satisfied with either their jobs or the organization (Hackman & Lawler, 1971; Hall et al., 1970). Brief and Aldag (1975) found support for Hackman and Lawler’s (1971) finding that it was important to match people to jobs. Individuals with higher-order needs displayed a stronger relation between affective responses and core job dimensions (autonomy, skill variety, task identity, task significance, and feedback) than did individuals who were low in these needs. Individuals lacking higher-order needs displayed a stronger relationship between the core job dimensions and affective responses more extrinsic to the job itself (e.g., promotions and pay) than did individuals with higher-order needs. That is, the former were more calculatively involved in their jobs than the latter. Eisenberg et al. (1983) also found evidence consistent with Hackman and Lawler’s (1971) findings, but not in the expected direction: low job involvement (how much the job is part of one’s self-image) coupled with high involvement in the organization’s communication network facilitated increased commitment to the organization. For those whose work was of little salience, talking about their job helped to bring about commitment. Finally, Oldham (1976) found that certain job characteristics and certain individual needs interact to affect workers’ motivation and effort. The job-motivation relationship was mediated
by satisfaction with interpersonal relations with superiors and subordinates, such that the worker was better able to concentrate on his job when he experienced such satisfactions. There was some evidence that an interaction between interpersonal satisfaction and growth need satisfaction was related to worker motivation and effort; high levels of both satisfactions tended to be associated with increased motivation.

A number of studies provide evidence for the importance to commitment of the lack of conflicts between the individual and the organization, particularly where commitment is conceived as identification (measures such as the OCQ include willingness to exert effort, and thus high individual inputs). In a variety of samples and using many different measures of affective involvement, commitment has been shown to be inversely related to role stress or role conflict (Bhagat & Chassie, 1981; Brown, 1969; Buchanan, 1974; Graddick & Farr, 1983; Hrebiniak & Alutto, 1972; Morris & Sherman, 1981; Stevens et al., 1978; Welsch & LaVan, 1981). That is, where individuals have little personal conflict with the organization, their commitment to it tends to be high, relative to people whose interests conflict with those of the organization. It is also likely that people experiencing such conflicts would have calculative involvement in the organization.

2.4. CHAPTER SUMMARY

Several of the existing measures of organizational involvement were examined for their suitability in this study. Various measures exist for concepts approximating Etzioni’s (1961) involvement concepts, but these are either single item scales, included in an index of overall commitment, or applicable to particular organizations. Most scales, including many claiming to be directed at calculative involvement, appear to assess identification (congruence of personal and organizational goals). These measures, and others directed at an instrumental kind of commitment, do not make an adequate distinction between affective and calculative attitudes. They are thus unsuitable for a test of the compliance theory. Therefore, measures of Etzioni’s involvement concepts will have to be developed for this study, and will be likely to provide more useful measures of involvement.

Studies of the compliance theory have provided some evidence for its large-scale application in a number of different settings. Other research studies of commitment, concentrating mostly on the individual level of analysis, also provide support for the compliance relations. The latter studies also provide evidence for the organization, group, and individual characteristics suggested in the previous chapter as likely predictors, and further individual characteristics of possible importance. However, when structural antecedents were investigated, most studies obtained measures of independent and dependent variables from the same source. Then the observed contributions of these factors may be inflated by self-report.
The organization characteristics to be included in this study are organizational power (coercive, remunerative, and normative), organization size, and the organization's type (e.g., a classification according to likely differences in compliance structure). Group characteristics will include group cohesion (a composite of group integration, solidarity, and consensus), group goals (instrumental, relational, and altruistic), group size, members' group-centredness, and members' self-assertiveness. Individual characteristics will include demographic, role, and personality variables. Demographic variables comprise age, sex, marital status, education level, and plans for future education. Role-related variables include level of duties, time in duties, time in organization, union membership, opportunity for advancement, and opportunities elsewhere. The personality variables of interest are achievement motivation, personal autonomy, and liking for change. The next chapter describes where and how the hypotheses in Chapter 1 were tested.
Chapter 3
SAMPLE, METHODOLOGY, AND ORGANIZATION MEASURES

The primary aim of the empirical study is to develop generally applicable measures of Etzioni’s (1961) power and involvement dimensions, and to investigate the relation between organizational power and participants’ involvement over a range of organizations with similar purposes. A secondary aim is to investigate the contribution to involvement of (a) the immediate social group and (b) certain individual attributes discussed in the literature. Before the specific details of the methodology are discussed, the general approach will be outlined.

A number of groups were solicited from a range of local organizations (complex bureaucratic organizations; see p. 5, above). For the purposes of this study, an organization could be a division or department of a large concern, if that unit was most meaningful for the people involved. A lower size limit of 25 persons was set for organizations, to ensure that participants had a hierarchy above them and to keep organizations distinct from groups. A group was taken to be three or more people who normally have face-to-face interaction, and who operate together in a fairly distinct work or social capacity. Group members should be able to think of the group as an appropriate one for them within the organization, regardless of how often they take part in it.

It was not possible to select organizations or groups randomly, but the aim was to sample a few independent (nonoverlapping) groups within each organization obtained. This allowed substantial variation among individuals, groups, and organizations in an overall analysis. There are a number of reasons why the sampling of groups within organizations is advantageous in a study of this type:

1. There is a likelihood, through group influence, of obtaining people who would not normally volunteer to participate in research of this kind. Thus, a wide variety of attitudes is encountered.

2. A large number of people in similar situations may be obtained at once.

3. Outside informants may be efficiently used to provide global assessments on matters relating to the group as a whole, in order to provide some check on the group members’ reports.
4. Group scores may be obtained on variables, and an analysis carried out at a group as well as an individual level. This places major importance on structural rather than individual characteristics.

As Pfeffer (1985) observed, level- and unit-of-analysis problems are common in organizational research, and can lead to incorrect conclusions. Under certain conditions, the process of aggregating individual-level scores to a larger social unit (e.g., by computing group means) inflates the estimate of the true relationship among the variables. This problem, generally referred to as aggregation bias (Hannan, 1971), occurs because the aggregation process tends to balance out errors or fluctuations of measurement, thereby reducing the variation among scores to be correlated. This could make individual scores appear more reliable than they should be.

However, the extent of aggregation ‘error’ depends on the type of measure utilized. Lazarsfeld and Menzel (1961) distinguished among three types of collective measure: analytical (derived from properties of the collective’s members), structural (prevailing relations among members), and global (properties of entire collectivities). As Lincoln and Zietz (1980) observed, analytical and global measures may be directed at the same underlying property, and while it is not meaningful to aggregate many analytical properties, others (e.g., the global judgements of members or informants) may be aggregated to provide valid indicators of organizational properties. To the extent that members (or informants) agree, there is enhanced reliability of the group mean, and aggregation error is minimal. One indicator of the likelihood of this problem at the group level of analysis is therefore the $\omega^2$ statistic (Hays, 1963). Omega-squared is inter-respondent similarity within groups, relative to the variation over scores for all respondents.

If the same testing procedure is used for widely-varying groups, the chance of the Hawthorne Effect (i.e., effects caused by the attention given to groups) will be slight. Members may describe their supervisors’ behaviour in favourable terms, and this may not be a valid measure of supervisor behaviour because subordinates may be giving socially desirable answers. To provide more ‘objective’ estimates of group and organization functioning in this study, knowledgeable informants were asked to provide global assessments of the group or of the organizational power system as it affected the group. These assessments may then be compared with the group members’ own reports on similar questions, to ascertain the degree of agreement between the two sources. If management and workers agree on the modes of power exercised, for example, we may be reasonably certain that is the power used. Subsequent analyses may then utilize the members’ own reports of structural factors, or those of informants.

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1Hannan (1971) also pointed to disaggregation errors which may occur when aggregated scores are assigned to individuals.
Four questionnaires were developed to obtain measures of the organization, group, and individual characteristics. Group members were asked to provide information on the organization, the group, and (their own) individual characteristics, as well as their level of involvement. This information was gathered in a questionnaire referred to as the Members' Report (Appendix A.1). In addition, two outsiders who knew the group fairly well were asked to provide their views on how the group operated together as a whole. This information provided a second, informed, source of measures for some of the group characteristics. Group informants are referred to as group observers, and furnish Observers' Reports (Appendix A.2). Two informants were required for each group to check inter-informant agreement. Also, two people higher up in the organization, with some knowledge of the group's activities, were asked to provide their views on how the organization operated in relation to the groups concerned. These informants, designated administrators, completed Administrators' Reports (Appendix A.3). A third source for some group and organization characteristics was provided through the Researcher's Ratings (Appendix A.4). Finally, some general details of the organization were obtained from one administrator or an appropriate authority, via a short questionnaire (Appendix A.5). Most of the measures contained in these questionnaires had to be specially developed for this study.

In the remainder of this chapter, the variables and sources of measures will be outlined, the sample will then be described, followed by details of questionnaire development and administration. Finally, those measures pertinent to the next chapter will be presented. Included are the measures of involvement and the various measures of organization characteristics. Measures of group and individual characteristics will be deferred to Chapters 5 and 7, respectively, where the relevant analyses are presented.

3.1. VARIABLES AND THEIR SOURCES

The dependent variables in this study are the three kinds of organizational involvement identified by Etzioni (1961). These are alienative involvement, moral involvement, and calculative involvement. The independent variables consist of selected organization, group, and individual characteristics identified in Chapters 1 and 2. These variables are summarized in Table 3-1. Group and organization characteristics were assessed from multiple sources. Modes of organizational power were obtained from three sources: members' reports, administrators' reports for the group, and a rating scale used by the researcher for describing the group. Organization size was obtained from an administrator or other relevant source, while organization type was scored by the researcher according to the sampling procedure (see below). The self-assertiveness and group-centredness of group members were assessed both from members and from observers, using similar methods. Cohesion was treated as a composite of integration, solidarity, and con-
**Table 3-1: Organization, Group, and Individual Characteristics Investigated as Predictors of Involvement**

<table>
<thead>
<tr>
<th>Organization</th>
<th>Group</th>
<th>Individual</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Power:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>coercive</td>
<td>members’ self-assertiveness</td>
<td>age</td>
</tr>
<tr>
<td>remunerative</td>
<td>members’ group-centredness</td>
<td>sex</td>
</tr>
<tr>
<td>normative</td>
<td>group cohesion</td>
<td>marital status</td>
</tr>
<tr>
<td></td>
<td>(integration, education level)</td>
<td>education level</td>
</tr>
<tr>
<td><strong>Type</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>solidarity &amp; consensus</td>
<td>plans for future education</td>
<td></td>
</tr>
<tr>
<td><strong>Size</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>instrumental</td>
<td>level of duties</td>
<td></td>
</tr>
<tr>
<td>relational</td>
<td>time in duties</td>
<td>time in organization</td>
</tr>
<tr>
<td>altruistic</td>
<td>opportunity for advancement</td>
<td>opportunities elsewhere</td>
</tr>
<tr>
<td><strong>Size</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>union membership</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Personality:**
- achievement motivation
- personal autonomy
- liking for change

Sensus in both the members’ and the observers’ reports, and an additional multiple-item scale of cohesion was included in the observers’ report to provide a check on the composite. The goals of the group were measured in the members’ reports and in a rating scale used by the researcher. Group size was a composite measure obtained from a variety of sources. All individual characteristics were obtained from the members’ reports, and opportunity for advancement within groups was also assessed in the administrators’ report.
3.2. THE SAMPLE

Groups were obtained from a variety of organizations including business firms, health and welfare agencies, and educational institutions, all in the Canberra region. Rather than including extreme types (e.g., prisons and sects), where involvement is nonproblematic, the concern was to focus on a relatively limited range of organizations where individuals could choose to stay or leave. Members of these organizations may also, to a degree, carry out similar activities but have different power exercised over them. While the concern was not to obtain organizations having particular compliance structures, the expected compliance structures within different types of organizations do suggest what kinds and combinations of power and involvement to expect in each case (Etzioni, 1961). Thus, a sufficiently diverse range of organization types may be selected to obtain variation in the power exercised and the involvement displayed. Within the broad categories focused on (business, health-welfare, and education), it was also the intention to select a wide range of organizations, including both public and private sectors for each organization type wherever appropriate. In this way, it was hoped that a diverse sample would be obtained to allow full investigation of the compliance relations.

The business firms category was based upon Etzioni’s (1961) conception of industrial organizations, which were expected to have predominantly utilitarian compliance with normative compliance secondary. Etzioni (1961) classified industrial organizations into three main categories: 1) those whose lower participants are predominantly blue-collar workers (such as manufacturers, etc.), 2) those whose lower participants are predominantly white-collar workers, such as public or private insurance companies or banks, and 3) those whose lower participants are professionals (e.g., law, research, or planning firms). Etzioni did distinguish two major types of professional organizations: those where professionals comprise the middle ranks of the organization, and those where lower participants are professionals. The latter type of professional organization is expected to have predominantly normative compliance (with utilitarian compliance secondary), and thus would be classified as normative.

Health and welfare agencies and educational institutions can both be called human service organizations (Martin, 1985), but because of their different purposes may be expected to possess different compliance structures. Etzioni suggested that health and welfare agencies have a predominantly normative compliance structure, with utilitarian compliance as a secondary pattern. Obviously, the relative importance of normative compliance in any particular case would depend on whether the organization has paid or voluntary workers. In schools, on the other hand, coercive compliance would presumably accompany normative compliance when students are considered as the lower participants; the secondary compliance structure affecting teachers should
be utilitarian. So, by including school students in this study, it was hoped to obtain groups reporting higher coercive power than would be obtained in industry or in health and welfare agencies. This would allow more meaningful operationalization of coercive power.

3.2.1. SOLICITING ORGANIZATIONS AND GROUPS

Since no directory was available from which to sample organizations, a number of likely organizations of the above types were selected from the yellow pages of the 1984 Canberra telephone directory. The organizations were first contacted to identify the responsible person. An approach was then made to this person by letter, asking for the organization's cooperation (see Appendix B.1, p. 254). A detailed outline of the study was also enclosed (see Appendix B.2, p. 255). A short time later, all the recipients were telephoned to gauge their reaction and to arrange an interview with those interested. (Sometimes the researcher was referred to a more appropriate person.) At interviews it was emphasized that only a few nonoverlapping groups would be required from each participating organization, that groups and organizations would remain anonymous, and that feedback of the results would be provided at the end of the study.

The groups obtained from each organization were to be three or more people easily identifiable as a group and together for at least three months. The emphasis was on lower- to middle-level participants who regularly took part in the organization's activities. Groups were to be diverse in their functions and likely attitudes. It was suggested that diverse groups would provide more useful feedback than only committed groups, as organizations could match the results against their own expectations for particular groups. An information sheet was left with the contact person for circulation among potential groups (see Appendix B.3, p. 256). This sheet was directed at members of groups, attempting to interest them in the study. It covered the study aims, requirements of participants, and promises of confidentiality, anonymity, and feedback of the results. At a later date, the organization was contacted to ascertain whether any groups were willing to participate, or if any were willing to talk about the study. (It was deemed profitable to meet with groups even if they were only mildly interested.) In some cases, approval of trade unions had to be obtained before groups could participate, or even be approached. This was handled through the normal internal organization channels, and did not present a problem for the researcher.

Groups and their parent organizations were also the sources of group informants and organization informants, respectively. Since these informants were identified and sought at the time questionnaires were administered, their selection will be dealt with in Section 3.3.3.

Table 3-2 summarizes the total numbers of organizations, groups, members' reports, and
**Table 3-2:** Number of Organizations, Groups, Members' Reports, and Informants' Reports by Organization Type

<table>
<thead>
<tr>
<th></th>
<th>Business</th>
<th>Health-welfare</th>
<th>Education</th>
<th>Total Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizations</td>
<td>11</td>
<td>10</td>
<td>6</td>
<td>27</td>
</tr>
<tr>
<td>Groups</td>
<td>31</td>
<td>28</td>
<td>26</td>
<td>85</td>
</tr>
<tr>
<td>Members' Reports</td>
<td>144</td>
<td>128</td>
<td>194</td>
<td>466</td>
</tr>
<tr>
<td>Groups Providing Observers' Reports:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 reports</td>
<td>19</td>
<td>14</td>
<td>13</td>
<td>46</td>
</tr>
<tr>
<td>1 report</td>
<td>12</td>
<td>11</td>
<td>12</td>
<td>35</td>
</tr>
<tr>
<td>0 reports</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Total reports</td>
<td>50</td>
<td>39</td>
<td>38</td>
<td>127</td>
</tr>
<tr>
<td>Groups Providing Administrators' Reports:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 reports</td>
<td>24</td>
<td>19</td>
<td>15</td>
<td>58</td>
</tr>
<tr>
<td>1 report</td>
<td>7</td>
<td>9</td>
<td>10</td>
<td>26</td>
</tr>
<tr>
<td>0 reports</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Total reports</td>
<td>55</td>
<td>47</td>
<td>40</td>
<td>142</td>
</tr>
</tbody>
</table>

Informants' reports obtained in this study. Eighty-five groups, comprising 466 individuals, were obtained from 27 organizations. Not all group members completed members' reports, but in most groups, more than 50% of members completed questionnaires. Six groups had response rates less than 50% and these were fairly evenly distributed across organization types. The minimum response rate for these 'low-response' groups was 33%, and the number of members' reports obtained ranged from two to eight. Because inter-member agreement was to be ascertained from a minimum of two replies, it was decided to include all groups in the final analysis. The assessment of inter-informant agreement was also possible (two observers' reports were available for 46 groups, and two administrators' reports for 58).

The ages and sex of group members over the entire sample and over organization types are shown in Table 3-3. From this table, it may be seen that the proportion of males was significantly lower in educational institutions than in the other types of organization ($\chi^2 = 31.355, p < .05$). The mean age of respondents was also lowest in educational institutions, reflecting the use of students.
Table 3-3: Sex and Age of Group Members by Organization Type

<table>
<thead>
<tr>
<th></th>
<th>Business</th>
<th>Health-welfare</th>
<th>Education</th>
<th>Total Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Males</td>
<td>64</td>
<td>49</td>
<td>34</td>
<td>147</td>
</tr>
<tr>
<td>No. of Females</td>
<td>80</td>
<td>76</td>
<td>160</td>
<td>316</td>
</tr>
<tr>
<td>Proportion of Males</td>
<td>.44</td>
<td>.39</td>
<td>.18</td>
<td>.32</td>
</tr>
<tr>
<td>Mean Age (years)</td>
<td>34.19</td>
<td>32.63</td>
<td>24.58</td>
<td>29.67</td>
</tr>
<tr>
<td></td>
<td>(n = 137)</td>
<td>(n = 123)</td>
<td>(n = 193)</td>
<td>(n = 453)</td>
</tr>
<tr>
<td>Age Range (years)</td>
<td>16-61</td>
<td>18-64</td>
<td>15-58</td>
<td>15-64</td>
</tr>
</tbody>
</table>

*Three respondents failed to report their sex.

3.2.2. BUSINESS FIRMS

A wide variety of business firms was included in the study. Of 37 originally contacted, 11 participated. These comprised department stores (each provided groups in several locations), insurance companies, solicitors’ firms, a bank, an appliance manufacturer, and public law, building, and scientific departments. From these organizations, 31 groups were obtained. Most were work groups, but three were informal groups (one touch football team from public law and two social groups from different branches of one department store). (See Appendix Table C-1, p. 257, for a breakdown of organizations, groups, and group members, together with the duties carried out in the various groups.)

As may be seen from Table 3-2 above, most groups from business organizations provided two observers’ reports and two administrators’ reports.

3.2.3. HEALTH-WELFARE AGENCIES

Health and welfare agencies included a broad range, from public service bureaucracies to service units of religious sects. Of 19 originally contacted, 10 organizations participated. The largest organizations included public service health and welfare instrumentalities, and a public hospital. Smaller partly self-supporting concerns included a hostel for the intellectually handicapped, an association for disadvantaged persons, a voluntary society administering children’s welfare, and religion-based social services providing direct help to the public. Appendix Table C-2 provides a summary of participants, including the varied functions of the groups solicited. In total, 28 groups were obtained, and all were work groups.

Two observers’ reports were available for 14 of the 28 groups, while two administrators’ reports were available for 19.
3.2.4. EDUCATIONAL INSTITUTIONS

Out of 21 educational institutions contacted, only 6 eventually participated. This was due, in part, to the high demands made upon schools by local researchers. Public institutions included a primary school, a junior high school, a senior high school, and a tertiary college. Two religion-based senior high schools also participated. (See Appendix Table C-3, p. 259, for a breakdown of the organizations, groups, and group types.) From these few organizations, 26 groups were obtained. Where it was appropriate to do so, it was intended to obtain groups of staff members (mainly teachers) and groups of students from the same institution, but this was not always possible. Year 10 students in Canberra schools were considered to be the minimum age able to comprehend and concentrate on the questionnaire for a long period. Few year 12 students were included as they would soon be leaving the organization and their attitudes might be affected accordingly, but they were sometimes members of the friendship groups obtained. In this type of organization, most groups were of a formal nature, but more 'informal' groups were obtained than for other types of organization. While most student groups were classes of varying sizes, two student groups from each religion-based college were friendship groups. One teacher group in a religion-based college was a morning-tea group.

Table 3-2 (p. 71, above) shows that two observers’ reports were available for 13 of the sampled groups, while two administrators’ reports were available for 15.

3.3. QUESTIONNAIRES AND THEIR ADMINISTRATION

3.3.1. PRETEST OF SCALES

Multiple-item scales, developed for the members’ reports, were pretested before use in the main study. Scales assessed relatively stable characteristics of groups, organizations, and individuals. Group characteristics included solidarity, consensus, three kinds of group goals (instrumental, relational, and altruistic), plus self-assertiveness and group-centredness of group members. Organization characteristics included Etzioni’s three kinds of power. Individual characteristics included Etzioni’s (1961) three involvement types, members’ perceived opportunity for advancement, and perceived opportunities elsewhere. The measures of solidarity and consensus were modified versions of those developed by Scott and Scott (1979), but all other pretested scales were designed for this study. At this early stage, every scale had 10 items (five

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2The tertiary group was intended to be a trial run for a final version of the questionnaires in educational institutions, administered by a lecturer who also completed an observers’ report. However, due to the difficulty of obtaining educational organizations in the study, the respondents’ replies were included in the final analysis. These replies formed a small proportion of the total sample and were consistent with other groups in the subsample, so no strong reason could be found for their omission.
were reverse-worded), and respondents were required to tick a number of statements as 'generally true' or 'generally false.' A doorknock yielded 67 Canberra residents who reported on organizations familiar to them, and on their immediate group within those organizations. Respondents were also asked to comment on any problems they encountered in completing the questionnaire. Most respondents identified their organization's purposes, and a wide variety was obtained.

On the basis of this pilot study, all scales were modified to maximize discrimination in the main study. The scale refinement technique was similar to the one used in the main study and which will be described later. In the course of refining the pilot scales, some variables were redefined and new scales constructed for them, but a retest was not possible in the time available. Although the range of organizations represented in the pilot study proved to be much wider than that obtained in the main study, the pretest pointed out many problems before the measures were utilized in a work environment.

3.3.2. QUESTIONNAIRES IN THE MAIN STUDY

The questionnaires combined attention to different methods and sources in order to improve the construct validity of the measures. After the group and organization scales for the members' reports were finalized, slightly reworded but equivalent items were prepared for use in the observers' and administrators' reports. The personality scales used in the members' reports were shortened versions of existing scales, and more objective, global indices were also used to provide alternatives to scale measures in some cases. One index, adapted from another source, was used as an alternative to a scale in the members' report, and others were specially developed as the sole measures of variables in the members' and observers' reports. Items had to be developed to assess individual characteristics in the members' report, opportunity for advancement in the administrators' report, the miscellaneous details asked of administrators, and the variables rated by the researcher. The various measures used will be described at an appropriate time, before the relevant analyses are presented.

The items in the members' report were arranged in consecutive sections focusing on group, organization, and individual matters, respectively. Involvement items were included in the section dealing with the organization. Within each section, items were directed at diverse behaviours and ordered to minimize response sets. (The complete members' report is included in Appendix A.1, p. 232.) This report contained the most questions and took respondents about 45 minutes to complete. The observers' report, the administrators' report, and the miscellaneous details sheet were brief and covered a narrow range of variables, but items were once again arranged to reduce the risk of response artefacts. For these reports, see Appendices A.2 (p. 245), A.3 (p. 249), and A.5 (p. 253), respectively.
The members', observers', and administrators' reports were tested on a few diverse groups, and a number of minor modifications were made before their widespread use in the main study. For each of the above questionnaires, the same version was administered to every group in the study. Space was also provided on questionnaires for a group number and for the names of the group and the organization to be displayed at appropriate points.

3.3.3. ADMINISTRATION OF QUESTIONNAIRES

 Usually, the questionnaires were left with a group after face-to-face contact was made with it. Face-to-face contact was preferable to clarify the aims of the study and to answer members' questions regarding confidentiality and feedback. Contact time was lengthy in some cases, but members usually agreed to participate once their questions had been answered. When a group had agreed to fill out members' reports, members were asked to agree on the group boundaries and on the appropriate organization (e.g., whether it was a department or a larger unit). This was to ensure that members were all reporting on the same collectivities. The distinction between the group and the organization was stressed, but to avoid confusion, the names of the group and the organization were written in advance at the beginning of the appropriate sections of the members' report. Each group member was given a members' report and a sealable envelope, each bearing an identifying number.

A five-digit number was coded for organization type, the organization, the group, and the respondent, e.g., 312-01 referred to organizations type no. 3 (education), organization no. 1, group no. 2, and respondent no. 1. Where more than 10 organizations were obtained within a type, group numbers began at 5 and the organization number was scored in multiples of 10 (the numbering system was only used for 'housekeeping' purposes). Members were told that the assignment of respondent numbers was arbitrary, that all reports were the same in other respects, and that they could exchange their reports at that time if they were dissatisfied. Members could complete the questionnaires at their own convenience, seal them in the envelopes provided, and leave them at a central collection point. Questionnaires were usually picked up in a week's time. Replies were anonymous, but the sealed envelope was used in case respondents' ages, duties, or handwriting were recognized by other interested persons. Even so, a large number of envelopes were returned with additional adhesive tape binding the seal and apertures.

Each group when contacted was asked to nominate two people who knew the group's activities

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3In a small number of cases, where face-to-face contact was not possible, the procedure to be followed (and its importance) was explained to an intermediary familiar with the group (e.g., a teacher). The replies obtained, spread throughout the sample but mainly among student groups, were consistent with those for other groups (in regression analyses, particularly). Thus, they did not appear to be affected by the variation in procedure.
well enough to provide an informed, but relatively unbiased, appraisal of it. It was preferred that
groups nominate the observers, since they should be in the best position to judge who could be
suitable informants. When the group could not be contacted directly, the intermediary suggested
appropriate persons (usually, on the advice of group members). These choices had to be ap­
proved by the investigator, who attempted to ensure that informants would be reasonably objec­
tive about the group and that multiple informants came from diverse contacts. Observers’ reports
(again with sealable envelopes) were left with informants once they had agreed to participate and
had the study purposes outlined to them. The name of the group and an identifying number were
displayed on the questionnaire. A four-digit number was used: the first three numbers as for the
members’ report, followed by the observer number. This number also appeared on the
envelope. The observers’ reports were usually collected at the same point as the members’
reports, but sometimes had to be picked up at a later date. Two people were required, but in
many cases groups were unable to provide more than one outsider familiar enough with the
group. Sometimes, where obtained groups were in close proximity to each other, one observer
completed separate observers’ reports for more than one group, or a member of one group acted
as an observer for another, if this was agreeable to the groups concerned.

Organization contact persons also suggested possible administrator informants for each group,
someone adjacent (but higher up) in the formal structure and knowledgeable about the group’s
relations with the organization. The administrators’ reports and sealable envelopes were left with
the informants after they had agreed to participate. The name of the group and organization had
been written on the questionnaire beforehand, both the report and the envelope bore a similar
number to that used for the observers’ reports, and it was made clear to administrators that the
scale items referred to members of that group. Two administrators were requested for each
group, but this was not always achieved. Sometimes, one administrator would complete separate
reports for more than one group. The miscellaneous details sheet was left with one administrator
who obtained the information from the relevant source and included the form in the envelope
along with the administrators’ report. Reports were usually collected at a later date, but some­
times were picked up at the same time as the other questionnaires.

3.4. MEASURES OF INVOLVEMENT DEVELOPED

Three kinds of involvement were measured from separate multiple-item scales included in the
members’ report. Each scale originally comprised 10 items, consisting of statements to which
respondents were required to tick ‘generally true’ or ‘generally false.’ Five items were direct­
worded and 5 reverse-scored. ‘Generally true’ was scored 2 and ‘generally false’ was scored 1
for direct-worded items.
Each scale included attitudes towards various facets of the organization, e.g., its goals and policies, its leaders, its practices, and the organization as a totality. Also, items were worded in terms of the respondent for both the alienative involvement and the calculative involvement scales, but in general terms for the moral involvement measure. This was in an effort to distinguish alienative involvement from moral involvement, by emphasizing personal estrangement in the former scale and the primacy of the collectivity implied in the latter. The utility of this technique is uncertain, as the two scales were substantially correlated \( r = -0.60 \), but Etzioni (1961) had described the two concepts as opposite ends of an involvement continuum anyway. Calculative involvement correlated -0.39 with moral involvement and -0.40 with alienative involvement—in both cases substantially lower than the scale reliabilities (see Table 4-1, p. 86)—indicating that it was distinct from them.

An overall scale refinement procedure was used in an attempt to reduce the overlap between some scales, including those of interest in this section. Details of the refinement procedure and its conclusions are outlined in Appendix D.1, p. 260. The alienative involvement and moral involvement scales were retained in their original forms, but since the original calculative involvement scale proved to be quite heterogeneous, the refined version was utilized in this study.

### 3.4.1. ALIENATIVE INVOLVEMENT

Alienative involvement was assessed from a 10-item scale, comprising such items as 'I ought to be given more opportunity than I have been given in this organization,' 'I don't feel accepted as a person in this organization,' and 'It never feels like a case of "me against them" in any relations with people higher up in the organization' (reverse-scored). (See Appendix D.2.1, p. 262, for the complete scale.) A few items were derived from indicators suggested by Seeman (1971), but applied to organizations in particular. Cronbach's (1951) reliability coefficient \( \alpha \) was .76 (based on 466 individual responses), with good item-total correlations throughout. Over 85 groups, \( \omega \) (Hays, 1963) was .49, indicating some agreement among members on the property and substantial differences among groups.\(^4\)

\(^4\)Omega-squared is the usual statistic used to indicate intra-group agreement and expresses the proportion of variance explained by the various groups, but omega is commensurate with alpha and correlation coefficients (Guilford & Fruchter, 1978, p. 241).
3.4.2. MORAL INVOLVEMENT

Moral involvement was also assessed from a 10-item scale and included items such as ‘The organization’s aims deserve the respect of everyone,’ ‘This organization is much better than most others of its type,’ and ‘The organization is founded on a force greater than ourselves.’ Over 466 individuals, the estimated reliability $\alpha$ was .65, with one item (118) having a very low item-total correlation (around .08). For details of the scale, see Appendix D.2.2, p. 262. The measure was negatively skewed, indicating that most respondents were able to affirm the items for their organization. Based on 85 groups, $\omega$ was .53, indicating reasonable intra-group consensus on moral involvement.

3.4.3. CALCULATIVE INVOLVEMENT

Calculative involvement comprised a 5-item scale with one item reverse-worded and reverse-scored. Examples of items are ‘Very few, if any, of the goals and policies of this organization really affect me,’ and ‘I work because I have to, and for that reason only.’ (Appendix D.2.3, p. 263, provides the complete scale.) Two items (169 and 175), originally part of a shortened version of Jackson’s (1967) Achievement scale, were included in the calculative involvement scale because they correlated more highly with the three most satisfactory of the original calculative involvement items than they did with items in any other scale (see the refinement procedure, Appendix D.1). Fortunately, the items in the revised scale covered a broad range of behaviour, from members’ activities to self-improvement, and were considered to represent the original concept quite well. The measure was positively skewed, indicating that the items were unacceptable for many people, but it was a useful measure. Cronbach’s $\alpha$ coefficient for the revised scale was .62 over 466 individuals, all item-total correlations were adequate, and Hays’ (1963) $\omega$ was .41 over 85 groups. So, to some extent, the scale distinguished among groups while being distinguishable from other involvement constructs.

3.5. MEASURES OF ORGANIZATION CHARACTERISTICS

Included in this section are measures of three kinds of organizational power, plus size and type of organization. Separate scales of the three kinds of organizational power were developed for the members’ report and the administrators’ report. These were similar except for a slight difference in wording to accommodate the different sources of information. The members’ and administrators’ scales each comprised 10 items, consisting of statements to which respondents were required to tick ‘generally true’ or ‘generally false.’ Five items were reverse worded and scored. ‘Generally true’ was scored 2 and ‘generally false’ was scored 1 for the direct-worded items. Another measure of organizational power was obtained from ratings supplied by the researcher, based on his own interpretation of the existing power structure.
The scales included indicators of various organizational influences on individuals' activities and situations within the organization. Following Etzioni (1961, p. 11), such influences included the organization as an entity, its leaders, and the directives and sanctions used. In the members' report, the recipient of remunerative power was the respondent, whereas the recipients of coercive and normative power were people at the respondent's level in the organization. This was done because the nature of remuneration may vary markedly even among participants at a particular organizational rank, and individuals may not be in a position to judge others' situations on this dimension. However, items in the administrators' report all pertained to most members of the group.

The purification process described in Appendix D.1 did not yield scales of organizational power that were more able to discriminate among groups or show better convergence between the three sources of measures. Also, there was little need to remove poor items from scales to improve their homogeneity, so the original scales were used in the final analysis. In general, the multiple-item scales of power were quite distinct within sources (466 individuals or 85 groups, as appropriate). The measures converged across sources (using group means), indicating that they were measuring similar constructs. Evidence for convergent and discriminant validities will be presented in the next chapter. However, at both individual and group levels, there appeared to be some confounding among member-reported normative power, alienative involvement, and moral involvement. Although the administrators' measure of normative power converged with the group mean of the members' measure, it did not correlate highly with the group means of the involvement measures and appeared to be a more suitable measure to use in the final analyses.

The rating scale used by the researcher did not perform very well. Coercive power and normative power were highly intercorrelated (negatively), and coercive power correlated highly with level of duties in the organization, indicating that extraneous factors may have influenced judgments of coercive and normative power. It appeared to be very difficult to measure organizational power in a valid way by this means.

3.5.1. COERCIVE POWER

Coercive power was defined as a continuum varying in strength depending upon the degree of choice available to members (see Section 1.2.1, p. 12, above). As discussed in Section 1.4, for the measure to be applicable to all organizations, coercive power would have to be defined in less physical terms than Etzioni (1961) viewed it, to include threats, overuse of rules, etc. Indicators of coercive power in the members' and administrators' reports therefore ranged from rules and regulations to the threat of physical punishment.
3.5.1.1. MEMBERS' REPORTS

Items in this scale included 'Rules and regulations have little to do with our activities in this organization' (reverse-scored), and 'The organization makes it unpleasant for those of us who depart from the required standards of conduct.' For the complete members' report scale of coercive power, see Appendix D.3.1.1, p. 263. The estimated reliability coefficient (Cronbach, 1951) for the scale was .62 over 466 individuals. Over 85 groups, \( \omega \) was .45, indicating some discrimination among groups and agreement among group members. Item-total correlations were generally adequate and similar in value, except for item 135, which had a value of .11. Although broad, the construct is a satisfactory measure.

3.5.1.2. ADMINISTRATORS' REPORTS

Items were slightly reworded versions of items in the members' report scale, and directed at most members of the group, rather than those at a particular rank. The equivalent items to those given in Section 3.5.1.1 are 'Rules and regulations have little to do with the members' daily activities' (reverse-scored), and 'The organization would make it unpleasant for any members who depart from the required standards of conduct.' See Appendix D.3.1.2, p. 264, for all scale items. All the items contributed equally to the total scale. The estimated reliability coefficient was .63, based on 142 separate administrators' reports. (See Table 3-2, p. 71.) Using the 58 groups where two administrators' reports were obtained, \( \omega \) was .54, showing reasonable inter-informant agreement and discrimination among groups.

3.5.1.3. RESEARCHER'S RATINGS

A five-point rating scale was used by the researcher to provide a third, global, estimate of the coercive power affecting each group. Definitely high was scored 5, probably high was scored 4, average, neither high nor low, was scored 3, probably low was scored 2, and definitely low was scored 1.

The researcher's scale of coercive power correlated only .36 with the administrators’ measure for the group and .26 with the mean score obtained from the group members, but -.69 with the researcher's rating of normative power, so it does not appear to be a good validating measure.

3.5.2. REMUNERATIVE POWER

Remunerative power is organizational power over material resources and rewards (see p. 12, above). The types of remuneration covered in the members' and the administrators' reports ranged from any form of payment (e.g., wages, allowances, and services) to additional monetary incentives (e.g., commissions). Again, this construct is quite broad.
3.5.2.1. MEMBERS' REPORTS

Examples of scale items are 'I never receive any payment for my activities in this organization' (reverse-scored), 'If I make a greater effort, I will receive more money in this organization,' and 'I receive more money in this organization than I could normally expect outside.' See the complete list of items in Appendix D.3.2.1, p. 265. Cronbach's (1951) coefficient $\alpha$ was estimated to be .62 over 466 individuals; two item-total correlations were low (items 104 and 137 had values around .12), but the reliability would have been only marginally improved by their removal. Over 85 groups, $\omega$ was .73, indicating good discrimination among groups and high inter-member agreement.

3.5.2.2. ADMINISTRATORS' REPORTS

Again, items in this scale were directed at most members of the group, rather than particular organizational ranks, and were worded accordingly. Items corresponding to those shown in Section 3.5.2.1 are 'The members are never paid for their activities in this organization' (reverse-scored), 'The members will be paid more if they work harder here,' and 'The members are paid more in this organization than they could normally expect outside.' For the complete scale, see Appendix D.3.2.2 (p. 265). In this scale, five items achieved high item-total correlations, with values up to .67. Cronbach's $\alpha$ was .75 over 142 administrators' reports. Over the 58 groups having two administrators' reports, $\omega$ was .72, indicating good inter-informant agreement regarding remunerative power.

3.5.2.3. RESEARCHER'S RATINGS

The rating scale used was similar to that employed for coercive power (see Section 3.5.1.3, p. 80). The measure of remunerative power correlated .49 with the group mean of the members' scores, .54 with the administrators' report scale, and correlated moderately with other measures of power from all sources. In this instance, the rating scale appears to be assessing something in common with the multiple-item scales used by group members and organization administrators.

3.5.3. NORMATIVE POWER

Normative power (appeal to the values and sentiments of members) included symbols used by the organization, caring for participants, and the presence of ideology. The measure therefore comprised a diverse range of indicators, covering practices used in different organizations.
3.5.3.1. MEMBERS' REPORTS

Scale items included 'People at our level in the organization are given a large say in how we operate,' ‘Those higher up often show us proof that the organization provides a good service,' and ‘The organization has no particular creed, or guide for living, or doctrine for us to follow' (reverse-scored). See Appendix D.3.3.1, p. 266, for the scale items. Cronbach’s α for this scale was .69 over 466 individuals. The item-total correlation for item 91 was low (.12), but others were adequate and similar to each other. Hays’ (1963) ω statistic in this case was .58, indicating reasonable agreement on the construct and differentiation among groups. As mentioned earlier, there was some confounding of this scale with member-reported alienative involvement and moral commitment (r = -.58 and .55, respectively); evidently members found it difficult to distinguish their circumstances from their reactions to these.

3.5.3.2. ADMINISTRATORS' REPORTS

Appropriately reworded items, some with emphases added, were directed at the group as a whole and included 'The members have a large say in how they operate within this organization,' ‘Those higher up often show the members detailed proof that the organization provides a good service,' and ‘The organization has no particular formal creed or doctrine for the members to follow' (reverse-scored). Scale items may be inspected in Appendix D.3.3.2, p. 267. Cronbach’s (1951) coefficient alpha was .66 over 142 reports, with two items (9 and 27) having low item-total correlations (.15 and .12, respectively). Hays’ (1963) ω over 58 groups was .71, again showing good agreement among the administrators on this construct.

3.5.3.3. RESEARCHER’S RATINGS

The rating scale used in Section 3.5.1.3, p. 80, was also used to provide a global assessment of normative power affecting each group.

Besides correlating -.69 with the ratings of coercive power, as noted above, this measure correlated .38 with the members’ group mean score, -.01 with the administrators’ measure for the group, and -.55 with the administrators’ scale of coercive power, so it does not appear to be an adequate measure of normative power.

3.5.4. ORGANIZATION SIZE

Organization size was obtained via the miscellaneous details sheet administered to an administrator or other authority. Two measures were obtained: 1) the number of formal participants, including employees and voluntary workers, and 2) the total number of participants, including school students, hospital patients, and association or society members, where appropriate. The second measure was based on Etzioni’s (1961) interpretation of organizational
boundaries, which did not include customers and clients, and was utilized in the analysis. After the organization had been specified on the questionnaire, the question asked was: 'How many people in total are there in this organization?

- Staff, employees, or volunteer workers
- Other regular participants, where appropriate.

(e.g., students in schools, patients, members of associations, societies, etc.)'

3.5.5. ORGANIZATION TYPE

Each participating organization in the study was given a dichotomous score (1 or 0) on each of the three organization types included in the study (business, health-welfare, education). For example, business firms were scored 1 on business and 0 on both health-welfare and education. Similarly, schools were scored 0 on both business and health-welfare, but 1 on education. Correlations of these scores with other variables gives an indication of the prevalence of the variables in the organizations of interest.

3.6. CHAPTER SUMMARY

This chapter outlined the study design, variables, data sources, sample, and measuring instruments, as well as procedures for soliciting participants and administration of questionnaires. A range of business, health-welfare, and educational organizations (with a lower size limit of 25) were obtained from the Canberra region. Only a few readily identifiable groups (with a minimum of three members) were solicited from each participating organization. Eighty-five groups (comprising 466 members) were obtained from 27 organizations. To check the validity of group members' replies, informants were used. Outsiders to the group (Observers) commented on how the group functioned internally, and administrators commented on how the group related with the organization. Two observers were found for 46 groups, and two administrators for 58. Most other groups provided one informant of each type.

Selected individual, group, and organization characteristics were to be investigated as predictors of Etzioni's involvement concepts. Group members completed Members' Reports (directed at all variables), observers completed Observers' Reports (another measurement source for group characteristics), and administrators completed Administrators' Reports (which were, for the most part, a second view of organizational power). The researchers' ratings provided another means of assessing group goals and the organizational power affecting those groups, while miscellaneous organization details (e.g., size) were obtained from an administrator or other relevant
source. Measures of organizational characteristics (from various sources) and member involvement were described, as these are pertinent to the next chapter. The measures of group and individual characteristics have been deferred until Chapters 5 and 7, respectively, before the relevant analyses are presented.
Chapter 4

ORGANIZATION CHARACTERISTICS AS PREDICTORS

As outlined in the previous chapter, the organization characteristics included in this study are its size, type (business, health-welfare, or education), and the modes of power (coercive, remunera­
tive, and normative) exercised over participants. This chapter firstly examines the adequacy of the measures of organizational power obtained from different sources (members, administrators, and researcher) and the measures of member involvement. After the appropriate measures of organizational power are selected, predictors of organizational involvement will be investigated. While this study is concerned with both group and individual levels of analysis, the latter is deferred until Chapter 7; this chapter and the next two report results at the group level of analysis. A multiple regression procedure will be used here to find which organization characteristics best predict each kind of involvement in groups, but before selecting the measurement source of organizational power to use in the regressions, the measures of power and involvement will be examined in some detail.

4.1. ADEQUACY OF THE POWER AND INVOLVEMENT MEASURES

4.1.1. MEMBERS’ MEASURES OF POWER AND INVOLVEMENT

Table 4-1 shows intercorrelations among the members’ assessments of organizational power and their involvement in the organization. The members’ reports of alienative and moral involve­ment were correlated -.60 (-.85, when corrected for unreliability of the measures), indicating some confounding between them. For this reason, the measures of alienative and moral involve­ment were combined into a single index of 20 items, with a reliability (Cronbach’s alpha) of .75. This composite, moral minus alienative involvement, appears to represent satisfactorily the concept of member commitment to the organization. Since Etzioni (1961) considered ‘commitment’ to be moral involvement (see Chapter 1, above), the composite will hereafter be referred to as ‘net commitment.’ Hay’s (1963) ω was .56 over 85 groups, showing some similarity in net commitment to the organization among members of each group. From Table 4-1, it may be seen that this commitment composite correlated -.44 with calculative involvement, so calculative involvement and net commitment may be considered as distinct, though negatively correlated, at the individual level of analysis.
It will remembered that members reported the coercive and normative power affecting individuals at the same organizational rank, and the remunerative power affecting themselves. The measures of power appear to be independent of each other, but the correlations among the variables central to Etzioni's compliance relations are not clear-cut. Member-judged coercive power correlated highest with alienative involvement (.17), and next highest (-.12) with the commitment composite. Remunerative power failed to correlate significantly with any involvement measure, and member-judged normative power appears to have been confounded with alienative and moral involvement. Apparently, group members found it difficult to distinguish the concept of normative power from their feelings of moral or alienative involvement in the organization. Each involvement measure actually correlated most highly with member-judged normative power, but calculative involvement appears to be distinct from normative power. The correlation between normative power and moral involvement ($r = .55$) is about the same, in absolute value, as that between normative power and alienative involvement ($r = -.58$), reflecting the high correlation between alienative and moral involvement. Net commitment was still confounded, however, with member-judged normative power: $r = .63$ (.88 when corrected for unreliability of the two measures).

Table 4-1: Intercorrelations Among Members' Scales of Organizational Power and Involvement

$(n = 466$ members)$

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Coercive Power</td>
<td>(.62)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Remunerative Power</td>
<td>- .01 ( .62)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Normative Power</td>
<td>.05</td>
<td>-.03</td>
<td>(.69)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Alienative Involvement</td>
<td>.17*</td>
<td>-.07</td>
<td>-.58*</td>
<td>(.76)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Calculative Involvement</td>
<td>.02</td>
<td>.02</td>
<td>-.34*</td>
<td>.40*</td>
<td>(.62)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Moral Involvement</td>
<td>-.04</td>
<td>.07</td>
<td>.55*</td>
<td>-.60*</td>
<td>-.39*</td>
<td>(.65)</td>
<td></td>
</tr>
<tr>
<td>7. Net Commitment (Moral minus Alienative)</td>
<td>-.12*</td>
<td>.08</td>
<td>.63*</td>
<td>-.88a</td>
<td>-.44*</td>
<td>.90a</td>
<td>(.75)</td>
</tr>
</tbody>
</table>

Note: Scale reliabilities, estimated from Cronbach's (1951) coefficient alpha, appear in parentheses.

a Spurious correlation due to inclusion of variables 4 and 6 in variable 7.

* $p < .05$
4.1.2. ADMINISTRATORS’ MEASURES OF ORGANIZATIONAL POWER

The measures of organizational power obtained from 142 separate administrators’ reports were independent of each other (i.e., uncorrelated), as shown in Table 4-2. The administrators’ reports pertained to an entire group, as a whole, and are therefore not directly comparable with the members’ measures. However, the two sources of measurement may be compared when the mean scores of each group are used.

Table 4-2: Intercorrelations Among Administrators’ Judgements of Organizational Power

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Coercive Power</td>
<td>(.65)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Remunerative Power</td>
<td>.09</td>
<td>(.75)</td>
<td></td>
</tr>
<tr>
<td>3. Normative Power</td>
<td>-.08</td>
<td>.07</td>
<td>(.66)</td>
</tr>
</tbody>
</table>

Note: Scale reliabilities, estimated from Cronbach’s (1951) coefficient alpha, appear in parentheses.

4.1.3. AGREEMENT AMONG ALTERNATIVE MEASURES OF POWER

Table 4-3 shows intercorrelations among the three kinds of organizational power affecting groups, obtained from members, administrators, and the researcher. For the researcher’s ratings, only a single score was obtained on each characteristic. The administrators’ measures were scale totals averaged over the number of administrators obtained for each group, and the members’ measures were group means of individual scale totals. The table utilizes the multitrait-multimethod framework discussed by Campbell and Fiske (1959).

From inspection of the monomethod triangles in Table 4-3, it may be seen that the mean members’ scores were independent at the group level of analysis (see intercorrelations among variables 1, 2, and 3). The mean administrators’ measures were also independent (variables 4, 5, and 6). However, the researcher’s rating of normative power was highly correlated with his rating of coercive power \( r = -.69 \), indicating that they are opposite poles of a continuum and therefore confounded. Although the administrators’ measures were uncorrelated and had reasonable alpha coefficients, halo effects may have contributed to the latter. Another way of representing reliability is with Hays’ (1963) omega statistic, which reflects the level of agreement among judges (members or administrators) relative to the overall variation in scores. The omega values for the administrators’ reports show that the measures distinguished among groups in much the same way as the members’ reports; omega values for coercive power were consistently lower.
Table 4-3: Intercorrelations Among Measures of Organizational Power From Different Sources
(n = 85 groups)

<table>
<thead>
<tr>
<th>Source:</th>
<th>Mean Members' Report</th>
<th>Mean Administrators' Report</th>
<th>Mean Researcher's Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td><strong>Members:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Coercive</td>
<td>(.62)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Remunerative</td>
<td>.07</td>
<td>(.62)</td>
<td></td>
</tr>
<tr>
<td>3. Normative</td>
<td>.02</td>
<td>-.13</td>
<td>(.69)</td>
</tr>
<tr>
<td><strong>Administrators:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Coercive</td>
<td>.49*</td>
<td>.08</td>
<td>-.17</td>
</tr>
<tr>
<td>5. Remunerative</td>
<td>-.04</td>
<td>.71*</td>
<td>.23*</td>
</tr>
<tr>
<td>6. Normative</td>
<td>-.02</td>
<td>-.09</td>
<td>.54*</td>
</tr>
<tr>
<td><strong>Researcher:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Coercive</td>
<td>.26*</td>
<td>.05</td>
<td>-.34*</td>
</tr>
<tr>
<td>8. Remunerative</td>
<td>-.14</td>
<td>.50*</td>
<td>-.19</td>
</tr>
<tr>
<td>9. Normative</td>
<td>-.30*</td>
<td>-.08</td>
<td>.38*</td>
</tr>
<tr>
<td><strong>Number of items</strong></td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Omega (Hays, 1963)</td>
<td>.45</td>
<td>.73</td>
<td>.58</td>
</tr>
</tbody>
</table>

Note: Scale reliabilities, estimated from Cronbach's (1951) coefficient alpha, appear in parentheses.

a No reliability or agreement estimate available from single item.
b Convergent validity coefficients are underlined.
c Omega for Administrators' Reports based on 58 groups.

* P < .05
than for the other characteristics. The lower omega values for the coercive power scales may be due to the small range of coercive power represented in the groups.

The rectangular blocks of correlations within Table 4-3 (the heteromethod blocks) show intercorrelations among traits measured from different sources. The figures in the diagonals are correlations between measures of the same traits obtained from different methods (or sources), and are the convergent validity coefficients for each organization characteristic. The convergent validities are quite high and significant for the members’ and administrators’ measures, indicating that the two sources assessed something in common. Also, these coefficients are higher than the correlations of the trait with other traits measured by different methods (within the heteromethod blocks), and the correlations of the trait with other traits measured by the same method (within the monomethod triangles). The only significant correlation off the validity diagonal (within the heteromethod block for the members’ and administrators’ measures) is that between the members’ report of normative power and the administrators’ report of remunerative power ($r = .23$), but this value is well under each measure’s validity coefficient. Thus, the members’ and administrators’ measures appear to have achieved a high degree of convergent and discriminant validity, i.e., three distinct traits were measured from these two sources. While the ‘objects’ rated within each source were different (e.g., members reported on individuals at a given rank and administrators judged whole groups), the measures obtained in each case were similar multiple-item scales. The items were similar in content and format and could have helped produce the observed convergence.

The researcher’s ratings of the three kinds of power did not, in the main, discriminate well among comparable measures obtained from either the members or administrators, mainly because of the confounding noted earlier between the researcher’s ratings of coercive and normative power. The convergent validity coefficients for the members’ and researcher’s measures of coercive and normative power, or for the administrators’ and the researcher’s measures, were generally low (though often significant). These coefficients were usually smaller than correlations of the trait with other traits measured from different sources; i.e., discriminant validities were also poor. One exception is the researcher’s rating of remunerative power. This produced a good convergent validity coefficient when compared to both the members’ and the administrators’ measures—for each source, the validity coefficients were higher than correlations among ratings of remunerative power and the other two measures of power (same and different sources). However, since the ratings of coercive and normative power were unsuitable, nothing definitive may be said about the adequacy of the remunerative power ratings by the researcher. It would appear that little would be gained by including the researcher’s ratings of remunerative power in the analyses, so they will be ignored.
4.2. THE GROUP AS UNIT OF ANALYSIS

This section first of all investigates intercorrelations among measures of organizational power, other organization characteristics, and member involvement, using the group as the unit of analysis. This will be followed by regression analyses for each kind of group involvement under investigation. The emphasis is on the total sample of groups, but further regressions may be included for groups of employed respondents if that is found to be necessary.

4.2.1. INTERCORRELATIONS AMONG GROUP SCORES

As shown above, three distinct types of organizational power have been measured at the group level, from group members and organization administrators. Therefore, the predictors of concern may be from either source taken separately, or composite scores could be calculated to take into account differences, as well as similarities, in the perspectives of group members and organization administrators. The members’ and administrators’ measures were separately intercorrelated with measures of other organization characteristics and member involvement. Then, for each kind of organizational power, the measures obtained from different sources were combined to give a mean score on that power, and intercorrelations of these scores with the other variables of interest were compared to those obtained for each separate source. Frequency histograms were constructed for the variables in each correlation matrix, and if the distribution of any measure was highly skewed, an attempt was made to transform the variable using either common logarithms or square roots. Organization size was transformed using logarithms, and a square root transformation was used for group mean calculative involvement.

Table 4-4 shows intercorrelations, computed over groups, among the member-reported measures of organizational power, other organization characteristics, and the mean involvement of group members. Intercorrelations among the measures of mean member involvement were larger than those obtained at the individual level of analysis (reported in Table 4-1), apparently caused by the averaging of individual involvement scores. The composite involvement measure (mean net commitment) was highly correlated with calculative involvement \( r = -.59 \), indicating that the two measures of attitude were possibly confounded at the group level of analysis. (It will be remembered that calculative involvement appeared to be distinct from alienative involvement, moral involvement, and net commitment at the individual level of analysis; see Table 4-1.) The members’ reports of involvement were clearly confounded with their reports of normative power when mean group scores were considered. The group mean of member-reported normative power correlated \(-.60\) with their mean alienative involvement, \(-.41\) with their mean calculative involvement, and \(.62\) with their mean moral involvement within the group. Coercive power was distinguishable from all other measures, and was moderately correlated with alienative
### Table 4-4: Intercorrelations Among Member-reported Organizational Power, Other Organization Characteristics, and Mean Member Involvement in Groups (n = 85 groups)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
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<th>8</th>
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<th>10</th>
<th>11</th>
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<tbody>
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<td><strong>Organizational Power:</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Coercive</td>
<td>(.62)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Remunerative</td>
<td>.07</td>
<td>(.62)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>3. Normative</td>
<td>.02</td>
<td>-.13</td>
<td>(.69)</td>
<td></td>
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<td><strong>Organization Characteristics:</strong></td>
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<td></td>
</tr>
<tr>
<td>4. Business Type</td>
<td>.22*</td>
<td>.50*</td>
<td>.03</td>
<td>(a)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Health-welfare Type</td>
<td>-.25*</td>
<td>-.02</td>
<td>-.28*</td>
<td>-.53*</td>
<td>(a)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>6. Education Type</td>
<td>.03</td>
<td>-.50*</td>
<td>.25*</td>
<td>-.50*</td>
<td>-.47*</td>
<td>(a)</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>7. Organization Size (log)</td>
<td>-.09</td>
<td>-.01</td>
<td>-.18</td>
<td>-.17</td>
<td>.09</td>
<td>.08</td>
<td>(a)</td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Member Involvement:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Alienative</td>
<td>.24*</td>
<td>-.07</td>
<td>-.60*</td>
<td>-.01</td>
<td>.05</td>
<td>-.05</td>
<td>.26*</td>
<td>(.76)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Calculative (sq rt)</td>
<td>.16</td>
<td>.13</td>
<td>-.41*</td>
<td>.18</td>
<td>-.10</td>
<td>-.09</td>
<td>.16</td>
<td>.59*</td>
<td>(.62)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Moral</td>
<td>-.14</td>
<td>.07</td>
<td>.62*</td>
<td>.10</td>
<td>-.03</td>
<td>-.07</td>
<td>-.15</td>
<td>-.71*</td>
<td>-.51*</td>
<td>(.65)</td>
<td></td>
</tr>
<tr>
<td>11. Net Commitment (Moral minus Alienative)</td>
<td>-.20</td>
<td>.07</td>
<td>.66*</td>
<td>.06</td>
<td>-.05</td>
<td>-.01</td>
<td>-.22*</td>
<td>-.93b</td>
<td>-.59*</td>
<td>.93b</td>
<td>(.75)</td>
</tr>
</tbody>
</table>

Note: Scale reliabilities, estimated from Cronbach's (1951) coefficient alpha, appear in parentheses.

- **a** No reliability estimate available from single item.
- **b** Spurious correlation due to the inclusion of variables 8 and 10 in variable 11.
- * p < .05
involvement. Just as remunerative power failed to correlate with any involvement measure at the individual level of analysis, so it failed to correlate significantly with any at the group level. The power-involvement correlations were also slightly inflated from those at the individual level of analysis (see Table 4-1), but not to the same degree as the involvement intercorrelations. This was due, in part, to the global nature of the measures of power (evidenced by the within-group agreement on those scores, even though the measures were not specifically directed at the group).

Table 4-4 also shows intercorrelations among member-reported measures of organization power and the type of organization (business, health-welfare, or education). Business firms tended to exercise high remunerative power over their members, together with a degree of coercive power. Groups within health and welfare agencies tended to experience the least coercive and normative power. The least remunerative power and the most normative power were found within educational institutions. (The former is to be expected because a large number of student groups were included.) Finally, it may be seen that organization size correlated .26 with mean alienative involvement within the group, and -.22 with the group’s mean net commitment score. That is, larger organizations tended to have lower levels of commitment among their participants.

When the administrator-reported measures of organization power were substituted for the member-reported measures, the variations may be inspected in Table 4-5. The measure of normative power from administrators’ reports correlated highest with group mean moral involvement, as expected, and the two variables were clearly distinguishable there. While most measures of member involvement were confounded with member-reported normative power in the previous table, they were more closely related to coercive power when the administrators’ assessments of power were utilized. But this effect was by no means uniform. Mean alienative and mean moral involvement were most strongly related to administrator-reported coercive and normative power, respectively, providing some support for two of Etzioni’s postulated compliance relations. Net commitment (moral minus alienative involvement) showed similar relations (in opposite directions) with coercive and normative power.

The alternative approach, using a composite of the two sources of organizational power in the intercorrelations, is included in Appendix Table E-1, p. 278. In that table, most measures of involvement were still highly correlated with normative power; while these correlations were smaller than those obtained at the individual level of analysis (Table 4-1), they still reflected the strong contribution of member-reported normative power. On the other hand, intercorrelations involving the composite measure of coercive power were clearly boosted by the administrators’ scores; four correlations were even larger than those obtained when the administrators’ measures
Table 4-5: Intercorrelations Among Administrator-reported Organizational Power, Other Organization Characteristics, and Mean Member Involvement in Groups
(n = 85 groups)

<table>
<thead>
<tr>
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<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<th>8</th>
<th>9</th>
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</thead>
<tbody>
<tr>
<td>Coercive</td>
<td>(.63)</td>
<td>.08</td>
<td>.10</td>
<td>-.01</td>
<td>(.66)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remunerative</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
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<tr>
<td>Normative</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Business Type</td>
<td>.25*</td>
<td>.55*</td>
<td>.08</td>
<td>(a)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Health-welfare Type</td>
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<td>.01</td>
<td>-.30*</td>
<td>-.53*</td>
<td>(a)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Education Type</td>
<td>.02</td>
<td>-.59*</td>
<td>.23*</td>
<td>-.50*</td>
<td>-.47*</td>
<td>(a)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organization Size (log)</td>
<td>.01</td>
<td>.03</td>
<td>.01</td>
<td>-.17</td>
<td>.09</td>
<td>.08</td>
<td>(a)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alienative</td>
<td>.30*</td>
<td>-.02</td>
<td>-.21</td>
<td>-.01</td>
<td>.05</td>
<td>-.05</td>
<td>.26*</td>
<td>(.76)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calculative (sq rt)</td>
<td>.44*</td>
<td>.14</td>
<td>-.04</td>
<td>.18</td>
<td>-.10</td>
<td>-.09</td>
<td>.16</td>
<td>.59*</td>
<td>(.62)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moral</td>
<td>-.22*</td>
<td>.09</td>
<td>.24*</td>
<td>.10</td>
<td>-.03</td>
<td>-.07</td>
<td>-.15</td>
<td>-.71*</td>
<td>-.51*</td>
<td>(.65)</td>
<td></td>
</tr>
<tr>
<td>Net Commitment (Moral minus Alienative)</td>
<td>-.28*</td>
<td>.06</td>
<td>.24*</td>
<td>.06</td>
<td>-.05</td>
<td>-.01</td>
<td>-.22*</td>
<td>.93b</td>
<td>-.59*</td>
<td>.93b</td>
<td>(.75)</td>
</tr>
</tbody>
</table>

Note: Scale reliabilities, estimated from Cronbach's (1951) coefficient alpha, appear in parentheses.
(a) No reliability estimate available from single item.
(b) Spurious correlation due to inclusion of variables 8 and 10 in variable 11.
*p < .05"
were used (reported in Table 4-5, above). The distortion resulting from the members' reports of normative power, in particular, may be serious enough to warrant the use of administrator-reported organizational power in the regression analyses. When the measures of power and involvement come from different sources, the intercorrelations are not inflated by halo effects from a common source; therefore a more conservative test of the actual relationships between dependent and independent variables may be obtained.

Since each source of remunerative power failed to correlate significantly with any involvement measure in any of the tables included above, the relationships between the measures of organizational characteristics and group mean involvement were examined more closely within organization type, and (for remunerative power only) groups of employed respondents were separately considered. As indicated above, whether the measures of organization power came from members, administrators, or a composite of both (see Table 4-4, Table 4-5, and Appendix Table E-1, respectively), the intercorrelations among the three types of organization power, other organizational characteristics, and involvement were similar. Because of this similarity, and the fact that administrators' measures are to be used in later analyses, only those intercorrelations involving administrator-reported organizational power will be discussed here. The main concern at this stage is to detect inconsistencies which may reduce an expected significant power-involvement relation to a nonsignificant one. Another concern is to ensure that relations between the organization characteristics and member involvement are consistent throughout the sample.

When the various measures of organization characteristics were each correlated with the four types of involvement within business firms, health-welfare agencies, and educational institutions (over 31, 28, and 26 groups, respectively), the correlations for each type of involvement were fairly consistent across subsamples in sign or level of significance, and consistent with correlations for the total sample. A significance test for a combination of tests was used for this purpose (Jones & Fiske, 1953). In one case, the correlation between normative power and calculative involvement within one organization type differed from other organizations in sign, but all correlations (including that for the total sample) were nonsignificant. For remunerative power, however, the situation was quite different. Within health-welfare agencies, correlations between remunerative power and all types of involvement were opposite in sign to those obtained for other organizations, and were usually significant at the .05 level (using two-tail tests). Thus, remunerative power exerted a distinctive effect on all types of involvement within health-welfare agencies, resulting in nonsignificant correlations being observed for the total sample of groups.

Regarding the most problematic compliance relation, the correlation between remunerative power and mean calculative involvement was -.33 (NS) for business firms, .63 within health-
welfare agencies \( (p < .01) \), and \(-.44\) for educational institutions \( (p < .05) \). The negative correlation within educational institutions may be expected due to the inclusion of school students, but the result is less clear-cut for business organizations. As already pointed out, health-welfare agencies appear to have displayed both high and low levels of remunerative power (see Table 4-5) accompanied by lower than average levels of coercive and normative power. In business firms, on the other hand, high remunerative power was apparently accompanied by a broad range of normative power and higher than average levels of coercive power, so remunerative power probably did not predominate there. In sum, the power-involvement correlations in Table 4-5 appear to be realistic for coercive and normative powers, but those involving remunerative power are misleading because of the differential effects of that variable by organization type. The interaction between remunerative power and organization type may be explored in the regression analyses as a possible organization-level predictor of calculative involvement if no other effects are found.

When groups of employed respondents were considered \( (n = 69 \text{ groups}) \), remunerative power correlated \(.23\) with group mean calculative involvement, but (like the relationship observed for the total sample), just failed to reach the \(.05\) level of significance using a two-tail test. Removal of student and volunteer groups obviously could not alter the obtained negative correlation between remunerative power and calculative involvement within business firms, as all business groups were employees. In fact, upon closer examination, such a technique only served to reduce the range of the remunerative power measure while producing similar (but less clear-cut) results to those for the total sample. Therefore, the differential effect for remunerative power apparently was not caused by the inclusion of nonpaid groups, and the regression analyses will focus on the total sample.

4.2.2. REGRESSION ANALYSES FOR TOTAL SAMPLE OF GROUPS

Separate hierarchical regression analyses were carried out with the different kinds of involvement as the dependent variables. The dependent variables were intercorrelated, but separate multiple regression analyses were conducted because no dependent variable was expected to cause any other and all were expected to be effects of independent variables (see Cohen & Cohen, 1975, p. 441). In a wider sample of groups (where different kinds of involvement may coexist), perhaps the dependent variables would be intercorrelated to a lesser extent. Independent variables were introduced in several stages, from the most theoretically relevant to unpredicted residual effects. The order of entry for intermediate variables was dictated by the logic of the research. The independent variable in the first instance was limited to the kind of organizational power hypothesized to be the strongest predictor of the involvement in question. At subsequent stages, the remaining
kinds of power were entered, followed by organization size. A check was then made for the effects of organization type. The measure of organization type had to be recoded to avoid redundancy in the regression analysis and, most commonly, effects coding was employed (Cohen & Cohen, 1975). Effects coding permitted comparison of each type of organization with the overall sample mean on the dependent variable. Contrast coding was used in one such application, for a particular task, but the variance explained by a nominal scale remains the same for all methods of coding. At the final stage, a check was made for unpredicted residual effects, in the form of interactions among the three kinds of organizational power, and between remunerative power and contrast-coded organization type.

In the regression procedure used, the emphasis is on explanation rather than prediction, although both are implicated, and the information most typically employed for this purpose is the sign of partial regression coefficients and whether such coefficients depart from zero (Cohen & Cohen, 1975, p. 114). The magnitude and stability of regression coefficients is also of concern here. Prediction depends more upon the accuracy of the combination of coefficients in the population and requires special considerations (the surest way being cross validation). The hierarchical analysis proceeds by sets of independent variables, where a set may contain one variable or several. Sets may be structural (representing a single research factor in all its aspects; e.g., organization type), or functional (grouped by substantive content; e.g., organizational power). Variables in the set are entered in order of decreasing tolerance (proportion of variability in an independent variable not explained by other variables in the equation), but are treated as a block for some statistical purposes. At each stage, the contribution of the incoming set to variance in the dependent variable is calculated, and a simultaneous analysis is carried out for the independent variables in the equation up to that point. The simultaneous analysis provides the independent contribution of each independent variable to the dependent variable.

The contribution of each incoming set to the dependent variable is tested for significance, and the variables within the set are tested for significance only if the set is significant. This use of Fisher’s protected t test is an attempt to limit the cumulative Type I error rate for the analysis, so that variables are less likely to be significant by chance. Model I error (based on the independent variables in the equation up to that point in the hierarchy) is used in the significance tests, as provided by standard computer output. This error model is preferred by Cohen and Cohen (1975, p. 143) especially when the sample size is small, the number of sets is large, the number of variables to be included is large, and if sets are likely to add small amounts of variance to the dependent variable. Some of these factors affect the power of the regression procedure to detect effects. Power is increased by large sample size, large effect size, and large probability of Type II error (failing to find a significant effect when one should be found). Other things being equal, an
increase in the probability of Type I errors increases power because the probability of making Type II errors is reduced. Using conventional error rates, the number of groups in this study was sufficient to detect ‘medium’ effects (Cohen & Cohen, 1975) in the dependent variable after the inclusion of eight independent variables, and large effects after about 10. Although Type I errors must be controlled as much as possible, it was considered more important here to reduce Type II errors rather than Type I; it is better to find some false predictors than it is to fail to find expected predictors when these occur. Thus, the Type I significance level used in tests will be .05.

A number of coefficients are computed at each stage in the simultaneous analysis for all the independent variables in the equation. These are partial regression coefficients, as distinct from the standardized simple regression coefficients \( r \). Rate-of-change coefficients include the partial and standardized partial regression coefficients \( b \) and \( \beta \), respectively. The most widely used is beta, which indicates the increment or decrement in the dependent variable (in standard deviation units) when the predictor variable is increased by one standard deviation. Beta is a point estimate of a population parameter and is equivalent to the simple correlation \( r \) between the independent and dependent variables when there is only one predictor in the equation. Also computed are measures of association between the dependent variable and each independent variable in the equation. These are 1) partial correlations (where other variables in the equation are partialled out of both the independent and dependent variables), and 2) semi-partial correlations (where the other variables are partialled out of the independent variable only). All these coefficients are tested for significance using a \( t \) test. The square of the semi-partial correlation coefficient represents the predictor’s unique contribution expressed as a proportion of the total variance in the dependent variable, and for each new set indicates the absolute change in the explained variance due to the addition of that set.

Among the coefficients computed for the equation are the coefficient of multiple correlation \( R \), the coefficient of multiple determination \( R^2 \), and their associated \( F \)-values. \( R \) is the measure of association between a dependent variable and an optimal combination of two or more independent variables. \( R^2 \) for the equation refers to the goodness of fit for the linear model, or the proportion of variance in the dependent variable explained by the predictors in the equation (weighted by their beta coefficients). Cumulative \( R^2 \) is the contribution of the first variable entered, plus the independent contribution of each set entered thereafter. Thus, the hierarchical method provides an ordered variance partitioning procedure, where priority is given to the most relevant variables and least is accorded to unpredicted effects. The sample \( R^2 \) tends to overestimate the population value of \( R^2 \), but adjusted \( R^2 \) attempts to correct the optimistic bias and is the preferable measure of goodness of fit (Kleinbaum & Kupper, 1978). When there is only one predictor in the equation, \( R \) is also equivalent to \( r \) and \( R^2 \) is equivalent to \( r^2 \).
A number of factors may contribute to the $R^2$ obtained. When the predictors are correlated zero, $R^2$ is the sum of the squared correlations between each predictor and the dependent variable, and if all such (uncorrelated) predictors are highly correlated with the dependent variable, $R^2$ is expected to be large (Guilford & Fruchter, 1978, p. 380). If highly intercorrelated predictors are unevenly correlated with the dependent variable, $R^2$ may be increased, sometimes substantially so. These are suppressor effects, of which there are three types: classical, net, and cooperative (Cohen & Cohen, 1975). Suppression is indicated whenever a beta coefficient falls outside the limits defined by its simple correlation (with the dependent variable) and zero. Classical suppression is evident where a variable has a zero (or very small) correlation with the dependent variable but correlates instead with a predictor which does correlate with the criterion. Net suppression is signalled where a variable’s beta is opposite in sign to its simple correlation. Cooperative suppression is most clearly visible where a variable’s beta exceeds its simple correlation of the same sign.

The function of suppressor variables is to suppress in other independent variables that variance which is irrelevant to the dependent variable but is present in variables that do otherwise correlate with the criterion (see Guilford & Fruchter, 1978, p. 381; Howell, 1982, p. 433). The inclusion of suppressor variables in regression equations improves prediction by taking account of fluctuations in the dependent variable due to systematic but otherwise unimportant influences. Although negative partial coefficients will be attached to the variable with the smallest (zero or nonzero) simple correlation with the dependent variable, suppression is fully symmetrical and the researcher may concentrate on its partial relationship with the dependent variable rather than that of the other independent variable. Whereas simple correlations fall between -1 and +1, beta coefficients may exceed these limits under conditions of suppression (Cohen & Cohen, 1975). Also, where suppression occurs, the sum of squared semi-partial correlations exceeds the sample $R^2$ when there are two independent variables, but it may or may not do so when more than two predictors are in the equation.

As intercorrelations among the predictors increase (while their correlations with the dependent variable remain high), a lower $R^2$ is achieved; there may be little advantage in including the additional predictors. This indicates redundancy among the independent variables or, where this is pervasive, multicollinearity. The partial and semi-partial correlations for each independent variable will be smaller than its simple correlation and have the same sign. Complete redundancy is indicated by zero partial regression coefficients despite reasonable-sized simple correlations. Then the relationship is considered spurious because the significant correlation is due to the fact that both the variable in question and the dependent variable are causally dependent upon the other independent variable (Cohen & Cohen, 1975). Multicollinearity may be high even without
high intercorrelations among independent variables, and SPSS\textsuperscript{x} provides diagnostics for its detection. Hierarchical multiple regression may be used to advantage in such situations, to show the relative contribution of the independent variables according to the order dictated by the research. In any case, to fully describe effects, it is necessary to interpret partial coefficients in relation to the corresponding simple correlations.

When there are excessively-high correlations among the independent variables, beta coefficients are liable to fluctuate from sample to sample, even though $R^2$ may remain fairly stable. Regression coefficients may also be affected by unreliability of the predictor measures, and this is taken into account when the coefficients are computed (Guilford & Fruchter, 1978, p. 393). Some writers (see Howell, 1982, pp. 440-442) consider a rank ordering of squared semi-partial correlations (i.e., of each predictor’s $R^2$ change value if removed separately from the equation) to provide a more useful indication of the relative importance of predictors in the equation; predictors may then be ranked according to their $t$-values. This is because beta (or beta-squared) does not say anything about the variance in the dependent variable that is shared by significant predictors but which at the same time is part of each predictor’s contribution to the dependent variable. However, provided that beta coefficients are interpreted with caution, they may provide a reasonable estimate of the relative importance of predictors in the equation (Howell, 1982, p. 420).

The degree of suppression and redundancy affecting the size of beta may be determined. The method described by Cohen and Cohen (1975, Appendix 2) partitions a variable’s beta into 1) the independent effect of the variable if all the linear relationship between it and other variables were independent of the variable’s relationship with the dependent variable (usually not the case in practice), and 2) the effects of each other independent variable on the relationship between the focal independent variable and the dependent variable, in the context of the remaining variables in the equation. For the focal independent variable, elements of the inverted correlation matrix for $k$ independent variables are multiplied by the simple correlation for each independent variable in the equation. The sum of these $k$ products yields the beta obtained in the regression analysis, and the components derived from other variables indicate how that variable’s beta in (1) above is affected by the other variables in the equation. Suppression and redundancy effects may be conservatively tested for significance. If each component of the product is found to be significant using $t$ tests, the suppression or redundancy effect is considered to be significant. This technique is helpful to explain why independent variables with nonsignificant simple correlations become significant predictors (and vice versa).

For prediction, the consequences of assumption failure are likely to be much more serious than for analytic purposes, and cross validation is generally used. However, only extreme departures of
the dependent variable from normality can yield spurious results, because the statistical tests used in multiple regression are quite robust (Kleinbaum & Kupper, 1978, p. 137). This is particularly so if the sample size is not small, but the level of significance may be somewhat over- or under-estimated (Cohen & Cohen, 1975, p. 49). The assumptions of multiple regression, for inference-making purposes, are linearity of the dependent variable on the independent variables, statistical independence of dependent variable scores, normally distributed scores on the dependent variable for any combination of independent variables, and constant variance of the dependent variables at each level of the independent variables (Kleinbaum & Kupper, 1978, pp. 136-137). Graphical methods in the SPSS® regression procedure provide a check on whether the assumptions have been violated. In this study, linearity and homogeneity of variance were ascertained from a standardized scatterplot for each equation and standardized partial residual plots for each independent variable in the equation. Normality was gauged from both the histogram of standardized residuals and the normal-probability plot. Independence of dependent variable observations was checked by the Durbin-Watson test. These checks indicated whether the transformations performed were satisfactory, and whether any benefits would be gained by further transformations or by adding other variables.

As an alternative to the usual method of data-splitting for cross validation, the validity of the model may be ascertained using deleted residuals. This method is described by Myers (1986, pp. 106-107). The deleted residual for each observation is the prediction error or departure of the dependent variable score from the regression line computed without that observation. All scores are briefly set aside for each observation in turn, and the predicted score for each deleted observation is the regression function evaluated using the independent variable scores for that observation. Scores on the dependent variable are therefore independent of the predicted scores. Since each score on the dependent variable is not simultaneously used for fit and model assessment, the method is a true test of validation. The fitting sample for each observation is of size n - 1, and n validations are obtained. An $R^2$-like statistic is calculated by dividing the sum of squares of deleted residuals (prediction error sum of squares) by the sum of squares of dependent variable scores (the total sum of squares), and the result is subtracted from 1. This statistic ($R^2_{Pred}$) reflects the model's prediction capabilities (see Myers, 1986). Further diagnostics may be used to detect influential observations and their effects on model fit and regression coefficient stability.

When interactions were investigated as unpredicted residual effects, the procedure was similar to that outlined by Cohen and Cohen (1975, Chapter 8). The interaction is not the product of variables, but the product with the component variables partialled out, so the product must be entered into the equation after the component variables. Except for nominal scale variables, each measure of an independent variable appropriate to an interaction was standardized so that their
product would be less likely to correlate highly with component variables and other predictors, allowing adequate separation of their effects. Since the ‘raw score’ units of the quantitative scales affected were totals of standardized item scores, scale totals were not distributed as standard scores and were not inherently meaningful anyway. Nominal scaling provides advantages for summarizing effects and in their meaningfulness, and little would be gained by standardizing them. Nominal scales are also unlikely to cause problems of confounding or computation errors when used in product terms, in contrast with the units of some quantitative scales. To help establish the nature of the relationship between the interaction variables and the dependent variable, each interaction found to be significant was presented in graphical form. The computation of simple effects for this purpose requires the use of raw score coefficients (now in standard units), so these will be reported along with betas when interactions are significant.

In the regressions to follow, the predictor variable mean was substituted for any missing scores encountered, but these were relatively few. There were no missing scores on the dependent variables. Multicollinearity was not a problem, so intercorrelations among the independent variables will not be discussed unless these become interesting. Most intercorrelations among measures are reported in Table 4-5, but because some groups were removed to satisfy the regression assumptions and means were substituted for missing scores, some simple correlations may vary from the values reported in that table. Since multicollinearity did not occur and squared semi-partial correlations were ordered similarly to the corresponding betas, the sizes of the beta weights in the following analyses are generally meaningful. For each dependent variable, the hierarchical analysis showing the cumulative $R^2$ series is reported first, followed by the simple and partial regression coefficients for all the variables in the equation at the final stage. To assist interpretation of betas, the extent of redundancy and suppression among independent variables will be investigated, along with influential observations. Finally, the model’s prediction capabilities will be reported.

4.2.2.1. GROUP MEAN ALIENATIVE INVOLVEMENT AS DEPENDENT VARIABLE

Table 4-6 summarizes the hierarchical regression analysis, showing the increment in adjusted $R^2$ for each set of independent variables added to the equation. The analysis was carried out using 84 groups, as one business group was removed to satisfy the regression assumption of normality (its Studentized residual was $> 3$ in absolute size). Administrator-reported coercive power was added first and explained 6% of the variance in the dependent variable. Remunerative power and normative power together added almost 6% at the next stage, largely due to normative power ($t = -2.651, p < .05$). The logarithm of organization size explained a further 6% of group mean alienative involvement. Using effects-coded organization type (with two variables comparing business firms and health-welfare agencies with the total sample of groups), no significant incre-
ment in $R^2$ was detected, $F(2, 77) = .334$. Interactions between coercive power and each of
remunerative and normative power also did not significantly add to the variance explained, $F(2, 77) = 2.781$, so the final equation contained the variables presented in Table 4-6. Almost 18% of
the variance in the mean alienative involvement for groups was explained by the four predictors.

Table 4-6: Hierarchical Regression Analysis for Group Mean Alienative
Involvement on Organization Characteristics

<table>
<thead>
<tr>
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<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Coercive Power</td>
<td>.060</td>
<td>.060</td>
<td>1.82</td>
<td>.060</td>
<td>6.329*</td>
<td>1.82</td>
</tr>
<tr>
<td>b. Remunerative &amp;</td>
<td>.116</td>
<td>.056</td>
<td>3.80</td>
<td>.056</td>
<td>3.577*</td>
<td>2.80</td>
</tr>
<tr>
<td></td>
<td>Normative Power</td>
<td>.178</td>
<td>.062</td>
<td>4.79</td>
<td>7.072*</td>
<td>1.79</td>
</tr>
<tr>
<td>c. Orgn. Size (log)</td>
<td>.178</td>
<td>.178</td>
<td>4.79</td>
<td>.178</td>
<td>7.072*</td>
<td>1.79</td>
</tr>
</tbody>
</table>

Note: Cum. $R^2$ and $R^2$ Cha. are adjusted population estimates.

* $p < .05$, based on 84 groups.

The simple and partial regression coefficients for each of the variables in the equation at the
final stage are given in Table 4-7, in the order these entered the hierarchy. Of the four inde­
dependent variables entered, only coercive power, normative power, and the logarithm of organiza­
tion size were significant. Coercive power had the highest beta (.299), followed by normative
power (.277) and organization size (.265). For example, increasing coercive power by one stan­
dard deviation tends to increase the dependent variable by .299. The semi-partial correlations
were ordered similarly to the betas, which thus reflect the relative importance of the predictors.
The squares of the semi-partial correlations suggested that coercive power uniquely explained the
most variance in the dependent variable (almost 9% of sample $R^2$). This amount is encouraging,
considering that administrator-reported coercive power provides a conservative test of the
hypothesis that coercive power is related to alienative involvement within groups. When 95%
confidence intervals were computed for each beta (ignoring its sign), all contained many common
values, so no evidence could be provided to show that the predictors would differ significantly in
the population. The strong performance of normative power reflects the confounding between
alienative and moral involvement, and hence the indiscriminability of their predictors.

Suppressive effects were evident because the betas for all measures of organizational power in
Table 4-8 were above their corresponding $rs$ and the sum of the squared semi-partial correlations
exceeded total (unadjusted) $R^2$ for the sample. Although correlations among the different kinds of
organizational power were low, a little cooperative suppression appeared to occur between coer­
cive and normative power. The two variables correlated .097, while each correlated about the
### Table 4-7: Simple and Partial Regression Coefficients For Organization Characteristics With Group Mean Alienative Involvement as Dependent Variable

<table>
<thead>
<tr>
<th>IVs Added</th>
<th>Source</th>
<th>$r$</th>
<th>$sr$</th>
<th>$\beta$</th>
<th>$t$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coercive Power</td>
<td>A</td>
<td>.268*</td>
<td>.296</td>
<td>.299</td>
<td>2.978*</td>
</tr>
<tr>
<td>Remunerative Power</td>
<td>A</td>
<td>-.015</td>
<td>-.049</td>
<td>-.050</td>
<td>-496</td>
</tr>
<tr>
<td>Normative Power</td>
<td>A</td>
<td>-.246*</td>
<td>-.276</td>
<td>-.277</td>
<td>-2.772*</td>
</tr>
<tr>
<td>Organization Size (log)</td>
<td>A</td>
<td>.261*</td>
<td>.265</td>
<td>.265</td>
<td>2.659*</td>
</tr>
</tbody>
</table>

Note: $r$ = simple correlation; $sr$ = semi-partial correlation; $\beta$ = standardized partial regression coefficient; $t$ = test statistic for partial regression coefficients.

*a* A = Administrators; R = Researcher.

$p < .05$, based on 84 groups.

The same (but in a reverse direction) with the dependent variable, and when the common variance was partialled out of each, all indices of relationship with the dependent variable were enhanced. Also, some classical suppression occurred between remunerative and coercive power. The correlation between remunerative and coercive power was only .080, but this represented a portion of variance in coercive power that was not associated with the dependent variable. When this variance was controlled (by partialing each type of power out of the other), each independent variable's relationship with the dependent variable increased. These effects were confirmed when the method described by Cohen and Cohen (1975; see p. 99, above) was applied, but none were significant. Also, as would be expected from the sum of squared semi-partial correlations, no significant redundancy was evident among independent variables.

Checks for influential observations did not reveal any systematic or dramatic influence on any significant beta (coefficients tended to be affected to an equal extent by relatively few influential observations). Only one observation (a business group with a large residual) increased the generalized variance of the regression coefficients (Myers, 1986, p. 294) while being prominent in describing both normative power and organization size (particularly the latter). Since the results were fairly uniform and no good reason could be found for the removal of any observations, the results were left unchanged.

When the validity of the model was calculated using deleted residuals (Myers, 1986; see p. 100, above), $R^2_{\text{pred}}$ was .110 (versus .218 for the above analysis), so the model does not appear to have very good prediction capabilities. The model appears to suffer from underspecification and would probably benefit from the addition of other independent variables (e.g., group characteristics).
In sum, a group's mean alienative involvement tended to be highest within large organizations exercising high coercive power and low normative power. Coercive power had the highest beta and semi-partial correlation, but no evidence could be found to show that it was significantly stronger than other predictors. The comparable influences of coercive and normative power reflects the high correlation between alienative and moral involvement. The model's prediction capabilities were not very good, and may be improved by the addition of other independent variables.

4.2.2.2. GROUP MEAN CALCULATIVE INVOLVEMENT AS DEPENDENT VARIABLE

As noted above, group mean calculative involvement was transformed using square roots, in an effort to normalize the distribution of the variable and to satisfy the regression assumptions. The result of the hierarchical regression analysis with the transformed dependent variable is reported in Table 4-8. One group (different from that for the previous dependent variable) was again removed from business firms to satisfy the regression assumptions. From Table 4-8, it may be seen that remunerative power explained little variance on its own. When coercive power and normative power were added together at the next stage, a further 18% of the variance in the mean calculative involvement of groups was explained. Coercive power was the only significant predictor ($t = 4.533, p < .05$). At the third stage, the logarithm of organization size added almost 5% to the variance already explained. The four predictors together explained almost 24% of the variance in the dependent variable. As for the previous dependent variable, no significant increment in variance was found for effects-coded organization type, $F (2, 77) = .073$, or for interactions between remunerative power and each of coercive and normative power, $F (2, 77) = .177$. A three-way interaction among the three kinds of organizational power investigated after the latter also was not significant. Thus, the different effects of remunerative power within health-welfare agencies (see p. 94, above), could not be attributed to the relative predominance of remunerative (versus other kinds of) power in the different types of organizations.

Remunerative power differentially affected all dependent variables by organization type, but since it was expected to be most important for calculative involvement, its differential effects were investigated after all other organization characteristics were controlled. Thus, an interaction between remunerative power and organization type was explored. This necessitated entry of organization type into the equation (earlier shown to be nonsignificant), before the product set (yielding the interaction set and component interactions of interest). To suit the comparisons suggested by the observed pattern of correlations, organization type was contrast-coded, again using two variables to represent the three categories but this time with orthogonal contrasts. Contrast C1 compared health-welfare agencies to all other organizations (business and education combined): groups from business, health-welfare, and education were coded -.5, 1, and -.5,
### Table 4-8: Hierarchical Regression Analysis for Group Mean Calculative Involvement on Organization Characteristics

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Organizational Char.:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Remunerative Power</td>
<td>.006</td>
<td>1.479</td>
<td>1, 82</td>
<td>.006</td>
<td>1.479</td>
<td>1, 82</td>
</tr>
<tr>
<td>b. Coercive &amp; Normative</td>
<td>.189</td>
<td>7.465*</td>
<td>3, 80</td>
<td>.183</td>
<td>10.291*</td>
<td>2, 80</td>
</tr>
<tr>
<td>c. Orgn. Size (log)</td>
<td>.236</td>
<td>7.427*</td>
<td>4, 79</td>
<td>.047</td>
<td>5.931*</td>
<td>1, 79</td>
</tr>
<tr>
<td>2. Unanticipated Predictors:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Organization Type:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C1 &amp; C2</td>
<td>.218</td>
<td>4.859*</td>
<td>6, 77</td>
<td>-.018</td>
<td>.073</td>
<td>2.77</td>
</tr>
<tr>
<td>b. Interactions:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remun. Power X C1 &amp;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remun. Power X C2</td>
<td>.280</td>
<td>5.043*</td>
<td>8, 75</td>
<td>.062</td>
<td>4.331*</td>
<td>2.75</td>
</tr>
</tbody>
</table>

Note: Cum. $R^2$ and $R^2$ Cha. are adjusted population estimates.

\(^{a}\) C1 = contrast for Health-welfare Agencies vs other organizations; 

\(^{a}\) C2 = contrast for Business Firms vs Educational Institutions.

\(^*\) $p < .05$, based on 84 groups.

respectively. The second contrast (C2) compared business firms and educational institutions: groups from business, health-welfare, and education were coded 1, 0, and -1, respectively. Of course, these contrasts produced the same change in $R^2$ noted above for effects-coded organization type—it decreased the total adjusted $R^2$ explained (Table 4-8). Two interactions, between remunerative power and each of the contrast variables (together representing the interaction set), explained a further 6% of the variance in the dependent variable.

Table 4-9 provides the final partial regression coefficients for all variables entered, including interactions. It will be remembered that before unpredicted residual effects were considered, the two significant predictors of a group’s mean calculative involvement were coercive power and organization size. That is, for the total sample, a group’s mean calculative involvement tended to increase within large organizations exercising high coercive power. However, the simple correlation of organization size was inflated above that in Table 4-5, due to the excluded group. (When all groups were considered, the correlations obtained in the different tables were similar.) After the inclusion of organization type and the interactions, the significant predictors of group mean
calculative involvement were coercive power and the remunerative power by C1 interaction, both of which were highly correlated with the dependent variable. Since organization size correlated .338 with the significant product (versus the interaction; see p. 100, above), and the two variables correlated significantly with the dependent variable, they were somewhat redundant. This redundancy effect, sufficient to make the partial coefficients for organization size nonsignificant, was significant according to the test outlined by Cohen and Cohen (1975; p. 99, above). The product in question was also significantly redundant with coercive power, although the effect was not as dramatic. The overall increment in $R^2$ due to unpredicted residual effects was about 4%.

**Table 4-9: Simple and Partial Regression Coefficients For Organization Characteristics With Group Mean Calculative Involvement as Dependent Variable**

<table>
<thead>
<tr>
<th>IVs Added</th>
<th>Source</th>
<th>$r$</th>
<th>$sr$</th>
<th>$b$</th>
<th>$\beta$</th>
<th>$t$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Organizational Chars.:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remunerative Power</td>
<td>A</td>
<td>.133</td>
<td>.027</td>
<td>.021</td>
<td>.037</td>
<td>.287</td>
</tr>
<tr>
<td>Normative Power</td>
<td>A</td>
<td>-.018</td>
<td>-.003</td>
<td>-.002</td>
<td>-.003</td>
<td>-.031</td>
</tr>
<tr>
<td>Coercive Power</td>
<td>A</td>
<td>.453*</td>
<td>.252</td>
<td>.168</td>
<td>.302</td>
<td>2.703*</td>
</tr>
<tr>
<td>Organization Size (log)</td>
<td>A</td>
<td>.242*</td>
<td>.133</td>
<td>.114</td>
<td>.147</td>
<td>1.434</td>
</tr>
<tr>
<td>2. Unanticipated Predictors:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C1 (Health-welfare vs Others)</td>
<td>R</td>
<td>-.079</td>
<td>.025</td>
<td>.025</td>
<td>.032</td>
<td>.269</td>
</tr>
<tr>
<td>C2 (Business vs Education)</td>
<td>R</td>
<td>.122</td>
<td>.162</td>
<td>.182</td>
<td>.265</td>
<td>1.765</td>
</tr>
<tr>
<td>Remunerative Power X C2</td>
<td>A x R</td>
<td>.093</td>
<td>.039</td>
<td>.041</td>
<td>.051</td>
<td>.423</td>
</tr>
<tr>
<td>Remunerative Power X C1</td>
<td>A x R</td>
<td>.374*</td>
<td>.251</td>
<td>.322</td>
<td>.369</td>
<td>2.701*</td>
</tr>
</tbody>
</table>

Note: $r$ = simple correlation; $sr$ = semi-partial correlation; $b$ = partial regression coefficient; $\beta$ = standardized partial regression coefficient; $t$ = test statistic for partial regression coefficients.

*a A = Administrators; R = Researcher.

*p < .05, based on 84 groups.

Although the interaction was an exploratory exercise, the effects of remunerative power must be interpreted more fully. The raw score partial regression coefficients ($bs$) were included in the table for this purpose (constant = 1.266). The main effects for remunerative power or the two contrasts cannot be interpreted directly in Table 4-9, but by using the $b$ coefficients for the intercept, main effects of interaction variables, and interactions involving remunerative power, an overall equation was formed for the total sample, ignoring the other predictors in the equation.
Rearranging the terms in the equation, the dependent variable was expressed as a function of remunerative power and an intercept term (each were three-variable terms dependent upon the contrast values of C1 and C2). The main effect for contrasts thus served to alter the intercept, though not significantly here. By substituting the relevant contrast values for different organizations, separate regression equations for remunerative power on group mean calculative involvement were obtained within each organization type. The various slope coefficients for remunerative power were calculated first as $b$s, and later converted to $\beta$s. For example, using the coefficients in Table 4-9, the slope for remunerative power within business firms was $0.021 + 0.322(-0.5) + 0.041(1) = -0.100$. Corresponding slopes within health-welfare agencies and educational institutions were 0.343 and -0.181, respectively. Converted to betas, the slopes are -0.177, 0.609, and -0.321, respectively (Stolzenberg, 1979, p. 472). The effects of remunerative power by organization type, weighted by the other predictors in the equation, are plotted in Figure 4-1, over the range of remunerative power within each organization type.¹

![Figure 4-1: Remunerative Power by Organization Type Interaction, With Group Mean Calculative Involvement as Dependent Variable](image)

The regression analysis showed that the slope of remunerative power on calculative involvement within health-welfare agencies was significantly different from the slopes for other org-

¹It is evident from the figure why differences in the intercept due to the interactions (contrasts C1 and C2) were not found to be significant with the present scaling of remunerative power—these main effects are at the mean of remunerative power. Most importantly, the same interactive effect would be obtained if remunerative power were rescaled.
ganizations \( (b = .322, p < .05) \), which were not significantly different from each other \( (b = .041) \) (see Cohen & Cohen, 1975, p. 318). Because of the use of nominal scales, similar differences among means of dependent variable scores (weighted by organization characteristics) apply between organization types. Computation of the standard errors for the \( b \) (or \( \beta \)) coefficients within each type of organization (Stolzenberg, 1979) revealed that the slope within health-welfare agencies was significant and positive \( (t = 2.631, p < .05) \) whilst the slopes within business firms and educational institutions were not significant \( (t = - .623 \text{ and } -1.590, \text{ respectively}) \). Despite the relatively large beta for remunerative power within health-welfare agencies, its large standard error proved it to be an unreliable estimate. Its \( t \)-value was lower than that for coercive power (as was the \( t \)-value for the significant interaction; Table 4-9), so coercive power appears to be the most important predictor of a group's mean calculative involvement, regardless of whether the differential effect of remunerative power by organization type was considered or not. Little explanation can be given at this time for the differential effects of remunerative power; it may have been due to heterogeneity of group type within health-welfare agencies, or to variation in group and individual characteristics within those organizations. This will be pursued further in later chapters.

A check was made for influential observations, but while a few were prominent in describing remunerative power or its interaction with organization type, these did not appear to be systematic or unusually large. Influences on other regression coefficients were similar, so the analyses were left unchanged.

When the model's prediction capabilities was calculated using the \( R^2_{\text{Pred}} \) statistic (p. 100, above), this was .173, versus .350 in the above analysis. Apparently, the poor reliability of the significant interaction limited any expected improvement in prediction. While the model's predictive validity is not very good, the problem may be rectified if more variables are added to the equation (e.g., group characteristics).

In summary, coercive power appears to be the most important predictor of group mean calculative involvement, both when compared to remunerative power for the total sample, and when the latter's differential effect by organization type was taken into account. There was evidence that remunerative power exerted the hypothesized effect within health-welfare agencies only, but while that simple effect beta was higher than the beta for coercive power in the total sample, its high standard error made it a rather poor predictor. The model had limited prediction capabilities (even with the inclusion of unpredicted residual effects) and appeared to suffer from under-specification.
4.2.2.3. GROUP MEAN MORAL INVOLVEMENT AS DEPENDENT VARIABLE

When the hierarchical regression analysis was carried out, the cumulative $R^2$ series was as shown in Table 4-10. All 85 groups were included in the analysis, but only 9% of the variance in a group's mean moral involvement was explained by two predictors. Normative power added 4% of adjusted $R^2$, and other kinds of power (mainly coercive; $t = -2.424, p < .05$) a further 5%. Organization size (log) did not add significantly to the variance explained, $F (1, 80) = 2.239$. Effects-coded organization type did not significantly add to the $R^2$ explained, $F (2, 78) = .300$, nor did a set of two interactions (between normative power and each of coercive power and remunerative power), $F (2, 78) = 1.534$. Since organization size was considered of secondary importance in the analysis and was added last, it was not included in the final equation.

Table 4-10: Hierarchical Regression Analysis for Group Mean Moral Involvement on Organization Characteristics

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Normative Power</td>
<td>.044</td>
<td>4.902*</td>
<td>1, 83</td>
<td>.044</td>
<td>4.902*</td>
<td>1, 83</td>
</tr>
<tr>
<td>b. Remunerative &amp;</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coercive Power</td>
<td>.094</td>
<td>3.916*</td>
<td>3, 81</td>
<td>.050</td>
<td>3.288*</td>
<td>2, 81</td>
</tr>
</tbody>
</table>

Note: Cum. $R^2$ and $R^2$ Cha. are adjusted population estimates.

* $p < .05$, based on 85 groups.

Table 4-11 summarizes the partial regression coefficients at the final stage of the hierarchical analysis, and it is evident that normative power had the highest beta and semi-partial correlation, explaining almost 7% of the variance in terms of sample $R^2$. Coercive power uniquely explained 6% of the variance in the dependent variable. Thus, normative power appears to be most important for moral involvement, but the closeness of coercive power reflects the high correlation between moral and alienative involvement. The contribution of each predictor to the dependent variable is about equal (each had betas of similar absolute size when 95% confidence intervals were calculated). The measures of organizational power were not correlated highly, but as was the case for alienative involvement, all betas were higher than the corresponding $rs$ and the total of the squared semi-partial correlations exceeded the $R^2$ explained (using the sample $R^2$ value). The suppressive effects were similar to those for alienative involvement (Section 4.2.2.1, above).

A check for influential observations indicated that these were greater in number than those for the other dependent variables, but again these did not appear to favour any predictor. $R^2_{\text{Pred}}$ in this instance was only .042 (versus .127 for the analysis reported above), so the model's prediction capabilities were quite poor. The poor performance of this model could have been due in part to the slight departure of the residuals from normality, and model underspecification.
Table 4-11: Simple and Partial Regression Coefficients For Organization Characteristics With Group Mean Moral Involvement as Dependent Variable

<table>
<thead>
<tr>
<th>IVs Added</th>
<th>Source</th>
<th>r</th>
<th>sr</th>
<th>β</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normative Power</td>
<td>A</td>
<td>.236*</td>
<td>.262</td>
<td>.263</td>
<td>2.519*</td>
</tr>
<tr>
<td>Remunerative Power</td>
<td>A</td>
<td>.085</td>
<td>.107</td>
<td>.107</td>
<td>1.027</td>
</tr>
<tr>
<td>Coercive Power</td>
<td>A</td>
<td>-.219*</td>
<td>-.252</td>
<td>-.254</td>
<td>-2.424*</td>
</tr>
</tbody>
</table>

Note: *r = simple correlation; sr = semi-partial correlation; β = standardized partial regression coefficient; t = test statistic for partial regression coefficients.

*p < .05, based on 85 groups.

Thus, it appears that high moral involvement is produced by high normative power and low coercive power, reflecting the confounding between alienative and moral involvement. The model had poor prediction capabilities.

4.2.2.4. GROUP MEAN NET COMMITMENT AS DEPENDENT VARIABLE

Since alienative and moral involvement appeared to be opposite poles of the same construct, their measures were combined to form a single measure of net commitment at the individual level of analysis, and group mean scores were constructed. In the hierarchical regression analysis with group mean net commitment as dependent variable, both coercive and normative power were entered together because each was hypothesized to predict the different components of the dependent variable and no causal priority could be assigned to either. Remunerative power was entered next, followed by the logarithm of organization size. The analysis was based on 83 groups; two groups (those removed for other dependent variables) were removed to normalize the distribution of the residuals. The results are shown in Table 4-12. Normative and coercive power together explained 12% of the variance in group mean net commitment (t = 2.694 and -2.734, respectively; all p < .05), remunerative power was not significant, and organization size explained a further 7%. As for the other dependent variables, organization type added nothing to the variance in the dependent variable F(2, 76) = .736. Likewise, three interactions between the different kinds of power did not significantly increase the variance in group mean commitment, F(3, 75) = 2.597. Approximately 19% of the variance in the dependent variable was explained by the four predictors. This was about the same as for group mean alienative involvement, the most reliable component of group mean net commitment.

The simple and partial regression coefficients for these independent variables at the final stage
Table 4-12: Hierarchical Regression Analysis for Group Mean Net Commitment on Organization Characteristics

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Coercive &amp; Normative Power</td>
<td>.122</td>
<td>6.703*</td>
<td>2.80</td>
<td>.122</td>
<td>6.703*</td>
<td>2.80</td>
</tr>
<tr>
<td>b. Remunerative Power</td>
<td>.120</td>
<td>4.735*</td>
<td>3.79</td>
<td>-0.002</td>
<td>.828</td>
<td>1.79</td>
</tr>
<tr>
<td>c. Orgn. Size (log)</td>
<td>.193</td>
<td>5.894*</td>
<td>4.78</td>
<td>.072</td>
<td>8.094*</td>
<td>1.78</td>
</tr>
</tbody>
</table>

Note: Cum. $R^2$ and $R^2$ Cha. are adjusted population estimates.

* $p < .05$, based on 83 groups.

are shown in Table 4-13. It is evident from the table that normative power, coercive power, and organization size were the significant predictors of net commitment for groups. When 95% confidence intervals were calculated for all significant betas, these were likely to have many common values in the population, but all betas were ordered similarly to the semi-partial correlations and represented the relative importance of the predictors: coercive power was the highest in absolute size, followed by organization size and normative power. However, all were of similar absolute size. Once more, the simple correlation for organization size was about 6 points higher than that indicated in Table 4-5, due to the unusual nature of one of the two excluded groups (the same one excluded for the previous dependent variable; the other group did not affect the correlation). Suppressive effects were also evident, as for alienative and moral involvement, but these effects were not significant. Likewise, no significant redundancy effects were found.

Table 4-13: Simple and Partial Regression Coefficients For Organization Characteristics With Group Mean Net Commitment as Dependent Variable

<table>
<thead>
<tr>
<th>IVs Added</th>
<th>Source$^a$</th>
<th>$r$</th>
<th>$sr$</th>
<th>$\beta$</th>
<th>$t$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normative Power</td>
<td>A</td>
<td>.252*</td>
<td>.278</td>
<td>.279</td>
<td>2.798*</td>
</tr>
<tr>
<td>Coercive Power</td>
<td>A</td>
<td>-.257*</td>
<td>-.289</td>
<td>-.292</td>
<td>-2.917*</td>
</tr>
<tr>
<td>Remunerative Power</td>
<td>A</td>
<td>.070</td>
<td>.107</td>
<td>.107</td>
<td>1.075</td>
</tr>
<tr>
<td>Organization Size (log)</td>
<td>A</td>
<td>-.281*</td>
<td>-.282</td>
<td>-.283</td>
<td>-2.845*</td>
</tr>
</tbody>
</table>

Note: $r = $ simple correlation; $sr = $ semi-partial correlation; $\beta = $ standardized partial regression coefficient; $t = $ test statistic for partial regression coefficients.

$^a$ A = Administrators; R = Researcher.

* $p < .05$, based on 83 groups.

Coercive power may have dominated here because of the greater reliability of the alienative
involvement component of the dependent variable, but both coercive and normative power appeared to explain the majority of variance in mean net commitment for groups (see Table 4-12). When coercive power and normative power were removed together from the equation, the change in adjusted $R^2$ was .130, $F (2, 78) = 7.427, p < .05$. Therefore, coercive and normative power together explained about 13% of variance in group mean net commitment (versus 8% for organization size; $r^2 = .079$), and hence were more important predictors. When 95% confidence intervals were calculated for the multiple partial correlation for the coercive-normative power set and the partial correlation for organization size (Cohen & Cohen, 1975, pp. 113, 129, 141), these had many common values. The squared partial correlation expresses the unique contribution of a variable as the proportion of variance that other variables in the equation do not explain. Thus, the unique variance explained by coercive and normative power together cannot be said to be greater than that for organization size.

A check was made to see whether any observations were unusually influential on the fit of the model or the sign and magnitude of the regression coefficients. A number of high leverage observations (distance from the centroid of the independent variable scores), but with only moderate residuals, tended to be prominent for several coefficients and did not appear to be responsible for them becoming significant. Nor were they likely to make coercive power and normative power stronger predictors of a group's net commitment. Thus, the analysis reported is acceptable.

Finally, the model's predictive validity was ascertained by the method of deleted residuals (see p. 100, above). $R^2_{Pred}$ was .124 (versus .232 for the above analysis), so again the model restricted to organization characteristics does not have good prediction capabilities. As for the other dependent variables, the model would be likely to benefit from the inclusion of other independent variables. However, the model appeared to perform better than the models for either alienative or moral involvement (the components of net commitment) because it explained more variance in the dependent variable and had better prediction capabilities. This was probably because the measure of net commitment had a higher $\omega$ value than its components (see p. 85 and Appendices D.2.1 and D.2.2).

So a group's net commitment score tends to increase where coercive power is low, normative power is high, and when the organization is small in size. While the betas were similar in absolute size, the joint contribution of coercive and normative power was the highest and apparently most important predictor set. There was some evidence that organization size achieved more prominence than it would have, because of one of the groups excluded from the analysis. As for other dependent variables, the model did not have good prediction capabilities.
4.3. CHAPTER SUMMARY

Member-reported normative power was confounded with their measures of involvement, but the administrators' judgements of organization power provided distinctive scales. Alienative involvement was apparently confounded with moral involvement, so these scales were combined into an alternative commitment measure (net commitment). Upon comparing the group means of power measures from different sources, the administrators' and members' judgements achieved a high degree of convergent and discriminant validity. The administrators' assessments of power were selected for use in regression analyses, as those scales showed the least distortion due to halo effects and allowed a more conservative test of the hypotheses. While intercorrelations provided support for two of Etzioni's (1961) compliance relations, the relation between remunerative power and calculative involvement was not significant. It became evident that correlations within health-welfare agencies were in the predicted direction, while those for other organizations were not; it was speculated that the latter failure of predicted outcome may have been due to the relative predominance of remunerative power within those organizations.

Multiple regression analyses were applied to the total sample of groups, with each type of involvement as dependent variable. A hierarchical procedure was used, introducing theoretically-relevant variables, other organization characteristics, and interactions among them, at successive stages. Except for calculative involvement as dependent variable, the results of the regression analyses were in the direction expected. However, while the hypothesized predictors could not be shown to be stronger than any other predictor, these could be ordered in importance according to their squared semi-partial correlations (or \( r \)-values). Coercive power had the highest beta and semi-partial correlation among predictors of group mean alienative involvement, and also among those of group mean calculative involvement when the observed differential effect for remunerative power was ignored. When an interaction between remunerative power and organization type was explored, remunerative power within health-welfare agencies had the highest beta among all predictors, but its unusually large standard error again made it less important than coercive power. This significant interaction could not be explained using organization measures. With moral involvement as dependent variable, normative power had the highest beta and semi-partial correlation but, like alienative involvement, both coercive and normative power were around equal salience. Group mean net commitment was predicted by coercive and normative power in combination, as expected due to the way the dependent variable was derived, and the combination explained most of the sample variance.

For any dependent variable, both organization type and interactions among the three kinds of organizational power did not add significantly to the variance explained. This indicated that the
results were applicable across organization type, and that the differential effects of remunerative power on involvement by organization type was not due to particular combinations of power. None of the models had good predictive validity, and would probably benefit by the inclusion of group characteristics discussed in the next chapter.
Chapter 5
MEASURES OF GROUP CHARACTERISTICS

This chapter presents the measures used to assess group characteristics from different sources (members, observers, and researcher), and selects the measures to utilize in regression analyses in the next chapter. The group characteristics of interest are those shown in Table 3-1. Since alienative and moral involvement appeared to be confounded at the group level of analysis and yielded predictors similar to those for a composite of involvement in the previous chapter, only two kinds of involvement are investigated: group mean calculative involvement and group mean net commitment (moral minus alienative involvement).

5.1. MEASURES OF GROUP CHARACTERISTICS

Included in this section are measures of members' self-assertiveness and group-centredness, group cohesion, group goals (instrumental, relational, and altruistic), and group size. The operationalization of group cohesion included a composite of group integration, group solidarity, and group consensus assessed independently. With the exception of group size, separate measures of each variable were obtained from the members' reports and one other source. Group size was a multiple-item scale combining information from various sources, but most of the remaining measures were obtained from both members' and observers' reports. Ratings made by the researcher provided alternative measures of the group's goals.

Members' individual responses were used in multiple-item scales of subjective items or in more objective, global, indices to assess structural properties of groups. Group characteristics assessed from subjective items administered to members included members' self-assertiveness and group-centredness, group solidarity and consensus, and the instrumental, relational, and altruistic goals of their group. Group scores were computed as the means of their members' reports scored as multiple-item scales. More objective indices were constructed to assess group integration, and to provide alternative group-level measures of solidarity and consensus. Group solidarity and group consensus were thus assessed by both subjective and objective means, and these were combined to provide a total score for each variable. A measure of overall group cohesion was then computed as an equally-weighted composite of group integration, group solidarity, and group consensus.
Measures obtained from observers included multiple-item scales for members' self-assertiveness and group-centredness, and the group's solidarity, consensus, and cohesion. With the exception of the cohesion scale (which was unique to the observers' report), these measures were identical to those used in the members' report. In addition, information was gathered for use in an index of group integration. An alternative measure of cohesion from the observers' report was an equally-weighted composite of the integration, solidarity, and consensus measures, just as in the members' report.

Before the separate measures are considered in detail, some general comments about the various methods may be useful as an overview. The original members' and observers' scales each comprised 10 items, consisting of statements to which respondents were required to tick 'generally true' or 'generally false.' 'Generally true' was scored 2 and 'generally false' was scored 1 for direct-worded items. Five items in each scale were reverse-worded and reverse-scored. The items emphasized judgements about the group as a whole, rather than the individual respondent's particular orientation or sentiments regarding the group. These global judgements were intended to provide reliable assessments of group properties.

The scale refinement procedure described in Appendix D, p. 260, did not improve the discrimination among groups provided by these measures, or produce better convergence between different sources of the variables. The latter was the case whether the alternative source was another multiple-item scale, an index, or a rating scale. The original, unrefined, scales were therefore retained in the final analysis, except for two unreliable scales which were improved by removal of the worst items. The refined scales of group characteristics were members' reports of the group's instrumental goals and members' self-assertiveness.

A few measures were highly correlated with others within sources, or failed to discriminate among groups, and these were not included in the final analysis. These measures will not be described below if alternative measures were available. However, the variables of central interest in this chapter appeared to be validly measured: these included the reports of members' self-assertiveness, group cohesion, group goals, and group size. Evidence for convergent and discriminant validities will be presented later, after the measures have been outlined.

5.1.1. MEMBERS' SELF-ASSERTIVENESS

This measure aimed to assess the degree to which most group members pursued their own individual interests within the group, regardless of how they were orientated towards their group or organization. As such, it provided an indication of members' motivations to succeed in the group. The same multiple-item scale was administered to group members and group observers.
5.1.1.1. MEMBERS' REPORTS

Examples of scale items are 'Most of the members of this group want to achieve the best possible results for themselves as individuals,' 'People in this group want to be recognized as unique individuals,' and 'Any sort of competition is rare among individuals in this group' (reverse-scored). The estimated reliability (Cronbach’s alpha) of the original scale was .51 over 466 individuals, and two items (14 and 70) had lower item-total correlations than the remaining items. Hays’ $\omega$ was .49 over 85 groups, indicating that there was some agreement among group members on this measure, and that it discriminated among groups. When the two poor items were removed, alpha increased to .59, while $\omega$ remained the same value. (See Appendix D.4.1.1, p. 268, for the shortened scale.)

The purified scale proved to be distinct from the members’ measure of group cohesion and converged with observer-reported self-assertiveness (see Table 5-1, p. 127), so it appears to be an adequate measure.

5.1.1.2. OBSERVERS’ REPORT

The items included in this scale were exactly the same as those intended for the members’ report, but here all the items were retained. (See Appendix D.4.1.2, p. 268, for the scale items.) For the observers’ measure, the estimated reliability coefficient $\alpha$ was .65 over 127 separate observers’ reports, and all item-total correlations were satisfactory. Over the 46 groups having two observers’ reports, $\omega$ was .69, indicating substantial inter-observer agreement and discrimination among the groups.

The observers’ measure of members’ self-assertiveness converged with the mean of the members’ judgements and was distinct from the scale of cohesion included in the observers’ report. Thus, the measure appears to be adequate.

5.1.2. MEMBERS’ GROUP-CENTREDNESS

The degree to which the group members were oriented towards the group’s concerns was assessed by this measure. Members’ group-centredness was construed as the extent that members’ efforts were directed towards the group’s goals (versus, say, the organization’s). It was assumed that dedicated members may or may not be in highly cohesive groups, and that conflict between members’ group-centredness and self-assertiveness was more important for involvement than group cohesion. The same scale was administered to group members and group observers.
5.1.2.1. MEMBERS' REPORT

Items included in this scale were 'Above all, the members ensure that the entire group receives the credit when it is due,' 'Members rarely consider whether their behaviour is best for the group as a whole' (reverse-scored), and 'Members will do whatever the group indicates is required of them.' (See Appendix D.4.2.1, p. 269, for the complete scale.) The scale reliability (Cronbach, 1951) was estimated to be .69 over 466 individuals. Hays' (1963) $\omega$ was .55 over 85 groups, so the measure yielded reasonable agreement among group members and discrimination among groups.

However, the mean of the members' measure of group-centredness was not distinct from the mean group cohesion score, and apart from showing the similarity of the two constructs, this measure appeared to add little to the analyses.

5.1.2.2. OBSERVERS' REPORTS

Since the items included in this scale were identical to those in the members' report scale, examples will not be repeated here. See Section 5.1.2.1 above and Appendix D.4.2.2 (p. 269), for scale items. The estimated reliability for the observers' scale of members' group-centredness was .67 over 127 observers' reports. Hays' (1963) $\omega$ was .53 over the 46 groups having two observers' reports, showing reasonable agreement between pairs of observers.

As for the members' report measure, the observers' measure of group-centredness was confounded with their scale of cohesion, so it was not used in the regression analyses.

5.1.3. GROUP COHESION

Group cohesion was conceptualized as the total unification of group members, through all types of interaction (e.g., formal and informal, instrumental and expressive, etc.). In the members' report, the sole measure was a composite of group integration, group solidarity, and group consensus. Groups high on integration, solidarity, and consensus were thus considered to be more cohesive than groups high on one or two of those components. In the observers' reports, a similar composite was also intended, but since the observers' measures of group integration and group consensus were inadequate, the composite measure was not utilized. However, a multiple-item scale of subjective items included as a back-up in the observers' report provided a check on the members' composite cohesion scores.
5.1.3.1. MEMBERS' REPORT

Group integration, solidarity, and consensus were assessed separately and combined to form group scores for cohesion. These components were measured by different methods at the level of groups, and two (solidarity and consensus) were each obtained by subjective and objective means. Integration was assessed by an index constructed from members' replies. The composite of group cohesion was therefore complex and requires a longer presentation than usual, but it provided a good validating measure.

GROUP INTEGRATION

Group integration was assessed as the interconnectedness of members through face-to-face and task interactions, where both frequency of inter-member contact and the degree of mutual helping and hindering were taken into account.

An index to represent total member interconnectedness (from both face-to-face contact and task interaction) was constructed from the responses to two questions. First of all, a score on integration was calculated for every group member, to indicate their connectedness with the remaining group members. Group integration was then calculated as the average of all members' integration scores. The questions asked were:

'On average, how many hours per week do you have face-to-face contact with the other group members?'  (no. of hours = a)

'How does your contact with other members influence the way you carry out your activities in this group? Does contact with others generally make it easier for you to carry out your activities, or harder? (tick one)' Very much easier was scored 5, somewhat easier was scored 4, no effect was scored 3, somewhat harder was scored 2, and very much harder was scored 1.  (Rating = b)

Index for integration = \[ \frac{a \times b}{\text{Maximum}} \]

averaged over members' reports.

Members' ratings (b) were multiplied by their reported contact hours with the group (a), and the product ab was then divided by the largest product obtained for any member (213). Group integration was then calculated as the group mean of members' scores, and its values ranged between 0 and 1. The derivation of group integration also permitted the calculation of \( \omega \) which was .45 over 85 groups. This value indicated some agreement among members about group integration, and the measure discriminated among groups. The measure of group integration was dis-
tinct from the other measures of group characteristics, and proved to be a useful measure.

**GROUP SOLIDARITY**

Group solidarity refers to the attractiveness of a group for its members; preference for inside, as opposed to outside interactions (Scott & Scott, 1979). Group solidarity was measured in the members' report from a multiple-item scale and a more objective sociometric index.

Items included in the multiple-item scale of subjective items were ‘The members prefer one another's company to that of outsiders,’ ‘If the members had their choice, some of them would rather be in another group than this one’ (reverse-scored), and ‘Members seem to like being with each other.’ For the complete scale, see Appendix D.4.3.1, p. 270. Cronbach's alpha for this scale was .71 over 466 individuals, and all item-total correlations were adequate. Hays' (1963) $\omega$ was .69 over 85 groups, indicating substantial agreement among members and that the measure discriminated among groups. Apart from some confounding with member-reported relational goals over 85 groups ($r = .60$), the members’ measure appeared to be distinct from all other multiple-item scale measures obtained from the members, and generally was a satisfactory measure.

The sociometric index of solidarity was taken from Scott and Scott (1979), and although minor changes were made to make the index more applicable to a wide variety of groups, it remained substantially the same as the original. The questions asked were: ‘Of all the people you know anywhere, whom do you prefer to be with? The identities don’t have to be known to the researcher, just the different individuals you would choose, so please write first names, initials, or nicknames for all those mentioned.’ (no. members = $a$)

‘Which people don’t you particularly care to be with? (First names, initials, or nicknames again)’ (no. members = $b$)

‘Please go back to questions 82 and 83, and place an asterisk (*) besides the names of any people who are in this group. If a person listed in questions 82 and 83 is not in this group, do not place an asterisk besides that person’s name.’

Index for group solidarity $= \frac{a - b}{a + b}$, averaged over group respondents.

The $\omega$ statistic for the solidarity index was .33 over 85 groups, showing rather poor agreement...
among members and discrimination among groups. However, the index correlated highest (.50) with the mean scores of the members' scale of subjective items, indicating considerable similarity of the measures despite the different methods of measurement. The index was correlated next highest with member-reported relational goals (r .47). After the subjective scale and more objective index were combined into an equally-weighted composite, the coefficient alpha over 85 groups was .66, but the composite was still correlated .62 with relational goals. Apart from this confounding, the combined solidarity scale appeared to be a suitable measure.

GROUP CONSENSUS

The operationalization of group consensus was based upon Etzioni's (1961) discussion of consensus within organizations, and previously-developed scales by Scott and Scott (1979). Agreement among group members was investigated in the five domains suggested by Etzioni (1961), but with regard to group rather than organizational activity. The areas of agreement investigated were: personality characteristics, personal values, group goals, group practices, and individual performance standards within the group. Group consensus was assessed from a scale of subjective items and a more objective measure of within-group agreement obtained from a variety of questionnaire responses in the members' reports. The subjective and objective measures were then combined to provide a composite consensus score.

Some items included in the multiple-item scale of subjective items were based upon the consensus scales developed by Scott and Scott (1979; 1981), but others were developed to cover the areas of agreement noted above. Examples of scale items were 'There is very little disagreement in the group about the important personal qualities required of members,' 'There are conflicting opinions in the group about how the group should go about its business' (reverse-scored), and 'The members appear to view most things in a similar way.' The complete scale is included in Appendix D.4.4.1, p. 271. The scale was quite homogeneous, despite its diverse indicators. The estimated reliability coefficient α was .69, and all item-total correlations were satisfactory (between .29 and .44). Over 85 groups, Hays' (1963) ω was .46, indicating some agreement among the members about how much they were in general agreement. Correlations with most other measures from the members' report were not very high, and the consensus scale appears to be an adequate measure.

A more objective indicator, applicable to the group as a whole, was constructed by using the within-group standard deviations of multiple-item scale totals as scale items. Where the dispersion of members' scales score was high, consensus on that construct was assumed to be low. Of all the available scales in the members' report, the standard deviations forming a relatively homogeneous scale (i.e., those sufficiently correlated) were: respondents' judgements of group members' group-centredness, group solidarity, consensus, relational goals, and altruistic goals,
the normative power affecting the group, and their own moral and alienative involvements. As such, the construct is consensus regarding individual attitudes, organization operation, and features of the group. The 8-item scale had an estimated reliability (Cronbach, 1951) of .65 over 85 groups.

This index of group consensus correlated .54 with the mean of the members’ subjective scale measure of consensus, and had smaller correlations with the other members’ measures, so it appears to be a good validating measure. The subjective and objective scales were combined into an equally-weighted composite having a reliability coefficient (Cronbach’s alpha) of .70 over 85 groups.

**COHESION COMPOSITE**

The measure of cohesion weighted equally the members’ index of group integration, their composite group solidarity scale, and their composite scale of group consensus into a three-item scale. The estimated reliability (alpha) of the composite scale was .57 over 85 groups. Group integration had a lower item-total correlation than the other components, probably due to the different method of measurement.

The members’ scale of group cohesion was confounded with the measure of members’ group-centredness, but was distinct from their judgements of members’ self-assertiveness. It was also somewhat correlated with the members’ measure of relational goals ($r=.51$), due to the latter’s high correlation with group solidarity. As the composite scale converged with the observers’ scale of cohesion while embracing diverse components (integration, solidarity, and consensus), it appeared to be an adequate validating measure.

**5.1.3.2. GROUP COHESION ASSESSED FROM OBSERVERS’ REPORTS**

Group cohesion was assessed by two methods: as a composite of group integration, solidarity, and consensus (as for the members’ reports), and a backup scale of cohesion based upon such a construct. Two indices assessed different aspects of group integration in a similar way to the members’ measure (see questions 51 to 54 in the observers’ report, p. 245). However, one of these, and a composite of the two, failed to discriminate among groups ($\omega = .00$), and the more discriminating index only achieved a moderate validity coefficient with member-reported group integration ($r = .36$). Scales for group solidarity and group consensus were the same as those for the members’ reports, but yielded unsatisfactory results; solidarity was confounded with the observers’ scales of consensus and cohesion, and consensus was apparently inflated by halo effects because it failed to discriminate among groups ($\omega = .00$). (Statistics for these scales are reported in Appendices D.4.3.2 and D.4.4.2, respectively.) Therefore, the composite of cohesion was not used, and will not be described in further detail.
The cohesion scale included in the observers' report included such items as 'In times that challenge the unity of the group, the members tend to go their separate ways' (reverse-scored), 'When required to, the group members look after each other's welfare as they would their own,' and 'Members of this group are strongly united in a common purpose.' For the complete scale, see Appendix D.4.5.1, p. 272. The estimated reliability (Cronbach's alpha) for this scale was .67 over 127 observers' reports, and only one item (7) had a low item-total correlation. Over 46 groups, ω was .66, showing substantial agreement between pairs of observers and discrimination among groups.

As already indicated, the observers' cohesion scale converged with the members' composite. It also appeared to be measured distinctly from the observers' report of members' self-assertiveness.

5.1.4. INSTRUMENTAL GOALS

Instrumental goals refers to the degree to which members participate because they expect to derive direct or indirect benefits for themselves, such as money or self-development. Thus, formal groups within employing organizations, where members work for a living, should score high on instrumental goals.

5.1.4.1. MEMBERS' REPORT

Items included 'The group was recruited by someone to do a job for them,' 'In this group, the members improve skills which may be useful to them later,' and 'In the future, members would find it difficult to earn a living from the activities they perform in the group' (reverse-scored). (The scale of instrumental goals after purification is included in Appendix D.4.6.1, p. 273.) The estimated reliability of the original scale, measured by Cronbach's alpha coefficient, was .49 over 466 individuals. Three items in the members' report (12, 19, and 75) had very low item-total correlations (around .02), contributing to the heterogeneity of the scale. Despite the low internal consistency of the scale, Hays' (1963) omega statistic (ω) was .66 over 85 groups, indicating substantial discrimination among groups and agreement among group members. When the three poor items were removed, alpha increased to .60 and ω improved to .72, so the purified scale was a more reliable and discriminating measure. However, its correlation with the members' report of altruistic goals also increased from .54 to .67, indicating additional confounding between the two measures as a result of scale purification.

In addition to its confounding with altruistic goals, the refined measure of instrumental goals correlated .56 with administrator-reported remunerative power and its correlations with involvement in different types of organizations were similar to those for remunerative power. Thus, the
measure does not appear to add anything beyond remunerative power and altruistic goals, and is not particularly useful.

5.1.4.2. RESEARCHER'S RATINGS

A five-point rating scale was used by the researcher to provide a second, global, measure of each group's instrumental goals. Definitely high was scored 5, probably high was scored 4, average, neither high nor low was scored 3, probably low was scored 2, and definitely low was scored 1.

The researcher's scale of instrumental goals was moderately correlated with his ratings of relational and altruistic goals, while converging with the group mean of the members' measure of instrumental goals (Table 5-2, p. 130), so it appeared to be an adequate measure. However, like the members' measure, it correlated .59 with administrator-reported remunerative power and correlated with involvement in the same way. Its correlation with remunerative power within health-welfare agencies was higher than that for the members' measure (.75, versus .36), indicating that instrumental goals could have been rated as remunerative power within those organizations.

5.1.5. RELATIONAL GOALS

This concept was operationalized as the degree to which a group provided its members with opportunities to relate with one another, quite apart from the members' sentiments regarding the group or each other. Groups high in relational goals (e.g., friendship groups) therefore would set inter-member contact and exchange as priorities. Again, the concept was assessed from both members' reports and the researcher's ratings.

5.1.5.1. MEMBERS' REPORT

Scale items included 'It is difficult to meet new people through this group' (reverse-scored), 'The main concern of this group centres around the relationships among its members,' and 'This group provides the setting required by people who seek personal contact with others.' (See Appendix D.4.7.1, p. 274, for the complete scale.) All item-total correlations were satisfactory (between .17 and .44). Cronbach's (1951) coefficient alpha was .64 over 466 individuals. Hays' (1963) $\omega$ was .68 over 85 groups, once again indicating substantial agreement among group members on this group characteristic.

Although this scale appeared to be distinct from other group goals assessed by members' reports, it did not correlate appropriately with the researcher's ratings (see Table 5-2, p. 130). Possible reasons for this will be discussed later, when the convergent and discriminant
validities of multiple-source measures are presented. Also, as indicated above, the measure correlated .51 with the members' cohesion composite, being most similar to a component of that scale, group solidarity ($r = .62$).

5.1.5.2. RESEARCHER'S RATINGS

A 5-point rating scale similar to that for instrumental goals (see Section 5.1.4.2, p. 124) was employed to assess relational goals, with categories ranging from definitely high (5) to definitely low (1).

The researcher's rating of relational goals was moderately correlated with his ratings of instrumental and altruistic goals, and it did not correlate differentially with member-judged group goals. Thus, as will be discussed later, there appeared to be a problem with the construct.

5.1.6. ALTRUISTIC GOALS

In this case, someone or something outside the group benefits from the group's activities and the group is guided by moral concerns. Altruistic groups may include both formal and informal relations, so some work groups (e.g., service groups) may be expected to have such purposes. As with the other goals, measures were obtained from both the members' reports and the researcher's ratings.

5.1.6.1. MEMBERS' REPORT

Items in this scale include 'The group is concerned with helping people who are not members,' 'A group like this is needed to work on behalf of others,' and 'The goals of the group have little to do with moral or ethical issues' (reverse-scored). For the complete scale, see Appendix D.4.8.1, p. 274. Over 466 individuals, Cronbach's coefficient $\alpha$ was .73, and only one item-total correlation was low (item 32). Hays' $\omega$ was .75 over 85 groups, indicating good discrimination among groups and inter-member agreement within groups.

As indicated earlier, the members' measure of altruistic goals was highly correlated with their judgements of instrumental goals, but the group mean of altruistic goals correlated substantially with the researcher's rating of altruistic goals and indicated that the two sources assessed something in common. Therefore, it appeared to be a satisfactory measure.
5.1.6.2. RESEARCHER’S RATINGS

A global rating of the group’s altruistic goals was made by the researcher, using a scale similar to that described for instrumental goals in Section 5.1.4.2 (p. 124, above). This rating scale was moderately correlated with other ratings made by the researcher and correlated highest with the members’ mean judgement of altruistic goals, but some problems with the measure became evident.

Correlations between the researcher’s ratings of altruistic goals and involvement were consistent throughout the sample, but these were actually higher than those for member-reported altruistic goals. Also, correlations with organizational power within health-welfare agencies suggested that the moderate correlations among ratings were due to altruistic goals being rated according to the apparent remunerative power in those organizations.

5.1.7. GROUP SIZE

Group size was treated as a construct. Three different kinds of information were used: 1) the number of group members indicated by organization contact persons prior to testing, 2) the number of people allocated a members’ report questionnaire in each group, and 3) the mean of group size reported by members. These three items were combined into a scale having an estimated reliability (Cronbach’s alpha) of .95 over 85 groups, and the composite score was distinct from other measures of group characteristics.

5.2. AGREEMENT BETWEEN ALTERNATIVE MEASURES

As evident in the previous section, group characteristics were usually estimated either from subjective judgements of respondents (members, observers, or the researcher), more objective global indices (in the members’ and observers’ reports), or a combination of both types of measure (in the members’ report only). When a variable was assessed from multiple methods within a source (e.g., member-reported group solidarity), the measures used could only be compared at the group level of analysis before being combined into a total group score. Different-source scores on a variable must also be compared at the level of groups. Thus, for the purposes of construct validation in this chapter, it is most appropriate to compare such measures at the group level of analysis, regardless of the derivation of the measure. Of interest here is the agreement between global assessments of a variable from different sources or methods, and the extent that each globally measured construct was distinguishable from others. Most subjective measures were global in nature, and correlations among individual responses to subjective items are not particularly relevant in this context. Intercorrelations among group scores formed from subjective responses may be inflated at the level of groups, but this
distortion should be minimal. As in the previous chapter, construct validity will be examined using Campbell and Fiske’s (1959) multitrait-multimethod matrix. Two such comparisons will be made: 1) for comparable measures in the members’ and observers’ reports, and 2) for the variables assessed from both the members’ reports and the researcher’s ratings.

Table 5-1 shows intercorrelations among the measures obtained from members and observers. The group-level variables assessed from these two sources were members’ self-assertiveness, members’ group-centredness, and group cohesion. For measures obtained from members’ reports, self-assertiveness and group-centredness were computed as group means of subjective scale totals, and group cohesion was a composite scale of group integration, group solidarity, and group consensus. Scale reliabilities for measures obtained from members’ reports were not very high, apparently being adversely affected by low scale homogeneity, the small number of items in some scales, and the dichotomous scoring of some items (see Nunnally, 1967). Where Hays’ (1963) omega could be computed, however, these were adequate and reflected the high discriminating power of the measures. This capacity to discriminate among groups, a requirement of this study, may be at the expense of internal-consistency reliability (Guilford & Fruchter, 1978, p. 445).

From the intercorrelations among variables 1, 2, and 3 in the monomethod block for the members’ measures, it may be seen that member-reported group-centredness within the group was confounded with their measure of group cohesion ($r = .59$), but each was distinct from (though negatively correlated with) the measure of members’ self-assertiveness from the same source. Where it was possible to compare intercorrelations among group characteristics at the individual and group levels of analysis, most intercorrelations were somewhat inflated for groups. For example, the correlation between members’ self-assertiveness and members’ group-centredness over 466 subjective reports was -.18 ($p < .05$), but this was inflated to -.34 ($p < .05$) when the 85 group means of those scores were utilized. Correlations between these measures and member-reported involvement will be discussed in the next section.

Measures in the observers’ reports were group means of scale totals, averaged over the observers’ reports obtained for each group; all measures were scales containing subjective items. The observers’ measures of members’ self-assertiveness, members’ group-centredness, and group cohesion (variables 4, 5, and 6) provided slightly higher alphas and omega values than did the corresponding members’ measures, and intercorrelations among those variables at the group-level of analysis were generally lower than those obtained using the separate observers’ reports. While offering such advantages, the intercorrelations were much the same as for the members’ reports—members’ group-centredness was confounded with group cohesion ($r = .67$),
Table 5-1: Intercorrelations Among Measures of Group Characteristics
From Members' and Observers' Reports

\((n = 85 \text{ groups})\)

<table>
<thead>
<tr>
<th>Source:</th>
<th>Mean Members' Report</th>
<th>Mean Observers' Report</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

*Members:*

1. Members' Self-assertiveness (.59)
2. Members' Group-centredness -.32* (.69)
3. Group Cohesion -.34* .59* (.57)

*Observers:*

4. Members' Self-assertiveness .39* .15 -.09 (.65)
5. Members' Group-centredness -.15 .40* .18 -.24* (.67)
6. Group Cohesion -.16 .39* .40* -.32* .67* (.67)

Number of items 7 10 3 10 10 10
Omega (Hay's, 1963) .49 .55 (.a) .69b .53 .66

Note: Scale reliabilities, estimated from Cronbach's coefficient alpha, appear in parentheses.

a No agreement estimate available from single group score.
b Omega for Observers' Reports based on 46 groups.
c Convergent validity coefficients are underlined.

\(p < .05\)

but each of these appeared to be distinct from (but negatively correlated with) members' self-assertiveness.

The rectangular block of correlations (the heteromethod block) indicates intercorrelations among traits obtained from the two different sources, and the convergent validity coefficients in the diagonal represent correlations between measures of the same traits obtained from different sources. For members' self-assertiveness, the convergent validity coefficient (.39) is higher than correlations between the trait and 1) other traits measured by different methods (i.e., those correlations in the same row or column of the heteromethod block), and 2) other traits measured by the same method (relevant correlations in the monomethod triangles). Group cohesion achieved a good validity coefficient (.40), considering the divergent methods of measurement, and its value was just larger than the correlation in the heteromethod block between observer-reported cohe-
sion and member-reported group-centredness (.39). However, the validity coefficient was lower than the correlation between group cohesion and members' group-centredness in either of the monomethod triangles (.59 and .67), so group cohesion and members' group-centredness were not well discriminated by the two sources in this study. It was decided that group-centredness would be discarded, because group cohesion was of particular interest to this investigation and little would be gained by combining the two measures (for the observers' reports, especially). In sum, it appears that two constructs were distinctly measured from the members' and observers' reports: members' self-assertiveness and group cohesion.

Table 5-2 shows intercorrelations among the members' and researcher's measures of group goals. The members' measures were group means of subjective scale totals, averaged over the respondents for each group, and the researcher's scores were a single rating on each variable. Alpha and omega values for measures obtained from members' reports were adequate, indicating that the measures were reasonably homogeneous and discriminated among groups. All group intercorrelations were slightly lower than those obtained when individual member's scores were utilized, reflecting the reliability of members' judgements (see omega values). As noted above, the consequence of purifying the members' scale of instrumental goals was to increase its confounding with altruistic goals (r increased from .54 to .67). On the other hand, the members' report of relational goals appeared to be independent of the other member judgements of group goals. The researcher's ratings were only moderately intercorrelated, avoiding the confounding between instrumental and altruistic goals evident in the members' reports.

The rectangular (heteromethod) block of correlations in Table 5-2 shows that instrumental group goals achieved high convergent and discriminant validity, as its convergent validity was higher than any other correlation between the trait and other traits measured by the same or different methods. While altruistic goals achieved a high convergent validity (.65), this was slightly below the correlation between the members' measures of instrumental and altruistic goals (.67). As already noted, that correlation was increased as a consequence of obtaining a higher alpha for the members' scale of instrumental goals, and in fact both instrumental goals and altruistic goals clearly achieved high convergent and discriminant validities when the original instrumental goals scale was used instead of the purified scale. Relational goals were not distinctly measured by either source, as the validity coefficient was often lower than correlations of the trait with other traits measured by different methods and with traits measured by the same method (in the observers' report, particularly). Thus, relational goals appeared to be somewhat confounded with the other goal constructs, probably due to the coexistence of relational and other goals in the groups sampled. Perhaps it may be expected that relational goals would not predominate often within the organizations studied, and only a few social groups were sampled.
Table 5-2: Intercorrelations Among Measures of Group Goals From Members and Researcher

(n = 85 groups)

<table>
<thead>
<tr>
<th>Source:</th>
<th>Mean Members’ Report</th>
<th>Researcher’s Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td><strong>Members:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Instrumental</td>
<td>(.60)</td>
<td></td>
</tr>
<tr>
<td>2. Relational</td>
<td>-.22*</td>
<td>(.64)</td>
</tr>
<tr>
<td>3. Altruistic</td>
<td>.67*</td>
<td>-.04</td>
</tr>
<tr>
<td><strong>Researcher:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Instrumental</td>
<td>.79*b</td>
<td>-.40*</td>
</tr>
<tr>
<td>5. Relational</td>
<td>-.43*</td>
<td>.39*</td>
</tr>
<tr>
<td>6. Altruistic</td>
<td>.40*</td>
<td>-.30*</td>
</tr>
</tbody>
</table>

| Number of items                      | 7                    | 10                  | 10                  | 1                   | 1   | 1   |
| Omega (Hays, 1963)                   | .72                  | .68                 | .75                 | (a)                 | (a) | (a) |

Note: Scale reliabilities, estimated from Cronbach’s coefficient alpha, appear in parentheses.

• No reliability or agreement estimate available from single rating.

b Convergent validity coefficients are underlined.

*p < .05

5.3. SELECTION OF MEASURES FOR REGRESSION ANALYSES

The preceding section provided evidence that most of the central constructs were distinctively measured, but it will be remembered that other group-level variables were also included as likely predictors of involvement within groups and these may influence which measures to use in regression analyses. The group-level variables also included group size and the organization characteristics investigated in the previous chapter. Before correlating the measures to be used in the regression analyses in the next chapter, the measurement source for the group characteristics described above must be selected. For the constructs assessed from multiple sources, we may use either source taken separately, a composite of both sources, or a mixture of sources. Certain considerations constrain the choice of measurement source in the regression analyses. The administrators’ measures of organizational power were used in the previous chapter’s regression
analyses to predict member involvement, in order to provide a conservative test of the hypotheses, so the emphasis in this section will also be on utilizing external-source measures of group characteristics where possible. The observers' and researcher's measures of group characteristics provided less confounded measures than did those from the members' reports and, when reliability or agreement estimates were available, these were generally higher than those provided by the members' reports. However, a problem with the researcher's ratings of group goals became evident when the different measures were correlated with organization and group characteristics. The appropriate source for group goals in particular must be selected and this necessitates discussion of correlations among various measures of group and organization characteristics. As noted above, intercorrelations among all the selected group-level predictors relevant to the regression analyses will be discussed in the next chapter.

Frequency histograms were constructed for each variable, and if the distribution was highly skewed, an attempt was made to transform the variable. Group size and organization size were transformed using logarithms, and (as already described in the previous chapter) a square root transformation was used for group mean calculative involvement. The observers' measure of cohesion was slightly skewed, but could not be improved by any transformation.

When the measures of group characteristics obtained from different sources were correlated with each other and with the organization characteristics described in the previous chapter, most intercorrelations involving the member-reported measures of members' self-assertiveness and group cohesion were similar to those obtained with the observers' measures, but some confounding occurred between member-reported group cohesion and relational goals ($r = .51$). This was apparently due to the confounding noted earlier between relational goals and the composite solidarity measure. Use of the observers' measure of cohesion will overcome this problem. Both measures of instrumental goals were confounded with administrator-reported remunerative power, but the members' measure had the smaller correlation (.56, versus .59).

While intercorrelations among the group scores of member-reported group goals were generally lower than those obtained for individuals (see p. 129, above), correlations between these and group mean involvement were somewhat inflated, apparently due to the lower than average omega values for the involvement measures. However, these correlations were still generally lower than those obtained for the researcher's ratings (except those for instrumental goals, which were not significant for reasons to be outlined shortly). In particular, the mean of the members' measure of altruistic goals was correlated -.44 with group mean calculative involvement, while the corresponding correlation for the researcher's ratings was -.52. Thus, the members' measures of group goals appeared to be realistic.
When the various measures of group characteristics were correlated with involvement in organizations having business, health-welfare, and educational purposes (over 31, 28, and 26 groups, respectively; see p. 94, above), most were consistent with those for the total sample. Both measures of altruistic goals yielded consistent correlations across the different organizations, but the researcher's measure of instrumental goals displayed a differential effect by organization type, similar to that for remunerative power in the previous chapter. This reflected the high correlation between instrumental goals and remunerative power, and explained why the correlations between instrumental goals and involvement were not significant.

Correlations between the various measures of group goals and administrator-reported organizational power were generally consistent for all organizations other than health-welfare agencies, regardless of the measurement source. Within health-welfare agencies, correlations between each kind of organizational power and the researcher's ratings of instrumental and altruistic goals were consistently higher than those obtained for the members' measures. In particular, administrator-reported remunerative power correlated .75 with the researcher's rating of instrumental goals (versus .36 for the members' measure of the latter), and -.51 with the rating of altruistic goals (versus -.07 for member-reported altruistic goals). Furthermore, the correlation between administrator-reported remunerative power and the researcher's rating of altruistic goals was opposite in sign to significant correlations obtained within the remaining organizations, so the researcher's rating of altruistic goals appeared to be differentially related to remunerative power by organization type. Apparently because of the wide range of groups and organizations obtained for health-welfare agencies, the researcher tended to rate instrumental and altruistic goals as mutually exclusive categories, according to the perceived remunerative power affecting those groups. This would have produced the moderate correlations among the researcher's ratings of goals observed in Table 5-2. For these reasons, it was decided to use the members' reports of group goals in the analyses, along with the observers' measures of members' self-assertiveness and group cohesion, and the composite-source scale of group size.

5.4. CHAPTER SUMMARY

After the measures of group characteristics obtained from various sources were outlined, the measures obtained from multiple sources (members and observers, or members and researcher) were compared at the level of groups, and a degree of convergent and discriminant validity was obtained for the constructs. As for the previous chapter, the intention was to use external measures of variables wherever possible, to provide a more conservative test of the hypotheses. Intercorrelations among group and organization characteristics indicated that the observers' measures of members' self-assertiveness and group cohesion were suitable in this regard.
However, the researcher's ratings of instrumental and altruistic goals were apparently contaminated by his judgements of the remunerative power expected to affect such groups within health-welfare agencies. Therefore, the members' measures of group goals will be used in the regression analyses, along with observer-reported members' self-assertiveness and group cohesion, and the composite-source scale of group size.
Chapter 6

INVolVEMENT WITHIN GROUPS

This chapter reports intercorrelations among group-level scores (including group and organization characteristics, and member involvement), and then presents regression analyses which investigate the relative importance of group and organization characteristics for member involvement within groups. Group characteristics were selected in the previous chapter and organization characteristics were those investigated as predictors in Chapter 4. As indicated at the beginning of the previous chapter, only two kinds of involvement will be investigated: group mean calculative involvement and group mean net commitment (moral minus alienative involvement).

6.1. INTERCORRELATIONS AMONG GROUP SCORES

This section reports correlations among group characteristics (including involvement), and correlations between group and organization characteristics. The variables were transformed as discussed in the previous chapter (p. 131). The measures of group characteristics utilized in the study include observer-reported member self-assertiveness, the observers' scale of group cohesion, member-reported group goals (instrumental, relational, and altruistic), and the composite-source scale of group size. Table 6-1 shows intercorrelations among these variables and the mean involvement of group members. Intercorrelations among measures of member involvement have been discussed in Chapter 4 (see p. 90, above), and will not be repeated here. From the table, group cohesion correlated -.32 with members' self-assertiveness, .30 with relational goals, and -.25 with the square root of group mean calculative involvement. That is, cohesive groups tended to have relational goals, and their members tended to have low self-assertiveness and low calculative involvement. Instrumental goals correlated -.22 with relational goals, .67 with altruistic goals, and -.28 with group size. In other words, highly instrumental groups (i.e., work groups) tended to be smaller than average and to provide few opportunities for friendly relations among their members, but to be aimed at benefit for others. Groups with highly altruistic purposes tended to have low calculative involvement and high net commitment among their members ($r = -.44$ and .30, respectively).

Correlations between group and organization characteristics are shown in Table 6-2. Intercor-
Table 6-1: Intercorrelations Among Measures of Group Characteristics and Mean Member Involvement in Groups

(n = 85 groups)

<table>
<thead>
<tr>
<th>Source</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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<tr>
<td>Group Characteristics:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Members' Self-assertiveness</td>
<td>0</td>
<td>(.65)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Group Cohesion</td>
<td>0</td>
<td>-.32* (.67)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Instrumental Goals</td>
<td>M</td>
<td>-.09</td>
<td>.16</td>
<td>(.60)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Relational Goals</td>
<td>M</td>
<td>.03</td>
<td>.30*</td>
<td>- .22* (.64)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Altruistic Goals</td>
<td>M</td>
<td>-.03</td>
<td>.18</td>
<td>.67*</td>
<td>-.04</td>
<td>(.73)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Group Size (log)</td>
<td>C</td>
<td>.18</td>
<td>.04</td>
<td>-.27*</td>
<td>-.12</td>
<td>-.19</td>
<td>(.95)</td>
<td></td>
</tr>
<tr>
<td>Member Involvement:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Calculative (sq rt)</td>
<td>M</td>
<td>-.10</td>
<td>-.25*</td>
<td>-.16</td>
<td>-.08</td>
<td>-.44*</td>
<td>-.02</td>
<td>(.62)</td>
</tr>
<tr>
<td>8. Net Commitment (Moral minus Alienative)</td>
<td>M</td>
<td>-.06</td>
<td>.21</td>
<td>.15</td>
<td>.08</td>
<td>.30*</td>
<td>-.07</td>
<td>-.59* (.75)</td>
</tr>
</tbody>
</table>

Note: Scale reliabilities, estimated from Cronbach's (1951) alpha, appear in parentheses.

a 0 = Observers; M = Members; C = Composite of Members, Administrators, and Researcher.

* P < .05
relations among variables 8 to 13 have been excluded, but these have just been discussed. The main focus at this time are intercorrelations between group and organization characteristics (in the lower half of the table).

From Table 6-2, it may be seen that the only significant intercorrelation for either group cohesion or members' self-assertiveness was that between group cohesion and business purposes \((r = .22)\). That is, business firms tended to provide the cohesive groups in this sample. Groups with highly instrumental goals (e.g., work groups) were most often subjected to remunerative power \((r = .56)\), and occurred mostly within business firms and health-welfare agencies; they occurred least often within educational institutions \((r = -.44)\). Relational groups (where friendly contacts were made) occurred most often within business firms (where groups tended to be cohesive) and least often within health-welfare agencies \((r = .24\) and \(-.21\), respectively). As noted in Chapter 3, informal groups were never obtained within health-welfare agencies. Groups with high relational goals were likely to have coercive power exercised over them \((r = .24)\), indicating that informal groups tended to occur where there was tight control over group members. Altruistic goals correlated .36 with remunerative power, indicating that groups with such goals were usually paid workers (rather than volunteers). This correlation also reflects the high correlation between member-reported instrumental and altruistic goals noted earlier (Table 5-2). While educational groups had lower than average altruistic purposes (but were subjected to high normative power) groups from health-welfare agencies had goals that were substantially altruistic \((r = .45)\). Apparently, the goals of these groups provided much of the value system influencing members (see intercorrelations between health-welfare purposes and organizational power). The correlation between group size and remunerative power \((-22)\) reflected the inclusion of large school classes \((r = .34)\) and smaller work groups within business firms \((r = -.22)\).

6.1.1. REGRESSION ANALYSES FOR TOTAL SAMPLE OF GROUPS

As already indicated, only two kinds of involvement will be focused on in the regression analyses: group mean calculative involvement and group mean net commitment (moral minus alienative involvement). Separate hierarchical setwise regression analyses were carried out with the two kinds of involvement as dependent variable. Details of the regression procedure may be found in Section 4.2.2, p. 95. Organization characteristics were entered first, in the order described in Chapter 4, up to the point where unpredicted residual effects were about to be tested. Organization type was not included at any stage, as it was not significant in Chapter 4. Then, with the exception of instrumental goals, the group characteristics discussed in the previous section were entered as a set. (Instrumental goals was confounded with remunerative power, and would only contribute to multicollinearity among the variables.) So four organization characteristics
<table>
<thead>
<tr>
<th>Source</th>
<th>1</th>
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<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Coercive Power</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Remunerative Power</td>
<td>A</td>
<td>.08</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Normative Power</td>
<td>A</td>
<td>.10</td>
<td>-.01</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Business Type</td>
<td>R</td>
<td>.25*</td>
<td>.55*</td>
<td>.08</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Health-welfare Type</td>
<td>R</td>
<td>-.28*</td>
<td>.01</td>
<td>-.30*</td>
<td>-.53*</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>6. Education Type</td>
<td>R</td>
<td>.02</td>
<td>-.59*</td>
<td>.23*</td>
<td>-.50*</td>
<td>-.47*</td>
<td></td>
</tr>
<tr>
<td>7. Organization Size (log)</td>
<td>A</td>
<td>.01</td>
<td>.03</td>
<td>.01</td>
<td>-.17</td>
<td>.09</td>
<td>.08</td>
</tr>
</tbody>
</table>

**Group Characteristics**

<table>
<thead>
<tr>
<th>Source</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. Members' Self-assertiveness</td>
<td>O</td>
<td>-.12</td>
<td>-.03</td>
<td>.07</td>
<td>-.06</td>
<td>.01</td>
<td>.06</td>
</tr>
<tr>
<td>9. Group Cohesion</td>
<td>O</td>
<td>.07</td>
<td>.14</td>
<td>-.07</td>
<td>.22*</td>
<td>-.14</td>
<td>-.10</td>
</tr>
<tr>
<td>10. Instrumental Goals</td>
<td>M</td>
<td>-.03</td>
<td>.56*</td>
<td>-.18</td>
<td>.21*</td>
<td>.21*</td>
<td>-.44*</td>
</tr>
<tr>
<td>11. Relational Goals</td>
<td>M</td>
<td>.24*</td>
<td>-.10</td>
<td>.16</td>
<td>.24*</td>
<td>-.21*</td>
<td>-.03</td>
</tr>
<tr>
<td>12. Altruistic Goals</td>
<td>M</td>
<td>-.17</td>
<td>.36*</td>
<td>-.12</td>
<td>-.04</td>
<td>.48*</td>
<td>-.45*</td>
</tr>
<tr>
<td>13. Organization Size (log)</td>
<td>C</td>
<td>.03</td>
<td>-.22*</td>
<td>.09</td>
<td>-.22*</td>
<td>-.11</td>
<td>.34*</td>
</tr>
</tbody>
</table>

Note: For scale reliabilities, refer to Tables 4-5 and 5-3.

- **A** = Administrators; **R** = Researcher; **O** = Observers; **M** = Members; **C** = Composite of Members, Administrators, and Researcher.
- *$P < .05$*
and five group characteristics were included in the analysis up to this point. Tests of the hypotheses of secondary concern were then made by including interactions between each type of organizational power and members’ self-assertiveness. Finally, unpredicted residual effects were investigated as an interaction between group cohesion and members’ self-assertiveness (representing the degree of conflict between members and their group). However, the statistical power of significance tests involving interactions was sufficient only to detect large effects, due to the sample size and the number of variables already in the equation. When investigating interactive effects, component variables were converted to standard scores to minimize confounding between the product and all other variables (particularly components of the interaction).

As noted earlier in this chapter (p. 134), if the frequency distribution of a variable was highly skewed, or if the assumption of homoscedasticity appeared to be violated in the regressions, an attempt was made to transform the variable. A graphical check of the regression assumptions indicated that all assumptions were satisfied when group mean calculative involvement was the dependent variable, but the normal-probability plot with group mean net commitment as the dependent variable revealed that the residuals departed slightly from normal. However, the problem was not serious enough to warrant further remedial measures.

A number of further checks were made. Multicollinearity was checked using SPSSx diagnostics, and the degree of suppression and redundancy among independent variables was investigated using the technique described by Cohen and Cohen (1975; see p. 99, above). Because of the relatively small sample size and the importance of the sign and magnitude of regression coefficients, an effort was made to ascertain whether one or more influential observations affected the stability of regression coefficients or fit of the model. Finally, the model’s prediction capability was calculated using deleted residuals (see p. 100, above).

The regression analyses substituted the predictor variable mean for any missing scores encountered, and there were no missing scores on the dependent variables. Multicollinearity was not a problem, so intercorrelations among the independent variables will generally be ignored. Correlations among group and organization characteristics are presented in Tables 4-5, 6-1, and 6-2, and correlations involving interaction terms were also within acceptable limits due to conversion to standard scores of the variables to be multiplied. For a few independent variables, simple correlations with the dependent variable were different from those reported in Tables 4-5 and 6-1, due to the deletion of group scores that appeared to violate the regression assumptions. The beta-values in the following analyses may be interpreted directly, and the squared semi-partial correlations may be discussed to indicate the amount of variance uniquely explained by each significant predictor. To simplify the presentation of the results for each de-
dependent variable, a summary of the hierarchical analysis is followed by the simple and partial regression coefficients for each independent variable in the final equation. The degree of suppression and redundancy among predictors will be reported, together with the impact of influential observations and the model’s predictive validity.

6.1.1.1. GROUP MEAN CALCULATIVE INVOLVEMENT AS DEPENDENT VARIABLE

It will be remembered that the dependent variable in this instance was the square root of group mean calculative involvement; the final result of the hierarchical regression analysis to predict the dependent variable is shown in Table 6-3. One group (the same as for the analysis using organization characteristics in Chapter 4), was removed from business firms to satisfy the regression assumptions. In Chapter 4, after organization characteristics were added, and before the unexplained residual effects were investigated, almost 24% of the variance in the dependent variable was explained (Table 4-8). This appears as the first stage in Table 6-3 below. The significant predictors to this point were coercive power and organization size. Group characteristics explained a further 26% of the variance in group mean calculative involvement, and the significant predictors were altruistic group goals and group cohesion ($t = -5.486$ and $-2.514$, respectively; all $p < .05$). When the interaction products of concern (each kind of organizational power by members’ self-assertiveness) were added next, no significant increment in the explained variance was observed, $F(3, 71) = .195$. Also, the exploratory interaction between group cohesion and members’ self-assertiveness did not add to the variance explained, $F(1, 73) = .011$. Together, organization and group characteristics explained 50% of the variance in group mean calculative involvement.

Table 6-3: Hierarchical Regression Analysis for Group Mean Calculative Involvement on Organization and Group Characteristics

<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Group</td>
<td>.500</td>
<td>10.222*</td>
<td>9, 74</td>
<td>.264</td>
<td>9.327*</td>
<td>5, 74</td>
</tr>
</tbody>
</table>

Note: Cum. $R^2$ and $R^2$ Cha. are adjusted population estimates.

* $p < .05$, based on 84 groups.

The simple and partial regression coefficients for the independent variables in the equation at the final stage are shown in Table 6-4. Of these, only five were significant: remunerative power, coercive power, the logarithm of organization size, group cohesion (negative), and altruistic group goals (negative). The absolute sizes of the betas were ordered in a similar way to the semi-partial coefficients, suggesting the relative importance of the predictors. Altruistic goals had the highest beta (in absolute size), followed by coercive power, remunerative power, organization
size, and group cohesion. When 95% confidence intervals were calculated for these betas, all had many common values, so there is no evidence that the predictors differ significantly in level of importance. The simple correlation for organization size was much higher than the value appearing in Table 4-5, apparently because of the removal of an unusual group (see Chapter 4), but those for the remaining significant predictors were only altered slightly (also see Table 6-1). However, organization size remained a minor predictor.

**Table 6-4**: Simple and Partial Regression Coefficients For Organization and Group Characteristics With Group Mean Calculative Involvement as Dependent Variable

<table>
<thead>
<tr>
<th>IVs Added</th>
<th>Source&lt;sup&gt;a&lt;/sup&gt;</th>
<th>r</th>
<th>sr</th>
<th>β</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Organization Characteristics:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remunerative Power</td>
<td>A</td>
<td>.133</td>
<td>.237</td>
<td>.267</td>
<td>3.057*</td>
</tr>
<tr>
<td>Normative Power</td>
<td>A</td>
<td>-.018</td>
<td>-.108</td>
<td>-.112</td>
<td>-1.392</td>
</tr>
<tr>
<td>Coercive Power</td>
<td>A</td>
<td>.453*</td>
<td>.364</td>
<td>.389</td>
<td>4.688*</td>
</tr>
<tr>
<td>Organization Size (log)</td>
<td>A</td>
<td>.242*</td>
<td>.231</td>
<td>.241</td>
<td>2.980*</td>
</tr>
<tr>
<td>2. Group Characteristics:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group Cohesion</td>
<td>O</td>
<td>-.278*</td>
<td>-.195</td>
<td>-.232</td>
<td>-2.514*</td>
</tr>
<tr>
<td>Group Size (log)</td>
<td>C</td>
<td>.010</td>
<td>-.053</td>
<td>-.059</td>
<td>-.680</td>
</tr>
<tr>
<td>Members' Self-assertiveness</td>
<td>O</td>
<td>-.003</td>
<td>-.060</td>
<td>-.065</td>
<td>-.768</td>
</tr>
<tr>
<td>Altruistic Goals</td>
<td>M</td>
<td>-.450*</td>
<td>-.426</td>
<td>-.478</td>
<td>-5.486*</td>
</tr>
<tr>
<td>Relational Goals</td>
<td>M</td>
<td>-.046</td>
<td>-.053</td>
<td>-.061</td>
<td>-.674</td>
</tr>
</tbody>
</table>

Note: <sup>r</sup> = simple correlation; <sup>sr</sup> = semi-partial correlation; <sup>β</sup> = standardized partial regression coefficient; <sup>t</sup> = test statistic for partial regression coefficients.

<sup>a</sup> A = Administrators; O = Observers; M = Members; C = Composite of Members, Administrators, and Researcher.

* <sup>p</sup> < .05, based on 84 groups.

Inspection of the beta coefficients showed that those for remunerative power and altruistic goals were larger than their corresponding simple correlations, whilst the betas for coercive power and group cohesion were smaller. By looking at the effects of each independent variable as it entered the equation, it became evident that remunerative power was in a suppressor relationship with both altruistic group goals and group cohesion (r = .349 and .122, respectively), and the latter variables added to the variance explained by remunerative power. However, only altruistic goals significantly suppressed remunerative power. Therefore, the importance of remunerative power to
group mean calculative involvement does not become evident until the group's unity and meaningfulness for its members (the latter represented by its altruistic goals) is taken into account. Altruistic goals tended to decrease the contributions of both group cohesion and coercive power because each of the latter variables was partially redundant with altruistic goals, but these effects were not significant and group cohesion remained significant. The net effect was the coefficients shown in Table 6-4.

The differential effect found in Chapter 4 for remunerative power on group mean calculative involvement appears to be due to the correlation between remunerative power and altruistic goals within the different organizations, rather than the level of altruistic goals. As noted earlier in this chapter (Table 6-2), health-welfare groups were highly altruistic while being subjected to a wide range of remunerative power, but the latter variables were independent (uncorrelated) in those organizations ($r = -.07$). Groups from business firms, on the other hand, were subjected to high remunerative power and had wide variation in altruistic goals, but remunerative power and altruistic goals were correlated .36. That is, highly altruistic business groups tended to have high remunerative power exercised over them. A similar relationship occurred in educational institutions: While groups had lower than average scores on both remunerative power and altruistic goals, the two variables correlated .60. Thus, in Figure 4-1, both high and low levels of altruistic goals tended to occur over the range of remunerative power in health-welfare agencies, and the hypothesized effect for remunerative power could be separated out, but the negative effect observed for remunerative power in business firms and educational institutions reflects the influence of altruistic goals. In fact, when an interaction between remunerative power and altruistic goals was added to the hierarchy (in Table 6-3), it was not significant, $F(1, 73) = .289$. Perhaps if a wider range of business and educational groups were sampled, the hypothesized effect for remunerative power on group mean calculative involvement may have been more uniform throughout the sample.

A check for the presence of influential observations revealed that the estimates of regression coefficients and fit of the model were realistic. One observation with a large residual tended to impact unusually on the coefficient for remunerative power, but as it did not have high leverage (distance from the centroid of scores on the independent variables), it would tend to affect the standard error of the coefficient rather than its slope estimate (Myers, 1986). Since some other observations tended to affect other regression coefficients in a similar (but slightly less prominent) fashion, influences on all regression coefficients were similar, and the analyses were left unchanged.

The model’s prediction capabilities, as indicated by the $R^2_{\text{pred}}$ statistic (p. 100, above), was .435
(versus .554 for the analysis reported here). Thus, the model had reasonable predictive validity and was an improvement on the analysis which used only organization characteristics as predictors (Table 4-8). Apparently, the inclusion of group characteristics improved prediction by taking better account of the differential effect of remunerative power within different organizations than did the interaction between remunerative power and organization type considered in Chapter 4.

Whilst remunerative power is not the strongest (or most important) predictor of the dependent variable in Table 6-4, it uniquely contributes almost 7% to the sample $R^2$ while competing against member-reported altruistic goals (a self-report measure). A group’s mean calculative involvement tended to increase when its goals were not altruistic, it had low cohesion, and when high coercive power and high remunerative power were exercised in large organizations. The true effect of remunerative power was hidden by altruistic goals, the inclusion of which dramatically improved the prediction capabilities of the model.

6.1.1.2. GROUP MEAN NET COMMITMENT AS DEPENDENT VARIABLE

When the group mean net commitment scores (moral minus alienative involvement) were used as the dependent variable in the hierarchical regression analysis, the result was as shown in Table 6-5. Two groups (the same ones as for the analysis using organization characteristics in Chapter 4) were removed to normalize the residuals, so the analysis was based on only 83 groups. In Chapter 4 (Table 4-12), organization characteristics were found to explain 19% of the variance in a group’s net commitment score, and this appears as the first stage of Table 6-5 below. (Significant predictors were coercive power, normative power, and organization size.) With the addition of group characteristics, a further 8% of the variance in the dependent variable was explained; altruistic goals was the only significant predictor ($t = 2.316, p < .05$). Interactions between each kind of organizational power and members’ self-assertiveness did not significantly increment the variance explained, $F (3, 70) = .389$, nor did the interaction between group cohesion and members’ self-assertiveness, $F (1, 72) = 1.006$. A total of 27% of the variance in group mean net commitment was explained by group and organization characteristics.

The simple and partial regression coefficients for the group and organization characteristics in the final equation are presented in Table 6-6. Four independent variables were significant predictors of the mean net commitment within groups: normative power, coercive power (negative), the logarithm of organization size (negative), and altruistic group goals. The betas were ordered in absolute size as for the semi-partial correlations; thus, in decreasing order of importance, predictors were normative and coercive power, followed by organization size and altruistic goals. Again, the simple correlation for organization size (log) was somewhat higher than that reported...
Table 6-5: Hierarchical Regression Analysis for Group Mean Net Commitment on Organization and Group Characteristics

<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Organization</td>
<td>.193</td>
<td>5.894*</td>
<td>4, 78</td>
<td>.193</td>
<td>5.894*</td>
<td>4, 78</td>
</tr>
<tr>
<td>2. Group</td>
<td>.272</td>
<td>4.410*</td>
<td>9, 73</td>
<td>.079</td>
<td>2.707*</td>
<td>5, 73</td>
</tr>
</tbody>
</table>

Note: Cum. $R^2$ and $R^2$ Cha. are adjusted population estimates.

* $p < .05$, based on 83 groups.

in Table 4-5 (due to one of the excluded groups; see Chapter 4), but those for the other independent variables were only slightly affected. The significant betas had many common values when 95% confidence intervals were calculated, so the predictors could not be shown to differ in importance in the population.

Table 6-6: Simple and Partial Regression Coefficients For Organization and Group Characteristics With Group Mean Net Commitment as Dependent Variable

<table>
<thead>
<tr>
<th>IVs Added</th>
<th>Source*</th>
<th>$r$</th>
<th>sr</th>
<th>$\beta$</th>
<th>$t$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Organization Characteristics:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normative Power</td>
<td>A</td>
<td>.252*</td>
<td>.297</td>
<td>.306</td>
<td>3.149*</td>
</tr>
<tr>
<td>Coercive Power</td>
<td>A</td>
<td>-.257*</td>
<td>-.273</td>
<td>-.290</td>
<td>-2.895*</td>
</tr>
<tr>
<td>Remunerative Power</td>
<td>A</td>
<td>.070</td>
<td>.004</td>
<td>.004</td>
<td>.040</td>
</tr>
<tr>
<td>Organization Size (log)</td>
<td>A</td>
<td>-.281*</td>
<td>-.251</td>
<td>-.261</td>
<td>-2.659*</td>
</tr>
<tr>
<td>2. Group Characteristics:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group Cohesion</td>
<td>O</td>
<td>.231*</td>
<td>.127</td>
<td>.150</td>
<td>1.345</td>
</tr>
<tr>
<td>Group Size (log)</td>
<td>C</td>
<td>-.135</td>
<td>-.028</td>
<td>-.032</td>
<td>-.299</td>
</tr>
<tr>
<td>Members’ Self-assertiveness</td>
<td>O</td>
<td>-.102</td>
<td>-.052</td>
<td>-.057</td>
<td>-.551</td>
</tr>
<tr>
<td>Altruistic Goals</td>
<td>M</td>
<td>.276*</td>
<td>.218</td>
<td>.247</td>
<td>2.316*</td>
</tr>
<tr>
<td>Relational Goals</td>
<td>M</td>
<td>.136</td>
<td>.093</td>
<td>.107</td>
<td>-.987</td>
</tr>
</tbody>
</table>

Note: $r = $simple correlation; $sr = semi-partial correlation; $\beta = $standardized partial regression coefficient; $t = $test statistic for partial regression coefficients.

* A = Administrators; O = Observers; M = Members; C = Composite of Members, Administrators, and Researcher.

* $p < .05$, based on 83 groups.

When the degree of suppression and redundancy among independent variables was checked, the
only significant effect was that of suppression between altruistic goals and remunerative power. Even nonsignificant suppression and redundancy effects tended to influence the size of some betas. Suppressive effects with coercive power, group cohesion, and altruistic goals tended to increase the beta for normative power, while the beta for coercive power tended to be increased by similar suppressive effects with normative power and relational goals. Some redundancy between altruistic goals and each of group cohesion and coercive power also tended to reduce the respective beta coefficients. In spite of the significant simple correlation for group cohesion, redundancy with both altruistic and relational goals produced very small (and nonsignificant) partial regression coefficients.

Due to the way the dependent variable was scored, both coercive power and normative power were expected to be significant predictors of net commitment, and it would be interesting to see whether these predictors in combination explain more variance in the dependent variable than organization size or altruistic goals. When normative and coercive power were removed from the equation together, the change in adjusted $R^2$ was $0.151$, $F(2, 73) = 8.805, p < .05$. While this is the majority of variance explained, when 95% confidence intervals were calculated for the multiple partial correlation for the two kinds of power, and the partial correlations for each of organization size and altruistic goals (see p. 112, above), these contained many common values. So no evidence could be provided to show in the population that coercive and normative power together explained more unique variance in the dependent variable than other predictors.

Diagnostic checks were made for influential observations to determine whether any affected the stability of the regression coefficients and fit of the model, but little clear evidence for such effects could be found. High leverage observations tended to be prominent for group cohesion in particular, but these appeared to exert different effects. However, because these observations were not outliers, their effects were relatively unimportant (they tend to affect standard errors rather than slope estimates; Myers, 1986). Observations which tended to increase the generalized variance of the coefficients also did so because they were large residuals. These also would tend to affect standard errors of coefficients and of the model, but since the regression assumptions were satisfied, they were not problematic observations and the results are acceptable. Therefore, no reasons could be found for refining the analysis reported here.

When the prediction capabilities of the model were examined using deleted residuals (p. 100, above), $R^{2}_{\text{Pred}}$ was $0.143$ (versus $0.352$ for the above analysis), so the model does not appear to be valid despite the inclusion of group characteristics. Comparing this model to the one which investigated net commitment as a function of organization characteristics (Chapter 4), the model reported here was a slight improvement: it was less biased (or less affected by underfitting; see
Myers, 1986, p. 116) and had a higher $R^2_{\text{Pred}}$ statistic (0.143 versus 0.124). Perhaps individual characteristics have to be considered to provide a more valid model of net commitment for this sample, and that will be investigated in the next chapter.

In summary, groups tended to have high net commitment scores when normative power was high, coercive power was low, the group's goals were altruistic, and the organization was small. Coercive and normative power had the highest betas and together explained the majority of the variance in the dependent variable. As for the analysis using organization characteristics alone, if both kinds of power are low or absent, the group mean net commitment predicted by this model would be intermediate rather than low (all other factors being equal). This would be because the lowest scores on the dependent variable would occur when coercive power was high and normative power was low. The low predictive validity of the model may be improved by including individual characteristics as predictors in the next chapter.

6.2. CHAPTER SUMMARY

Correlations among the organization and group characteristics selected in the previous chapter were reported before using these in regression analyses with two kinds of involvement as dependent variable: group mean calculative involvement and group mean net commitment (moral minus alienative involvement). A hierarchical setwise regression procedure was used, similar to that described in the previous chapter. Organization characteristics were entered as outlined in Chapter 4, up to the point where unpredicted residual effects were about to be tested. Group characteristics, with the exception of instrumental goals (which was confounded with remunerative power) were then entered as a set. Further tests were made for interactions of interest, especially those between each kind of organizational power and members' self-assertiveness.

The results provided only partial support for the hypotheses. Remunerative power was found to be a significant predictor of a group's mean score on calculative involvement for the total sample only after group characteristics were considered, due to suppression by altruistic goals. According to the absolute sizes of beta coefficients, the effect of remunerative power was secondary to those for altruistic goals (negative) and coercive power, and higher than those for organization size and group cohesion (negative). (Altruistic goals were presumably confounded with self-report.) This model achieved reasonable predictive validity. The differential effect of remunerative power on group mean calculative involvement over the different types of organizations observed in Chapter 4 was apparently due to the low correlation between remunerative power and altruistic goals within health-welfare agencies, and positive correlations between the two variables in the remain-
ing organizations. It was speculated that other factors also may have suppressed remunerative power, and some of these may be identified in the next chapter.

Coercive power and normative power were found to have the highest betas in the analysis with group mean net commitment as dependent variable, as occurred in the analysis using only organization characteristics as predictors. Other significant predictors, in order of apparent importance, were altruistic goals and organization size (negative). Again, the effect for altruistic goals depends on same-source measures. While coercive and normative power in combination appeared to explain more variance in a group’s net commitment score than did any other predictor, the difference was not significant. This model had poor prediction capabilities and may benefit from the consideration of individual characteristics in the next chapter.
Chapter 7

INDIVIDUAL INVOLVEMENT

After introducing the individual-level measures summarized in Table 3-1 (p. 68)—role-related, demographic, and personality variables—this chapter presents regression analyses which assess the importance of individual-level predictors, relative to the group and organization characteristics studied as predictors of involvement in the three previous chapters. As moral and alienative involvement were confounded at the individual level of analysis (as they were for groups), only two kinds of involvement are considered in this chapter: calculative involvement, and net commitment (moral minus alienative involvement).

The involvement of individuals may vary depending on the attributes of people in different situations. The measures of group and organization characteristics discussed in previous chapters were appropriate to the group level of analysis, and were used to predict involvement within groups regardless of the within-group variation of members. Most of these measures were obtained from sources other than members and were consistent with members’ replies on the variables. As such, the group-level measures accurately reflect contextual factors likely to affect the involvement of group members. While this chapter takes account of individual characteristics and the social context surrounding individuals, it also investigates how certain combinations of individual and contextual characteristics may alter the level and type of involvement obtained. This is achieved by including interactions between each kind of organizational power and achievement motivation, as hypothesized in Chapter 1.

In the sections to follow, the measures of individual characteristics will be described, and the most useful measures will be correlated with contextual characteristics before the regression analyses are reported.
7.1. MEASURES OF INDIVIDUAL CHARACTERISTICS

Individual characteristics consisted of demographic, role, and personality variables. The demographic variables of interest were age, sex, marital status, education level, and plans for future education. The role-related factors considered were those characterizing the respondent’s position within the organization, and included level of duties performed, length of time in those duties, length of service to the organization, perceived opportunity for advancement within the organization, perceived opportunities elsewhere, and whether or not the member (student or employee) was currently in a union. The personality-relevant characteristics considered in this study were the respondent’s achievement motivation, personal autonomy, and liking for change.

Measures of individual characteristics were obtained from the members’ reports, and included multiple-item scales of subjective items, forced-choice responses to single items, the specification of time periods (e.g., months spent as an organization member), and open questions coded by the researcher. Level of duties in the organization was coded on an eight-point scale, based on information supplied by group members. Education level was a three-item scale, with two of the items coded by the researcher. There was, therefore, considerable variation in the ‘objectivity’ of the information obtained.

The multiple-item scales of subjective items (used to assess opportunity for advancement, opportunities elsewhere, and personality characteristics) consisted of statements to which respondents were required to tick ‘generally true’ or ‘generally false.’ ‘Generally true’ was scored 2 and ‘generally false’ was scored 1 for the direct-worded items. Approximately half of the scale items were reverse-worded and reverse-scored. For most scales, the refinement procedure described in Appendix D, p. 260, did not produce measures enabling better discrimination among individuals than could be obtained using the original, unrefined, measures. As noted in Chapter 3 and Appendix D, however, the scale for calculative involvement was improved in this process by substituting two items originally intended for the achievement motivation scale in place of several original items which were uncorrelated with the others. An attempt was made to purify the least reliable scales of individual characteristics by deleting those items having the lowest item-total correlations, but the effectiveness of this technique was limited due to generally low average inter-item correlations and to the small number of items in each scale. The only scale improved in this way was personal autonomy, but the effect was not dramatic.

The compliance relations were expected to be applicable to all organizations, whether participants are paid or not, but some measures indicated differential sensitivity to students and confounding with other variables. To show that the measures could have been at fault, rather than the inclusion of students, correlations for the affected measures were examined both for the total
sample and with students excluded. Otherwise, the measures were examined only in relation to the total sample.

7.1.1. DEMOGRAPHIC VARIABLES

7.1.1.1. AGE, SEX, AND MARITAL STATUS

Respondents were asked to state their age (in years), and to circle numbers to represent their sex and marital status. Hays' (1963) \( \omega \) for age was .79 (over 85 groups), indicating that age was quite consistent within groups (e.g., school classes), and that there was good discrimination among the groups sampled.

Sex was dichotomously scored: male was scored 1 and female was scored 2. Over 85 groups, Hays' (1963) omega statistic was substantial (.63), showing that many similar-sex groups were included in the study.

Marital status was assessed as a dichotomous variable (single was scored 1 and married was scored 2). If the respondents offered alternative replies, these were scored as either of the above options (e.g., widowed, divorced, and separated were scored 1, 1, and 2, respectively). Hays' (1963) \( \omega \) was .63 over 85 groups, indicating substantial similarity among group members regarding marital status; i.e., they were typically married or typically single (e.g., work groups and school classes, respectively).

7.1.1.2. EDUCATION LEVEL

The members' education level was assessed from a scale constructed from responses to three items. These items comprised 1) total years of educational training received by the respondent, 2) the highest qualification achieved, and 3) the type of institution within which that qualification was obtained. High scores on all three items were considered to indicate a high level of education.

The qualification achieved (2) was coded from the following scale:

7  Masters degree and above;
6  Honours degree or graduate diploma;
5  Pass degree;
4  Certificate course;
3  Higher School Certificate or equivalent;
2  School Certificate or equivalent;
1 Below School Certificate level.

The type of institution from which the qualification was obtained (3) was coded from a five-point scale, as follows:

5 University or Graduate school;

4 Institute of Technology or College of Advanced Education;

3 Technical or Teachers' College;

2 Junior or Senior High School;

1 Primary School.

As would be expected, the three items (years education, qualification, and institution) were highly intercorrelated, and the estimated reliability (alpha) of the scale containing these items was .95 over 466 individuals. Hays' (1963) \( \omega \) was .84 over 85 groups, showing that group members were highly similar in their education level, and that high variation in mean education level existed among the groups.

Level of education correlated .43 with age \( (p < .05) \), so it appears to be a realistic measure.

7.1.1.3. PLANS FOR FUTURE EDUCATION

Whether the members had any immediate plans for furthering their education was assessed by a single item: 'Have you any plans for future education? (circle one)' No was scored 1 and yes was scored 2.

Over 85 groups, a value of .44 for Hays' (1963) \( \omega \) indicated some intra-group agreement on this construct and that its scores varied somewhat over groups. Plans for future education were most evident among young respondents \( (r = -.41) \), single people \( (r = -.37) \), those at lower-level duties \( (r = -.32) \), and members liking change \( (r = .31; \ all \ p < .05) \), so the measure appears to be a reasonable one.

7.1.2. ROLE VARIABLES

7.1.2.1. LEVEL OF DUTIES

Members were asked 'What do you do in the organization? (General title--if unique in the group, don't be too specific).’ Replies were coded by the researcher into eight levels, as follows:

8 Senior management (e.g., coordinator of two or more departments, divisions, or work areas);
7 Middle management (e.g., leader of a department, division, or discipline);
6 Autonomous experts (e.g., professionals such as teachers, researchers, and social workers);
5 Semi-autonomous experts (e.g., nurses, clerks, and technical officers);
4 Public liaison (e.g., counter staff, secretaries, and salesmen);
3 Trades and technical (e.g., technicians, wordprocessors, and clerical assistants);
2 Unskilled workers (e.g., labourers and voluntary helpers);
1 Students within educational institutions (e.g., year 10 students).

The aim of this measure was to represent certain features embodied in members’ activities in their organization. According to Etzioni (1961, p. 17), lower participants could be characterized by 3 analytical dimensions: the nature (direction and intensity) of their involvement, their subordination to organizational power, and their performance obligations. Higher-level duties were expected to entail higher moral involvement, less subordination to the organization hierarchy, and greater obligations. Although not all categories are applicable to every organization, students were expected to have low moral involvement, more subordination to the organization, and fewer performance obligations, compared to unskilled workers or management. The emphasis was on the person’s usual duties, but where the respondent indicated multiple roles (e.g., where clerical assistants also dealt with the public), the highest level of duties was scored on this measure.

There was some evidence that categories 2 to 8 were continuous and applicable to employing organizations, while category 1 was quite distinct and its use tended to inflate some correlations. For example, level of duties correlated -.41 with time in duties when the total sample was considered, but .24 when students were ignored (all p < .05). This is partly because the level of these students has been deemed continuous over the preceding 10 years or so. Also, the correlations between level of duties and many independent variables were usually higher for the total sample, relative to the subsample with students excluded. Level of duties correlated .65 in the total sample with the respondent’s age, .55 with marital status, and .68 with level of education. Without students, these correlations reduced to .27, .20, and .67, respectively (all p < .05), so level of duties obviously remained confounded with education level. Most correlations between level of duties and the dependent variables went from significant levels (p < .05) for the total sample to nonsignificant levels when students were ignored. An exception was that calculative involvement correlated around the same (negatively) with level of duties, regardless of the sample considered.
Regardless of the sample, level of duties to some extent represented the respondent's seniority or rank in the organization, and its reduced correlations when students were excluded may be expected because of the truncated ranges of many variables. Assuming that students rank lower than technical or unskilled people within their respective organizations, and neglecting the confounding with education level, the measure appears to be just as appropriate for the total sample as it is for the sample which excluded students. Hays' (1963) omega statistic was .93 over 85 groups, indicating that few group members had duties different from their colleagues, and that the variation in mean level of duties over the groups in the study was extremely high. The high $\omega$ value may have been contributed to slightly by asking unique members not to be 'too specific,' but considerable within-group agreement was expected on this construct.

On the other hand, students may have been incorrectly placed on the scale, thereby inflating some correlations because students tended to be young, single, female, and in their duties for the longest time. (The validity of including students in the sample will be discussed further in a later section.) The measure was thus possibly distorted for category 1 and remained confounded with education level when students were excluded, so level of duties does not appear to be the best way to assess organizational rank.

### 7.1.2.2. TIME IN DUTIES AND TIME IN THE ORGANIZATION

The length of time that the members had been in their current duties and their length of service to the organization were assessed from separate questions in the members' report. Respondents were asked to specify the respective periods in years and months, and these were later converted to months.

Time in duties and time in organization correlated .54 in the total sample, but the two variables correlated differently with other individual characteristics and appeared to be distinct (though correlated) constructs. When students were excluded, time in duties and time in organization were further confounded ($r = .69$), while the correlations for time in duties usually changed sign (mainly for demographic variables, level of duties, and union membership). Correlations for time in organization tended to become larger (its $r$ with age increased from .29 to .42), but most remained fairly low. Since the two measures remained confounded when students were excluded, the sampling method may not be responsible for all the problems observed for time in duties, in particular; the method of scoring time in duties for students may have contributed to the markedly-different correlations found. Perhaps students' time in duties should have been more relevant to position, e.g., the time spent in senior high school.

Thus, of the two measures, time in duties appeared to be most responsible for the unusual correlations observed. Hays' (1963) $\omega$ for time in duties was .77 over 85 groups, indicating good
agreement among group members and discrimination among groups. Time in organization had an omega of .50 (over 85 groups), showing reasonable similarity among group members and variation among groups in length of service. The high \( \omega \) value for time in duties was apparently because the relatively large number of student groups in the sample also tended to report a long (and similar) time in those duties.

In sum, there were apparent difficulties with the measure of time in duties in the total sample, apart from its more general confounding with time in organization. However, the measure of time in organization appeared to be adequate.

**7.1.2.3. OPPORTUNITY FOR ADVANCEMENT**

This measure was obtained from members' subjective responses to a multiple-item scale. The scale consisted of four items, two of which were reverse-worded and reverse-scored (the response format was as described on p. 148, above). Examples of scale items are 'Even if I wanted a higher position, there are few available in this organization' (reverse-scored) and 'I may soon move up in this organization.' (See Appendix D.5.1, p. 275, for the complete scale.) Over 466 individuals, the estimated reliability coefficient (Cronbach's alpha) was .56, and all item-total correlations were adequate. The lower than usual alpha can largely be attributed to the small number of items in the scale. Hays' (1963) \( \omega \) was .53 over 85 groups, indicating that, within groups, the members had reasonable agreement about their individual prospects for advancement, and that judged opportunities varied somewhat over groups.

The measure appeared to be distinct from the other individual-level measures. High opportunity for advancement tended to be reported among young people \( (r = -.16) \) and males \( (r = -.18; \text{all } p < .05) \), so the measure appears to be realistic.

**7.1.2.4. OPPORTUNITIES ELSEWHERE**

This measure was meant to assess the respondent's perceived opportunity to obtain a similar position in another organization. The form of measurement was a four-item scale (two items were reverse-worded and reverse-scored). Items included 'Outside this organization, positions like mine wouldn't suit me' (reverse-scored) and 'The skills that I use here are in demand by several organizations at the moment.' For the complete scale, see Appendix D.5.2, p. 275. Cronbach's (1951) coefficient alpha was only .44 for this scale, over 466 individuals, and one item (90) had a lower than average item-total correlation (around .19); but the alpha for this scale was not improved by deleting that item. Hays' (1963) \( \omega \) was .32 over 85 groups, showing rather poor agreement among group members and discrimination among groups.

This measure appeared to be distinctively assessed, and correlated .13 with age, .21 with level
of education, and .14 with achievement motivation (all $p < .05$). Therefore, despite its low reliability, opportunities elsewhere seemed to be an adequate measure.

7.1.2.5. UNION MEMBERSHIP

The members were asked ‘Are you a member of a union concerned with activities in organizations such as this? (circle one).’ No was scored 1 and yes was scored 2.

Hays’ (1963) $\omega$ statistic was .66 over 85 groups, showing substantial similarity among group members with regard to union membership, and that union membership varied substantially over the various groups. Members of unions tended to have higher-level duties ($r = .44$, $p < .05$), implying that unionists were likely to be employees, rather than students. Both employees and students could be members of unions or similar organizations protecting their interests, but the likelihood of this for secondary students may be lower than average. When students were excluded, the correlation between union membership and level of duties was reduced to .25 ($p < .05$), so the measure appears to be a useful one.

7.1.3. PERSONALITY VARIABLES

7.1.3.1. ACHIEVEMENT MOTIVATION

The concept of achievement motivation was based upon Jackson’s (1967) Personality Research Form scale of Achievement (Form AA). According to this scale, a person displaying high achievement behaviour is striving, industrious, and resourceful; he or she aspires to accomplish difficult tasks, responds to competition, and works hard.

The scale administered to the members was a shortened version of Jackson’s (1967) scale of achievement. Only those items which seemed applicable to and suitable for people within Australian organizations were used. Of the 10 items originally chosen (to cover the same domain as the original scale), eight were utilized, and three of these were reverse-worded and reverse-scored. (The response categories were generally true and generally false.) Items included ‘I enjoy doing things which challenge me’ and ‘I will keep working on a problem after others have given up.’ For the scale used, see Appendix D.5.3, p. 276. The scale’s estimated reliability (Cronbach’s alpha) was .59 over 466 individuals. Item 172 had a low item-total correlation, with a value around .16. Hays’ (1963) $\omega$ was .26 (over 85 groups), indicating substantial individual variation within groups (as expected) and that the measure could barely discriminate among groups.

Achievement motivation correlated .20 with age and .14 with opportunities elsewhere (all $p < .05$), so it appears to be a useful measure.
7.1.3.2. PERSONAL AUTONOMY

This measure was a shortened version of Jackson's (1967) scale of Autonomy (Form AA)—highly autonomous individuals are characterized as independent, self-reliant, and self-determined; they enjoy being unattached, not tied to people, places, and obligations.

As for Jackson's (1967) achievement scale, only those items applicable to Australian conditions were considered. Of the 10 items originally chosen to represent the construct in a representative way, seven were retained in a purified scale (the weakest items were removed). Four of the items were reverse-worded and reverse-scored. Examples of scale items are 'If public opinion is against me, I usually decide that I am wrong' (reverse-scored), 'If I have a problem, I like to work it out alone,' and 'To have a sense of belonging is very important to me' (reverse-scored). The purified scale appears in Appendix D.5.4, p. 276. The alpha for this scale was only .46 over 466 individuals, with three items (165, 180, and 186) having item-total correlations around .17. However, the scale reliability could not be improved by further purging of items. The measure discriminated slightly among the 85 groups in the study (Hays' $\omega$ was .26), while showing itself to be primarily a measure of an individual characteristic.

The scale was not highly correlated with other constructs, and appeared to be distinct from them. Personal autonomy correlated .14 with age and -.18 with sex (females were low) (all $p < .05$), providing some indication of its validity.

7.1.3.3. LIKING FOR CHANGE

Jackson's (1967) Form AA scale of Change described people who liked change as unpredictable, changeable, and adaptable. Such people dislike routine and are liable to change their opinions, values, and experiences.

Ten items from Jackson's (1967) Form AA scale of Change were chosen for this measure—items considered to be representative of the original scale and suitable for a wide range of Australian organizations. Five items were reverse-worded and reverse-scored, and the response format was as described earlier. Items included 'I like to have new things to eat from week to week,' 'I would be satisfied to stay at the same job indefinitely' (reverse-scored), and 'When I find a good way to do something, I avoid experimenting with new ways' (reverse-scored). See Appendix D.5.5, p. 276, for the complete scale used. The estimated reliability of the scale (Cronbach's alpha) was .54 over 466 individuals, and three items (164, 167, and 176) had below-average item-total correlations (between .16 and .21). The internal consistency of the scale could not be improved by deleting weak items, as the reduction in items itself adversely affected the reliability coefficient. Hays' (1963) $\omega$ was .24 over 85 groups, showing mainly intra-group varia-
tion among members' reported liking for change, and the measure's limited ability to distinguish among groups. This was expected and in line with the other measures of personality characteristics.

Liking for change correlated -.21 with age, -.15 with marital status (married were low), .31 with plans for future education, and -.10 with length of service in the organization (all \( p < .05 \)), so the measure appears to be reasonable.

7.2. INTERCORRELATIONS AMONG INDIVIDUAL-LEVEL MEASURES

Of concern here are the correlations among member-reported measures of individual characteristics and member involvement. Because of the large number of individual characteristics considered, intercorrelations among these measures in the total sample are presented in Appendix Table E-2, pp. 279-281. In that table, some variables were transformed if their frequency distributions showed that a variable was highly skewed or if the normality assumption of the multiple regression technique appeared to be violated. A logarithmic transformation was used for time in duties, time in the organization, and calculative involvement. As discussed in Chapter 4 (p. 85), the measures of moral and alienative involvement were confounded (\( r = -.60 \)), and net commitment was constructed as their difference. Since moral and alienative involvement produced similar predictors in Chapter 4, only two dependent variables will be considered here: calculative involvement and net commitment (moral minus alienative involvement). Using the logarithmic transformation, calculative involvement appeared to be distinct from (though correlated with) the composite commitment score, just as it was for the untransformed variable in Chapter 4. The immediate concern is to investigate the discriminability of the various measures of individual characteristics, their correlations with the dependent variables, and the consistency of the latter correlations throughout the total sample.

Level of duties held particular interest in this study as an indication of respondents' rank within the organization, a factor considered important when accounting for many effects (e.g., sex differences; see Chapter 2). However, correlations among individual characteristics (particularly those for level of duties and time in duties) indicated either a possible problem with including students in the sample, or that the measures were poor for students. Both level of duties and time in duties were confounded with at least one other independent variable and produced quite different correlations with some variables when students were excluded. The potential influence of students was important at the individual level of analysis because the proportion of students was larger than at the group level (.26, versus .15, respectively), and individual characteristics were included. To show how students' scores affected relationships among individual characteristics and member involvement for the total sample, intercorrelations with students excluded are
reported in Appendix Table E-3, pp. 282-284. In that table, variables were transformed as for the total sample. The table will be referred to when correlations are likely to have been affected by sample composition.

In the total sample, level of duties, age, marital status, and education level had much in common. Level of duties correlated .65 with respondent age (Appendix Table E-2(a), p. 279), .55 with marital status (married), and .68 with level of education. Furthermore, education level correlated .43 with age and .37 with marital status, while age and marital status correlated .66. Thus, people at higher organizational ranks tended to be older, married, and more educated. However, there was evidence that education level was distinct from other variables, even though it was highly correlated with level of duties. Apart from the fact that education level did not correlate excessively with age and marital status, it was correlated significantly only with calculative involvement ($r = -.19$, p. 280), while the other variables were also correlated with net commitment: both age and marital status correlated -.24 with the logarithm of calculative involvement and around .33 with net commitment, while level of duties was correlated -.21 with calculative involvement and .23 with net commitment (see p. 280). Age and marital status produced similar correlations with all other variables in Appendix Table E-2, except for sex (female): age and sex correlated -.14 (i.e., the youngest tended to be female), while marital status and sex failed to correlate significantly. Level of duties actually provided the highest correlation with female sex ($r = -.23$).

Level of duties, age, and marital status were quite similar (or redundant), such that one variable may satisfactorily represent all three. Apart from higher than average correlations with some demographic variables, level of duties correlated highly with union membership ($r = .44$), compared with .30 for age and .24 for marital status. On the other hand, its correlation with plans for future education was low when compared to those for either age or marital status ($r = -.32$, versus -.41 and -.37, respectively). When students were excluded, level of duties, age, and marital status were not confounded, but level of duties was clearly confounded with education level ($r = .67$; Appendix Table E-3) -- unlike the situation for the total sample, both level of duties and education level displayed similar correlations with involvement. While students tended to inflate already significant correlations among level of duties, age, and marital status, the removal of students with their peculiar demographic characteristics would tend to truncate the range of these and other relevant variables, thereby producing lower correlations among them. The variables most affected by level of duties were age, sex, marital status, plans for future education, and union membership, but age would be most affected by truncation of range because it was a continuous variable. This, together with the problems noted with the measure of level of duties above (p. 152), the evident confounding among variables does not necessarily mean that students
should be ignored. Since level of duties and marital status are adequately represented by age (a meaningful variable) in the total sample, each may be ignored in further analyses in the interest of reducing the number of redundant variables.

As became evident when the measure of level of duties was introduced, time in duties also appeared to be adversely affected by the inclusion of student groups; the sizeable negative correlation with level of duties for the total sample became a significant positive correlation when students were omitted. However, as Appendix Table E-3 shows, this was fairly typical of correlations obtained for time in duties (with demographic variables and union membership) in the reduced sample. If the correlations did not change sign when students were excluded, they tended to become larger. In particular, the confounding between time in duties and time in organization in the total sample (.54; Appendix Table E-2(a)) was increased to .69 when students were ignored. As noted earlier, the measure of time in duties tended to score all students as having been in their duties a disproportionately long time, and this would severely affect correlations for the variable when the duties in question also tended to have extreme scores on demographic variables. Since the problematic measure of time in duties was also confounded with time in organization and was not considered crucial in the regression analyses, it may be ignored along with marital status and level of duties in analyses for the total sample.

Other correlations among the remaining variables may be briefly mentioned for the total sample (all significant correlations reported are with $p < .05$). In Appendix Table E-2(a), p. 279, older members tended to have little opportunity for advancement ($r = -.16$) but many opportunities elsewhere ($r = .13$). They also tended to have high achievement motivation, high personal autonomy, and little liking for change ($r = .20, .14$, and -.21, respectively; see p. 280). Compared to males, females tended to have lower personal autonomy ($r = -.18$; p. 280), lower education level ($r = -.23$; p. 279), and less opportunity for advancement ($r = .18$). People with high levels of education had a tendency to have low (rather than high) opportunity for advancement, many opportunities elsewhere, and union membership ($r = -.20, .21$, and .32, respectively; p. 279). Members liking change tended to desire further education ($r = .31$; p. 280) and they also tended to be high achievers ($r = .24$; p. 281). High achievers also tended to have many opportunities elsewhere ($r = .14$; p. 280). Other significant correlations among individual characteristics are small and only of minor importance.

Many of these correlations may of course be influenced by the inclusion of relatively large numbers of young female students. When students were excluded (Appendix Table E-3), although many correlations were reduced in size (thus tending to reduce linear dependencies among them), others were increased and appeared to add further sources of mutual redundancy. As evi-
dent in the table, most correlations among demographic characteristics, and most correlations for 
opportunities elsewhere and union membership, tended to become smaller than they were for the 
total sample. On the other hand, most correlations for time in organization in the same table 
tended to be increased. Opportunity for advancement showed reduced correlations with most 
demographic characteristics (except that for education level, which was increased along with 
those between opportunity for advancement and level of duties, time in duties, and time in 
organization). Liking for change was the personality variable most often increased by the exclusion of students. While students tended to increase more correlations than they decreased, these effects were relatively slight when the confounded variables (marital status, level of duties, and time in duties were removed from consideration. The relevance of student groups to the study far outweighed any loss of precision in regression analyses due to moderate correlations among 
member characteristics.

Correlations between individual characteristics and member involvement for the total sample 
were sometimes as expected (Appendix Table E-2). With the exception of age and achievement 
motivation, however, most significant correlations with involvement were quite small and 
reflected the minor importance of individual characteristics. As already described, the correlations in Appendix Table E-2(b) between age and involvement were as expected (-.24 for calculative involvement and .33 for net commitment). Anticipated relationships with calculative involvement and net commitment were also observed for opportunities elsewhere (r = -.15 and .19, respectively) and achievement motivation (r = -.34 and .17, respectively); high levels of each were associated with low calculative involvement and high net commitment. Also, females did not appear to differ from males in their involvement. Finally, high personal autonomy tended to be associated with high calculative involvement and low net commitment (r = .11 and -.10, respectively).

However, some correlations differed from those anticipated. People with high levels of education tended to have low calculative involvement (r = -.19), rather than the positive correlation suggested in Chapter 2, and no significant correlation with net commitment was evident. Plans for future education had no significant impact on a member’s calculative involvement, but it yielded the expected negative relationship with net commitment (r = -.15). Union members tended to have low calculative involvement in their organization, rather than high (r = -.12), but their net commitment was no different from that for nonunionists. The correlations for education level, plans for future education, and union membership were apparently heavily influenced by their high correlations with age in Appendix Table E-2(a). Likewise, the correlation between achievement motivation and liking for change may have influenced the effects of the latter—members with a liking for change tended to have low levels of both calculative involvement and net com-
mitment \((r = -.16 \text{ and } -.12, \text{ respectively; p. 281})\). Neither time in organization nor opportunity for advancement had a significant impact upon member involvement.

When students were excluded, several correlations with involvement were changed, and these may be briefly outlined for completeness (see Appendix Table E-3). Correlations found to be significant in the total sample between calculative involvement and each of union membership and personal autonomy were not significant, while a significant positive correlation appeared between calculative involvement and time in organization. The significant correlations noted above between net commitment and each of plans for future education and liking for change became nonsignificant when students were ignored. Instead, sex (female) became a significant correlate of net commitment. These and other significant correlations were only marginally affected, but reflected the reduced influence of variables important to the student subsample. All correlations tended to be small (as they were for the total sample) and were likely to be affected by the truncated ranges of some variables, but it appeared that students tended to increase several correlations for net commitment while reducing some for calculative involvement.

The correlations between individual characteristics and member involvement in the total sample were checked for stability across the different types of organizations. Correlations with the two kinds of involvement within business firms, health-welfare agencies, and educational institutions (over 144, 128, and 194 members, respectively; see Table 3-2) were generally consistent with those for the total sample. Some differences between health-welfare agencies and educational institutions were observed. The correlation between union membership and net commitment (reported as nonsignificant for the total sample) was significant and negative within health-welfare agencies (the anticipated result), but significant and positive within educational institutions--apparently, teachers were more unionized than students and tended to have higher commitment to the organization. No significant relationship was observed within business firms. A similar pattern of correlations by organization type also contributed to the overall nonsignificant correlation observed between education level and net commitment (teachers tended to be more committed than students, but the more educated within health-welfare agencies tended to have the lowest commitment). These effects, probably due to heterogeneous groups within the respective organizations (particularly educational institutions) will be taken into account in the regression analyses.

In conclusion, students did not appear to exert undue influence on correlations among measures of individual characteristics and member involvement, although they did tend to increase more correlations than they decreased. The inclusion of students may contribute to some redundancies among variables characterizing the student subsample, but these effects are not expected to be
excessive. Eleven measures of individual characteristics were selected to compare individual characteristics to group and organization characteristics as predictors of involvement in the total sample. These comprised four demographic, four role, and three personality variables. Demographic variables included age, sex, education level, and plans for future education. Role characteristics comprised the logarithm of time in organization, opportunity for advancement, opportunities elsewhere, and union membership. The personality characteristics were achievement motivation, personal autonomy, and liking for change.

7.3. INDIVIDUAL AND CONTEXTUAL CHARACTERISTICS AS PREDICTORS

This section compares the individual characteristics selected in the previous section with the organization and group characteristics investigated as predictors of group mean involvement in Chapters 4 and 6. The latter group-level measures were assigned to each member as a representation (usually objective) of the social context affecting those individuals. Intercorrelations among individual and contextual characteristics will be investigated before using all variables in regression analyses with each kind of involvement as dependent variable.

7.3.1. INTERCORRELATIONS AMONG INDIVIDUAL AND CONTEXTUAL CHARACTERISTICS

The organization characteristics investigated in Chapter 4 and 6 were administrator-reported coercive, remunerative, and normative power, organization type (business, health-welfare, or education), and the logarithm of organization size. Group characteristics selected for use in Chapter 6 comprised observer-reported members' self-assertiveness and group cohesion, member-reported group goals (instrumental, relational, and altruistic), and a measure of group size constructed from a variety of sources. Some of these variables were not included in the regression analyses in Chapter 6, but all should be reconsidered here because the method of assigning group-level scores to group members may affect relationships among them. The transformations used at the group level of analysis were reapplied because no other provided an improvement. Intercorrelations among individual and contextual characteristics, over 466 group members, appear in Appendix Table E-4, pp. 285-286: part (a) of the table shows correlations among group and organization characteristics, and part (b) (p. 286) shows intercorrelations between individual and contextual factors (including member involvement). This section highlights discrepancies with correlations obtained at the group level of analysis, and other correlations of importance for interpreting the regression analyses. Where it is of interest to do so, the influence of student groups will be mentioned to appreciate the possible extent of redundancy among all variables.
The correlations in Appendix Table E-4(a) may be compared to those obtained at the group level of analysis, to ascertain whether the allocation of group-level scores to individuals unduly affects the relations among the variables (i.e., whether disaggregation error occurs; see Hannan, 1971). In Appendix Table E-4(a), all correlations for organization characteristics may be compared to those reported in Table 6-2 (p. 137), while those among group characteristics may be compared to those in Table 6-1 (p. 135). Many correlations remained similar, but others were increased in size at the individual level of analysis. The variables most affected were remunerative power, altruistic goals, and the logarithm of group size, apparently because of the weightings accorded to scores for large groups. As shown in Table 6-2, members of large groups tended to be most frequent within educational institutions ($r = .34$), where both remunerative power and altruistic group goals were uncommon ($r = -.59$ and $.45$, respectively). All other things being equal, if low scores on remunerative power and altruistic goals were assigned to all members of large groups, the correlations for these variables would be increased for the total sample, relative to those for groups. Inspection of Appendix Table E-4(a) in relation to Table 6-2 shows that correlations for remunerative power increased to $.49$ with altruistic goals, $.46$ with group size (log), and $.62$ with instrumental group goals. As correlations for group goals generally increased in size (see also Table 6-1), instrumental and altruistic goals were further confounded ($r = .72$), so instrumental goals should be omitted from the regression analyses as it was for the group-level analyses.

As would be expected when students were excluded, most correlations involving remunerative power, instrumental goals, altruistic goals, and group size were reduced and mutual confounding was eliminated. However, instrumental goals was still confounded with altruistic goals ($r = .54, p < .05$). Many correlations increased in size to varying degrees (especially for coercive power, organization size, and relational goals). The correlation between coercive power and remunerative power changed sign ($r = .30, p < .05$), indicating that the student subsample provided important situations where coercive power was high and remunerative power was low.

Appendix Table E-4(b) (p. 286) shows intercorrelations among individual and contextual characteristics for the total sample. Only the larger and more important correlations will be commented upon, as an appreciation of these will be useful in interpreting regression results; while many other correlations are significant, these are quite small or only of passing interest. Correlations for organization type and instrumental goals will not be discussed. In the table, older members tended to have low coercive power, high remunerative power, and low normative power exercised over them ($r = -.34$, $.40$, and $.17$, respectively), and their groups tended to have high altruistic goals ($r = .50$). The highly educated tended to be subjected to low coercive power ($r = -.49$), high remunerative power ($r = .18$), and low normative power ($r = -.42$) within larger or-
ganizations \( r = .18 \). Highly educated members also tended to be situated within groups having high altruistic goals \( r = .34 \) and low relational goals \( r = -.38 \). Females and those with plans for future education tended to have low remunerative power exercised over them \( r = -.26 \) and -.30, respectively). Most opportunity for advancement was likely to occur within the larger organizations \( r = .19 \) and the groups within which these potentially mobile members functioned were likely to have high relational goals \( r = .27 \). Members who saw many opportunities for themselves elsewhere tended to have low normative power affecting them \( r = -.19 \). As expected, union members tended to be subjected to remunerative power and situated within large organizations and altruistic groups \( r = .29, .17, \) and .27, respectively). To some degree, union members also tended to form cohesive groups \( r = .14 \). High achievers tended to be controlled by remunerative power, and to be members of altruistic groups \( r = .17 \) and .21, respectively).

When students were excluded, correlations between individual and contextual characteristics tended to be either reduced, increased, or left unchanged. The contextual characteristics most affected were those outlined above when describing correlations among contextual characteristics for employees. Regarding individual characteristics, most correlations for demographic variables tended to be reduced (except for education level, where correlations were often increased). Other individual characteristics affected were opportunity for advancement and union membership (often increased) and opportunities elsewhere (most often reduced). Thus, as for the correlations among individual characteristics, the exclusion of students often reduced more correlations than it increased (and usually affecting the same variables), but the overall level of redundancy among variables would not appear to be more than could be accommodated by regression analysis.

The correlations between contextual characteristics and member involvement reported for the total sample in Appendix Table E-4(b) may be compared to those obtained at the group level of analysis (Tables 4-5 and 6-1). Although the logarithm of calculative involvement was used (versus the square root transformation at the level of groups), its correlations with other variables were comparable with the correlations obtained for groups. The logarithm of calculative involvement correlated significantly with coercive power, group cohesion, and altruistic goals \( r = .19, -.17, \) and -.25, respectively). Correlations for net commitment were increased slightly for remunerative power \( r = .14 \) and group cohesion \( r = .12 \), while they were decreased for coercive power, normative power, organization size, and altruistic goals \( r = -.25, .14, -.16, \) and .21, respectively). Correlations between contextual characteristics and calculative involvement in the total sample tended to be lowered by the inclusion of students, particularly the correlations for coercive power, remunerative power, and group size. In the total sample, correlations for net commitment with normative power, organization size, and group cohesion tended to be reduced, while its correlations with coercive power, members' self-assertiveness, and altruistic goals
tended to be increased. Thus, net commitment was likely to be affected more than calculative involvement by changes in contextual characteristics when students were excluded, and some of these effects may contribute to redundancies among independent variables. However, while contextual characteristics appeared to have marked effects on variables characterizing students, the correlations remained generally low.

Before utilizing these measures of organization, group, and individual characteristics in regression analyses, the consistency of involvement correlations within organization type may be checked for the total sample, particularly those for remunerative power. It will be remembered that remunerative power was differentially related to all measures of involvement by organization type: in particular, its correlation with calculative involvement was positive only within health-welfare agencies, and negative within both other types of organizations sampled. A suggestion was made in Chapter 6 that the differential effect could be due to heterogeneity of groups within the various categories of organizations. For example, the inclusion of both religion-based social service groups and public bureaucracies within health-welfare agencies could produce a spurious correlation between remunerative power and calculative involvement if correlations within each subsample were zero but their mean scores on the two variables were substantially different. Therefore, the subsample for each organization type was further divided according to possible differences in goals. Business firms were divided into three parts: department stores, firms providing services (e.g., insurance) to clients, and bureaucratic professional concerns (49, 51, and 44 members, respectively). Health-welfare agencies were subdivided into large public welfare bureaucracies, public health services, and small normative social services (38, 47, and 43 members, respectively). Educational institutions were divided into public and private concerns, each including both staff and students (87 and 107 members, respectively).

When administrator-reported remunerative power was correlated with the logarithm of calculative involvement within each of these groupings, the correlations were consistent with those calculated for the appropriate organization type. That is, the differential effect of remunerative power by organization type did not appear to be due to heterogeneous organizations within each category. Correlations between other variables and involvement were also generally consistent—a few inconsistencies were evident, particularly for net commitment within business firms, but for either dependent variable these included only variables of minor importance. When correlations within each type of organization were compared (business, health-welfare, or education; \( n = 144, 128, \) and 194 members, respectively), differential effects for net commitment tended to occur for group size, education level, and union membership within educational institutions, reflecting the

\(^1\) A significance test for a combination of tests was used (Jones & Fiske, 1953).
heterogeneous nature of teacher and student groups on these variables (cf., p. 160, above) and the
effect that students evidently had on net commitment (as previously described).

The variables to be used in the regression analyses will now be summarized. Organization
characteristics included administrator-reported organizational power (coercive, remunerative, and
normative) and the logarithm of organization size. Organization type (business, health-welfare, or
education) was retained for tests of unpredicted residual effects. Group characteristics included
the observers' measures of members' self-assertiveness and group cohesion, member-reported
group goals (relational and altruistic), and the logarithm of group size (a composite derived from
several sources). Individual characteristics, obtained from group members, comprised four
demographic variables (age, sex, education level, and plans for future education), four role vari-
ables (the logarithm of time in the organization, opportunity for advancement, opportunities else-
where, and union membership), and three personality variables (achievement motivation, per-
sonal autonomy, and liking for change).

7.3.2. REGRESSION ANALYSES FOR TOTAL SAMPLE

As for the group-level analyses, separate hierarchical setwise regression analyses were carried
out with two kinds of involvement as dependent variable (calculative involvement and net
commitment). The two dependent variables appeared to be distinct, though negatively correlated,
at the individual level of analysis. Despite this correlation, separate multiple regression analyses
were applied because neither dependent variable was expected to cause the other and both were
expected to be effects of independent variables (Cohen & Cohen, 1975, p. 441). For details of the
regression procedure, see Section 4.2.2 (p. 95, above). As will be detailed shortly, the independ-
ent variables were entered in sets at successive stages, from the most theoretically relevant to
those of only minor concern. As noted above, transformations were made to highly skewed vari-
ables. Also, component variables of interactions were standardized to minimize confounding with
their products. The predictor variable mean was substituted for any missing scores encountered,
and there were no missing scores on the dependent variables. Since the sample size was relatively
large, the significance tests of partial regression coefficients had sufficient power to detect
'medium' effects with 25 independent variables (the last set containing 2 variables) and a Type I
error rate of .01 (Cohen & Cohen, 1975). However, the Type I error rate was kept at .05 to avoid
the possibility of increasing Type II errors.

Organization and group characteristics were entered first (as for the group-level analysis), fol-
lowed by individual characteristics, interactions, and variables exerting possible residual effects.
Organization characteristics comprised three sets entered at successive stages: the kind(s) of or-
ganizational power hypothesized to affect the dependent variable under investigation, followed by
the remaining kinds of power and the logarithm of organization size. (Organization type was not included at this early stage.) Group characteristics were then entered as a single set. Next, individual characteristics were introduced in three consecutive sets: demographic, role, and personality variables, respectively. The pool of independent variables up to this point comprised four organization characteristics, five group characteristics, and 11 individual characteristics, so individual and contextual variables were roughly equal in number. Next, products of each kind of organizational power and members’ achievement motivation were added to form an interaction set. Finally, effects-coded organization type (see p. 96, above) was added as a set of two variables, in case there were any residual effects attributable to the different kinds of organizations sampled.

A number of checks were made for the results obtained. Diagnostics in the SPSS\textsuperscript{x} regression procedure indicated that the regression assumptions were satisfied when calculative involvement was the dependent variable, but the residuals departed slightly from normal when net commitment was the dependent variable. In any case, the problem was not serious enough to warrant consideration of alternative methods of regression analysis. Signs and magnitudes of regression coefficients were extremely important in this study, and checks had to be made whether these were determined largely by one or two very influential observations. The SPSS\textsuperscript{x} regression procedure also provided diagnostics for multicollinearity (a likely problem with such a large number of independent variables at the individual level of analysis). To determine the extent of redundancy (and suppression) among variables, the technique described by Cohen and Cohen (1975) was utilized (see p. 99, above). Finally, the validity of each model was investigated using deleted residuals (see p. 100, above).

For each dependent variable, the hierarchical regression analysis will be summarized, followed by the regression coefficients for each independent variable in the equation at the final stage. Plots of significant interactions are provided to assist interpretation of interactive effects. Although multicollinearity was within bounds for both dependent variables, it was a greater problem than for group-level analyses. (The condition numbers for calculative involvement and net commitment were 780 and 768, respectively, still within the 1,000 limit suggested by Myers, 1986, p. 220.) The relatively high level of redundancy in each case was contributed to, at least in part, by the impact of students on the large number of variables considered. Since some regression coefficients were affected by redundancy among the independent variables, discussion of significant suppression and redundancy effects on key regression coefficients will be useful. Where it is of interest, the effects of influential observations will also be investigated to more fully interpret beta coefficients. Finally, the model’s prediction capabilities will be outlined.
7.3.2.1. CALCULATIVE INVOLVEMENT AS DEPENDENT VARIABLE

The dependent variable is the logarithm of calculative involvement, and the hierarchical regression analysis with this dependent variable is shown in Table 7-1. Organization characteristics provided much the same result as that obtained at the group level of analysis before unpredictable residual effects were investigated (Table 4-8), although there were some differences. Remunerative power was not significant when entered as the first set, \( F(1, 464) = .086 \). Coercive power and normative power were then entered together as a set and explained 3% of adjusted variance in the dependent variable, \( F(2, 462) = 9.333 \ (p < .05) \). As for the group level of analysis, only coercive power was significant \( (t = 4.307, \ p < .05) \). However, unlike the analysis for groups, the addition of the logarithm of organization size at the next stage failed to significantly increment the explained variance in calculative involvement, \( F(1, 461) = 2.896 \). (The simple correlation for organization size was increased in group-level regression analyses when a group was removed to satisfy the regression assumptions.) Almost 4% of adjusted variance in the dependent variable was explained by organization characteristics (versus 24% in Table 6-3 for groups).

**Table 7-1: Hierarchical Regression Analysis for Calculative Involvement on Organization, Group, and Individual Characteristics**

<table>
<thead>
<tr>
<th>IVs Added</th>
<th>Cum. ( R^2 )</th>
<th>( F ) Cum.</th>
<th>df Cum.</th>
<th>( R^2 ) Cha.</th>
<th>( F ) Cha.</th>
<th>df Cha.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Organization</td>
<td>.037</td>
<td>5.432*</td>
<td>4, 461</td>
<td>.037</td>
<td>5.432*</td>
<td>4, 461</td>
</tr>
<tr>
<td>a. Demographic</td>
<td>.160</td>
<td>7.806*</td>
<td>13, 452</td>
<td>.031</td>
<td>5.217*</td>
<td>4, 452</td>
</tr>
<tr>
<td>b. Role</td>
<td>.171</td>
<td>6.662*</td>
<td>17, 448</td>
<td>.011</td>
<td>2.588*</td>
<td>4, 448</td>
</tr>
</tbody>
</table>

Note: Cum. \( R^2 \) and \( R^2 \) Cha. are adjusted population estimates.

a Figures in parentheses are statistics after the total set of individual characteristics were entered in the order shown.

\* \( p < .05 \), based on 466 members.

Group characteristics added a further 9% to the variance explained; significant predictors at this stage were group cohesion and altruistic goals \( (t = -2.923 \text{ and } -5.542, \text{ respectively; all } p < .05) \). In addition, remunerative power became significant \( (t = 2.434) \) due to suppression by the two significant group characteristics. Almost 13% of the variance in the logarithm of members’ calculative involvement was explained by organization and group characteristics together, compared to
50% at the group level of analysis. This may be expected due to the method of assigning group-level scores to all group members.

When members' demographic characteristics were entered, a further 3% of variance in calculative involvement was explained. This was contributed to by plans for future education ($t = -2.314$) and age ($t = -3.452$; all $p < .05$). Organization size (log) also became significant at this stage ($t = 2.121, p < .05$), being suppressed by education level. Role characteristics explained another 1% of variance in the dependent variable (the significant predictor was opportunities elsewhere, $t = -2.409, p < .05$). Personality characteristics substantially increased the explained variance in calculative involvement (by 9%), largely because all were self-report measures. Personal autonomy, achievement motivation, and liking for change were all significant predictors ($t = 2.437, -5.787, and -2.581$, respectively; all $p < .05$). At this point, group cohesion, plans for future education, and opportunities elsewhere became nonsignificant due to redundancy with one or more personality characteristics. In total, individual characteristics added 13% of explained variance in the dependent variable to that explained by organization and group characteristics. The significant predictors, in decreasing order of absolute $t$-values, were achievement motivation (negative), altruistic group goals (negative), remunerative power, organization size, age (negative), liking for change (negative), personal autonomy, and coercive power. This ordering roughly corresponded to the ordering of betas, with some variable pairs having their betas in reverse order to their $t$-values. These pairs were remunerative power and altruistic goals, age and organization size, and coercive power and personal autonomy.

When the products of each kind of organizational power and achievement motivation were added to the hierarchy, the interactions carried by them explained about 1% more variance in the dependent variable. Two interactions were significant, and will be discussed shortly. Effect-coded organization type failed to significantly increment the variance in the dependent variable explained, $F(2, 440) = 1.834$, so there were no significant residual effects by organization type. The analysis was therefore terminated at the interactions. For the independent variables in the equation at the final stage, 27% of the variance in a member's calculative involvement was explained.

Table 7-2 shows simple and partial regression coefficients for each independent variable in the equation at the final stage. Ten variables were significant: remunerative power, coercive power, the logarithm of organization size, altruistic group goals (negative), age (negative), personal autonomy, achievement motivation (negative), liking for change (negative), the interaction between remunerative power and achievement motivation (negative), and the interaction between normative power and achievement motivation (negative). The simple correlations for all inde-
dependent variables were almost exactly those reported in Appendix Tables E-2 and E-4. The simple correlations for organization and group characteristics were also consistently lower than those reported in Tables 4-5 and 6-1, respectively. The interactions describe the conditional effects of component variables, and the raw score partial regression coefficients were included in Table 7-2 for their interpretation (constant = .698).

As for the significant interactions discussed in Chapter 4, an equation for interactive effects was formed for the total sample using the $b$ coefficients in Table 7-2 for main effects, interaction terms, and intercept (Cohen & Cohen, 1975). By arrangement of its terms, the equation could be expressed as 1) the conditional effects of each kind of organizational power and an intercept (each varying with the level of achievement motivation), or 2) the conditional effect of achievement motivation and an intercept (each of which then varies with the three kinds of power). Of the two alternatives, the former is most relevant for the main hypothesis being tested (that of the effects of remunerative power), and the coercive power interaction may be ignored because it was not significant. Thus, the equation for interactive effects consists of three two-variable terms, each dependent upon the level of achievement motivation. The main effect for achievement motivation serves to alter the intercept term for the full model at different levels of achievement motivation (see Cohen & Cohen, 1975).

Regarding simple effects for remunerative power on calculative involvement, the slope for remunerative power varies from its main effect value with different levels of achievement motivation (the latter weighted by the remunerative power interaction coefficient). High and low levels of achievement motivation may be chosen as one standard deviation above and below the mean of achievement motivation, respectively (see Cohen & Cohen, 1975). At these levels of achievement motivation (1 and -1, in standard units) the $bs$ for remunerative power were calculated to be .031 and .099, respectively (corresponding $\beta$s are .086 and .272). Figure 7-1 is a plot of the interaction over the range of remunerative power and calculative involvement in this study. The standard error of remunerative power also varies with the level of achievement motivation (Stolzenberg, 1979, p. 485), and is used to test the significance and confidence limits of the betas computed for simple effects. Remunerative power is positively and significantly related to the logarithm of calculative involvement at low achievement motivation ($r = 4.117$, $p < .05$), but it has no discernible effect on the dependent variable for high achievers ($r = 1.190$). Thus, the total effect of remunerative power is gauged from both the main effect and interaction--

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2The group removed from the group-level regression analysis, and which affected the simple correlation for organization size, did not cause any problems here with individual characteristics included.

3For example, the $b$ for remunerative power at high achievement motivation is $.065 - .034(1) = .031$. Conversion to beta is then done in the normal way (Stolzenberg, 1979).
Table 7-2: Simple and Partial Regression Coefficients For Organization, Group, and Individual Characteristics With Calculative Involvement as Dependent Variable

<table>
<thead>
<tr>
<th>IVs Added</th>
<th>Source</th>
<th>r</th>
<th>sr</th>
<th>b</th>
<th>β</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Organization</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remunerative Power</td>
<td>A</td>
<td>.014</td>
<td>.126</td>
<td>.065</td>
<td>.179</td>
<td>3.176*</td>
</tr>
<tr>
<td>Normative Power</td>
<td>A</td>
<td>.015</td>
<td>-.048</td>
<td>.021</td>
<td>-.056</td>
<td>-1.214</td>
</tr>
<tr>
<td>Coercive Power</td>
<td>A</td>
<td>.194*</td>
<td>.087</td>
<td>.040</td>
<td>.110</td>
<td>2.198*</td>
</tr>
<tr>
<td>Organization Size (log)</td>
<td>A</td>
<td>.091</td>
<td>.092</td>
<td>.058</td>
<td>.108</td>
<td>2.315*</td>
</tr>
<tr>
<td>2. Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Members’ Self-assertiveness</td>
<td>O</td>
<td>-.035</td>
<td>-.041</td>
<td>-.004</td>
<td>-.046</td>
<td>-1.029</td>
</tr>
<tr>
<td>Relational Goals</td>
<td>M</td>
<td>-.016</td>
<td>-.012</td>
<td>-.002</td>
<td>-.015</td>
<td>-.307</td>
</tr>
<tr>
<td>Group Cohesion</td>
<td>O</td>
<td>-.164*</td>
<td>-.074</td>
<td>-.006</td>
<td>-.092</td>
<td>-1.865</td>
</tr>
<tr>
<td>Altruistic Goals</td>
<td>M</td>
<td>-.251*</td>
<td>-.129</td>
<td>-.014</td>
<td>-.167</td>
<td>-3.256*</td>
</tr>
<tr>
<td>Group Size (log)</td>
<td>C</td>
<td>-.053</td>
<td>-.062</td>
<td>-.077</td>
<td>-.079</td>
<td>-1.567</td>
</tr>
<tr>
<td>3. Individual</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Demographic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plans for Future Education</td>
<td>M</td>
<td>-.040</td>
<td>-.012</td>
<td>-.010</td>
<td>-.014</td>
<td>-.297</td>
</tr>
<tr>
<td>Sex (Female)</td>
<td>M</td>
<td>-.090</td>
<td>-.049</td>
<td>-.044</td>
<td>-.056</td>
<td>-1.240</td>
</tr>
<tr>
<td>Age</td>
<td>M</td>
<td>-.235*</td>
<td>-.102</td>
<td>-.004</td>
<td>-.154</td>
<td>-2.591*</td>
</tr>
<tr>
<td>Education Level</td>
<td>M</td>
<td>-.186*</td>
<td>-.040</td>
<td>-.008</td>
<td>-.062</td>
<td>-1.018</td>
</tr>
<tr>
<td>b. Role</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opportunities Elsewhere</td>
<td>M</td>
<td>-.152*</td>
<td>-.059</td>
<td>-.009</td>
<td>-.063</td>
<td>-1.492</td>
</tr>
<tr>
<td>Time in Organization (log)</td>
<td>M</td>
<td>-.084</td>
<td>-.050</td>
<td>-.041</td>
<td>-.057</td>
<td>-1.259</td>
</tr>
<tr>
<td>Opportunity for Advancement</td>
<td>M</td>
<td>.012</td>
<td>-.034</td>
<td>-.005</td>
<td>-.039</td>
<td>-.861</td>
</tr>
<tr>
<td>Union Membership</td>
<td>M</td>
<td>-.117*</td>
<td>-.067</td>
<td>-.059</td>
<td>-.080</td>
<td>-1.693</td>
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</tbody>
</table>

Continued
Table 7-2 Continued

<table>
<thead>
<tr>
<th>IVs Added</th>
<th>Sourcea</th>
<th>r</th>
<th>sr</th>
<th>b</th>
<th>β</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>c. Personality</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal Autonomy</td>
<td>M</td>
<td>.111*</td>
<td>.087</td>
<td>.010</td>
<td>.091</td>
<td>2.200*</td>
</tr>
<tr>
<td>Achievement Motivation</td>
<td>M</td>
<td>-.343*</td>
<td>-.224</td>
<td>-.090</td>
<td>-.248</td>
<td>-5.677*</td>
</tr>
<tr>
<td>Liking for Change</td>
<td>M</td>
<td>-.165*</td>
<td>-.114</td>
<td>-.011</td>
<td>-.128</td>
<td>-2.893*</td>
</tr>
<tr>
<td>4. Interactions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coercive Power X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Achievement Motivation</td>
<td>A x M</td>
<td>-.048</td>
<td>-.043</td>
<td>-.017</td>
<td>-.044</td>
<td>-1.089</td>
</tr>
<tr>
<td>Remunerative Power X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Achievement Motivation</td>
<td>A x M</td>
<td>-.037</td>
<td>-.090</td>
<td>-.034</td>
<td>-.096</td>
<td>-2.289*</td>
</tr>
<tr>
<td>Normative Power X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Achievement Motivation</td>
<td>A x M</td>
<td>-.147*</td>
<td>-.093</td>
<td>-.040</td>
<td>-.102</td>
<td>-2.363*</td>
</tr>
</tbody>
</table>

Note: r = simple correlation; sr = semi-partial correlation; b = partial regression coefficient; β = standardized partial regression coefficient; t = test statistic for partial regression coefficients.

a A = Administrators; O = Observers; M = Members; C = Composite of Members, Administrators, and Researcher.

* p < .05, based on 466 members.

The interaction explains additional variance to that explained by the main effect of remunerative power (see squared semi-partial correlations).

The interaction between normative power and achievement motivation may be interpreted in a similar way. Normative power varies with the level of achievement motivation; at one standard deviation above and below the mean of achievement motivation, the respective betas for normative power are -.166 and .054. See Figure 7-2 for the interaction plot (again, over the range of normative power and calculative involvement obtained). Normative power significantly reduces the calculative involvement of high achievers only (t = -2.343, p < .05), while its influence on low achievers is negligible (t = .897). The two functions cross within the range of normative power (at -2.24), so high achievers tend to have higher calculative involvement than low achievers only when normative power is below this value (i.e., is almost absent). The crossover effect of the interaction illustrates why there is no significant main effect for normative power.
Figure 7-1: Remunerative Power by Achievement Motivation Interaction, With Calculative Involvement as Dependent Variable.

Figure 7-2: Normative Power by Achievement Motivation Interaction, With Calculative Involvement as Dependent Variable.
An effect for achievement motivation is also evident in the results. As noted above, with the present expression of interactive effects, the achievement motivation main effect alters the intercept (here, significantly) for the full model at different levels of achievement motivation. In the above figures, it is evident that this effect does not apply to low scores on organizational power (where there appears to be little difference between intercepts in each case), but is dependent upon the scaling of the measures of power. To interpret the simple effects for achievement motivation more fully, we may express the interactive effects as alternative 2, above: as a function of the conditional effects of achievement motivation and an intercept term (each dependent upon the levels of the three kinds of organizational power). (Then, the main effects for organizational power in Table 7-2 alter the intercept.) Using this equation, it can be shown that the beta for achievement motivation at the means of all kinds of power is the main effect value of -.248 (Table 7-2). This may be relevant for a prediction equation, but is probably of little interest for describing the effects of achievement motivation. As may be appreciated to some extent in the above figures, where low and high levels of each kind of power are taken to be -1 and 1, respectively, the beta for achievement motivation is .002 where all kinds of power are low ($t = .023$, NS), and -.498 where all kinds of power are high ($t = -4.922$, $p < .05$). Thus, if the measures of organizational power were rescaled to begin at zero, the main effect for achievement motivation would not be significant. As Cohen and Cohen (1975, p. 307) observed, the intercept term is not particularly meaningful when interval scales are used.

A number of other simple effects for achievement motivation were also significant, and provided interesting information: when either of coercive, remunerative, or normative power was low and associated with high scores on the other two kinds of power, the betas for achievement motivation were -.404, -.313, and -.277, respectively (all $p < .05$). While these betas were higher in absolute size than the remunerative power simple effect beta, the corresponding $t$-values were usually lower; an exception was for achievement motivation at high coercive, low remunerative, and high normative power ($\beta = -.313, t = -5.482$). In the absence of a theoretical basis for comparing these simple effects for achievement motivation, the most interesting (and marked) simple effect is that where all kinds of organizational power were high.

The relative importance of these effects will be discussed shortly, but before doing so, it will be helpful to summarize all the predictors found. The significant interactions show that congruence between high levels of total organizational power and members’ achievement motivation tends to reduce calculative attitudes among members. Alternatively, an individual’s calculative involvement tends to be increased by high remunerative power only when the member has low achieve-

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4This was confirmed by rescaling all interaction variables thus, while the same simple effects were obtained.
ment motivation, and it tends to be decreased by high normative power exercised over members with high achievement motivation. Calculative involvement also tends to be reduced by high altruistic group goals, a liking for change, older age, low coercive power, small organization size, and low personal autonomy. Whichever way the interactive effects are expressed, variations in effects across organizational ranks have been taken into account. It will be remembered that age represented (among other things) the member's position in the organizational hierarchy, regardless of whether students were included or not (Appendix Tables E-2 and E-3).

Although not all simple effects would be included in the one regression model, they all form part of the one response surface and can be compared for relative importance. Obviously, the main effects of interaction variables are of little further interest in Table 7-2. When 95% confidence intervals were calculated for all relevant betas, the absolute size of the simple effect of achievement motivation (at high total power) was significantly different from the absolute betas for all other predictors except the simple effect for remunerative power (at low achievement motivation). The latter beta was significantly different (in absolute size) from the betas for coercive power, organization size, and personal autonomy, but had many common values with all other betas. The absolute betas for all predictors other than the simple effect for achievement motivation (at high total power) and the simple effect for remunerative power were likely to have many common values in the population. In terms of the relative importance of predictors, the absolute betas were ordered as for squared semi-partial correlations for the achievement motivation simple effect (at high total power), the remunerative power simple effect, and altruistic goals.

Next, the semi-partial correlations for the normative power simple effect, age, and liking for change were grouped as for their betas, but in a different order: from their absolute t-values, the variables in decreasing order of importance were liking for change, age, and the normative power simple effect. Finally, coercive power, organization size, and personal autonomy were the three poorest predictors; their t-values indicated that organization size was the most important, followed by personal autonomy and coercive power (again, betas were in a different order). Thus, there was quite close correspondence between the ordering of the absolute betas and semi-partial correlations (or t-values), and these agreed with the significant differences observed.

The result for remunerative power is encouraging despite the heterogeneous sample on this construct, the method of assigning group-level scores to group members, and the objective nature of the measure (in comparison to members' self-report). To more fully interpret the contribution of remunerative power to a member's calculative involvement, we may consider how remunera-

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5 Of course, any comparison between simple and main effects is limited because this depends on the somewhat arbitrary representation of low and high levels of interaction variables when simple effects were computed; the present exercise is intended to be indicative rather than conclusive.
tive power became significant (via suppression), whether redundancy with other variables reduced these effects, and if a few influential observations determined the size of the coefficient. The contribution of organization characteristics to calculative involvement is not clear from Table 7-1 because variables entered at a later stage may have suppressed earlier variables or made them redundant. So the overall contribution of independent variables to the dependent variable can only be investigated at the final stage, using the method described by Cohen and Cohen (1975; see p. 99, above). In the final equation (Table 7-2), the beta for remunerative power was significantly increased due to suppressive effects of altruistic goals, group cohesion, age, achievement motivation, and the normative power by achievement motivation product (as distinct from the interaction; see p. 100, above). No significant redundancy effects were found for remunerative power. Suppression occurred because the simple correlations for all the variables just mentioned (except for remunerative power) were significant and negative, while the relationship of each with the other variables was positive. That is, for the total sample, and ignoring the product for simplicity (Cohen & Cohen, 1975, p. 302), high remunerative power tended to coincide with high altruistic goals, high group cohesion, older age, and high achievement motivation. However, inspection of the correlations among these variables within different organization types revealed that these effects were not spread evenly throughout the sample.

Within business firms, high remunerative power tended to be associated with high altruistic goals and high achievement motivation, while in educational institutions, high remunerative power tended to occur with high altruistic goals, high group cohesion, and older age. Thus, it appears that the effect of remunerative power on calculative involvement within business firms and educational institutions (graphed in Figure 4-1, p. 107) was influenced (or hidden) by the effects of the variables just described for the respective organizations. For health-welfare agencies, high levels of remunerative power tended to be exercised over younger members who were in groups having poor cohesion (and, to some extent, among members with low achievement motivation). In this case, the effect of remunerative power on calculative involvement was exaggerated by the effects of the other variables. When the corrections were made for each variable in the regression analysis, the effect of remunerative power on calculative involvement was as shown in Table 7-2 (where no residual effects were found for organization type). The distribution of suppressive effects explains why the interaction between remunerative power and organization type (yielding the significant simple effect of remunerative power in health-welfare agencies) was an unreliable predictor in Chapter 4. As concluded in the group-level results in the previous chapter, if broader subsamples were obtained within business firms and educational institutions, the hypothesized effect for remunerative power on calculative involvement may have been more uniform (and prominent) throughout the total sample.
Significant suppression and redundancy also affected the interactions between organizational power and achievement motivation, due largely to the common achievement motivation variance in the product terms. The remunerative power by achievement product was suppressed both by the normative power by achievement product and group cohesion. The product of normative power and achievement motivation was also somewhat redundant with the product of coercive power and achievement motivation (apparently, their effects on calculative involvement were similar). Both coercive and normative power tended to be exercised over younger members and had similar correlations with some other individual characteristics (Appendix Table E-4), but were redundant only in the context of achievement motivation. The effect of the normative power product (and hence, interaction) was further reduced by organization size.

The beta for group cohesion was significantly reduced in the total sample by altruistic group goals and union membership (all other variables considered) and was not significantly suppressed by any other independent variable. It appears that meaningful group goals are more important for calculative involvement than group cohesion, and that membership of collectivities concerned with activities carried out within the organization has a similar effect to that of group cohesion on calculative involvement. It will be remembered that group cohesion only became nonsignificant after personality characteristics were considered, but this was the result of a gradual decline in the importance of group cohesion after the introduction of altruistic goals and union membership.

As may be appreciated from Table 7-2, several beta coefficients were lower than the corresponding simple correlations, and this was due to a degree of redundancy among clusters of independent variables. The principal contributors to such redundancy were coercive power, altruistic goals, group cohesion, and age, in various combinations with each other and other independent variables (aided slightly by the inclusion of students). However, since multicollinearity was not diagnosed, the problem was not serious enough to warrant further attention.

Diagnostic checks were made for influential observations to determine whether any affected the stability of the regression coefficients and fit of the model. The larger Studentized residuals (over 2 in absolute size; the largest was 2.7) were associated with acceptable leverage and did not appear to exert unusual effects on the regression coefficients or model fit, apart from increasing the respective standard errors. However, one observation (with only a moderate Studentized residual) had extremely high leverage and impacted unusually on several regression coefficients (particularly those for remunerative power, achievement motivation, and the remunerative power by achievement interaction). When the observation was removed from the data set and another regression analysis carried out, the betas for the above coefficients were substantially increased, but without any increase in $R^2$ (other variables were reduced in importance). There was a slight
increase in the standard errors of the coefficients affected by the deleted observation, as would be expected when a high leverage point is deleted (Myers, 1986, p. 279). Despite the increase in the size of some regression coefficients (albeit accompanied by slightly larger standard errors), the results remained essentially the same as those reported in Table 7-2; the same variables were significant and ordered in the same way. No real grounds could be found for deleting the influential observation, so the conclusions remain unchanged.

Finally, the model’s predictive validity was ascertained by the deleted residuals as described earlier (p. 100). $R^2_{\text{Pred}}$ was .241 (compared to .309 for the analysis just reported), so the model appears to have acceptable prediction capabilities.

This section may now be summarized. A member’s calculative involvement tends to be reduced by high achievement motivation, high altruistic group goals, liking for change, and age, and tends to be increased by high remunerative power, large organization size, high personal autonomy, and high coercive power. Additional evidence showed, as expected, that calculative involvement tends to be dependent upon a matching of organizational and individual characteristics: Remunerative power tends to increase calculative involvement only when members have low achievement motivation, and normative power tends to reduce calculative involvement only among high achievers. Stating the interactive effects differently, achievement motivation tends to reduce calculative involvement most when all kinds of organizational power are high. When these simple effects were compared to other predictors, remunerative power at low achievement motivation had the highest beta and $r$-value of all predictors except the achievement motivation simple effect (which appeared to be significantly different from all other predictors except the remunerative power simple effect) Other predictors, in decreasing order of importance and tending to decrease calculative involvement, were high altruistic group goals, a liking for change, age, high normative power exercised over high achievers, small organization size, low personal autonomy, and low coercive power. Some of these predictors, often not group-level scores (particularly achievement motivation), may have derived further advantage by being confounded with self-report. The ordering of absolute betas and semi-partial correlations (or $t$-values) coincided for the three largest betas, and were roughly similar for the remainder. Remunerative power became significant after suppression by altruistic goals, group cohesion, age, and achievement motivation within different organizations was taken into account, and age included variation over organizational ranks. Since the administrators’ measure of remunerative power performed well against self-report measures, strong evidence was provided to show that remunerative power is important for calculative involvement. The model provided fairly stable estimates of regression coefficients and had reasonable predictive validity.
7.3.2.2. NET COMMITMENT AS DEPENDENT VARIABLE

The result of the hierarchical regression analysis with a member's net commitment score as the dependent variable is shown in Table 7-3. The analysis was carried out with 464 members, as two observations (from educational institutions) were deleted in an effort to satisfy the regression assumption of normality as closely as possible. As will be discussed later, the amended analysis was a slight improvement on the original but a more satisfactory outcome was not readily achieved. Organization characteristics were entered as three sets: coercive and normative power together, followed by remunerative power and the logarithm of organization size. Normative power and coercive power together explained over 9% of adjusted variance in net commitment, $F(2, 461) = 24.955, p < .05$. Both were significant ($t = 3.899$ and $-6.376$, respectively; all $p < .05$). Remunerative power significantly explained a further 1% of the variance in the dependent variable, $F(1, 460) = 7.766, p < .05$. (It will be remembered that remunerative power was not a significant predictor of group mean net commitment in Chapter 6.) The logarithm of organization size added a further 1% to the variance explained, $F(1, 459) = 8.643, p < .05$. Over 12% of the variance in a member's net commitment score was explained by organization characteristics (versus 19% for groups in Table 4-8).

### Table 7-3: Hierarchical Regression Analysis for Net Commitment on Organization, Group, and Individual Characteristics

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>Organization</strong></td>
<td>.121</td>
<td>17.005*</td>
<td>4, 459</td>
<td>.121</td>
<td>17.005*</td>
<td>4, 459</td>
</tr>
<tr>
<td>2. <strong>Group</strong></td>
<td>.158</td>
<td>10.632*</td>
<td>9, 454</td>
<td>.037</td>
<td>4.949*</td>
<td>5, 454</td>
</tr>
<tr>
<td>3. <strong>Individual</strong>&lt;sup&gt;a&lt;/sup&gt;</td>
<td>(.262)</td>
<td>(9.204*)</td>
<td>(20, 443)</td>
<td>(.104)</td>
<td>(6.811*)</td>
<td>(11, 443)</td>
</tr>
<tr>
<td>a. <strong>Demographic</strong></td>
<td>.212</td>
<td>10.595*</td>
<td>13, 450</td>
<td>.054</td>
<td>8.856*</td>
<td>4, 450</td>
</tr>
<tr>
<td>b. <strong>Role</strong></td>
<td>.241</td>
<td>9.627*</td>
<td>17, 446</td>
<td>.029</td>
<td>5.195*</td>
<td>4, 446</td>
</tr>
<tr>
<td>c. <strong>Personality</strong></td>
<td>.262</td>
<td>9.204*</td>
<td>20, 443</td>
<td>.021</td>
<td>5.247*</td>
<td>3, 443</td>
</tr>
</tbody>
</table>

Note: Cum. $R^2$ and $R^2$ Cha. are adjusted population estimates.

<sup>a</sup> Figures in parentheses are statistics after the total set of individual characteristics were entered in the order shown.

* $p < .05$, based on 464 members.

As shown in Table 7-3, group characteristics explained another 4% of the variance in the dependent variable. The only significant group characteristic was altruistic goals ($t = 2.918, p < .05$), and this caused remunerative power to become nonsignificant ($t = 1.280$) because of redundancy between them. Therefore, the group and organization characteristics found to be sig-
significant predictors of an individual's net commitment score were exactly the same as those found to predict group mean net commitment (Table 6-6). Whereas group and organization characteristics explained 27% of the variance in the dependent variable in the analysis for groups, almost 16% of the (adjusted) variance in the net commitment of members was explained in Table 7-3.

When demographic variables for group members were entered as a set, another 5% of the variance was explained (adjusted $R^2$), chiefly by age ($t = 5.129, p < .05$). Redundancy with age forced altruistic goals to become nonsignificant ($t = 1.002$). The set of role characteristics added next significantly incremented the adjusted $R^2$ by almost 3%—significant predictors were opportunities elsewhere ($t = 3.135$) and opportunity for advancement ($t = 2.521$; all $p < .05$). Sex (female) became significant ($t = 2.368, p < .05$) because it was suppressed by opportunity for advancement. When personality characteristics were included, these explained only a further 2% of variance in the dependent variable; significant predictors were personal autonomy and achievement motivation ($t = -2.669$ and 2.517, respectively; all $p < .05$). Sex (female) dropped out of the equation due to redundancy with personal autonomy. In total, individual characteristics added 10% of variance in net commitment to that explained by group and organization characteristics; 26% of the variance in the dependent variable was explained by organization, group, and individual characteristics. The three exploratory interactions between each kind of organizational power and achievement motivation did not significantly increment the variance explained, $F(3, 440) = .085$, nor did effects-coded organization type, $F(2, 441) = 2.196$.

The regression coefficients for the independent variables in the equation after the inclusion of all individual characteristics are shown in Table 7-4, in the order that the variables were entered into the hierarchy. Eight variables were significant: normative power, coercive power (negative), organization size (negative), age, opportunities elsewhere, opportunity for advancement, personal autonomy (negative), and achievement motivation. Apparently, in the context of the other independent variables, altruistic goals and group cohesion were not important for a member's net commitment. The simple correlations for all independent variables were close to those reported in Appendix Tables E-2 and E-4. Also, the significant simple correlations for organization and group characteristics were less than those reported in Tables 4-5 and 6-1, and in the regression analyses at the group level of analysis (Table 6-6). In particular, the simple correlation for the logarithm of organization size was not affected by the deletion of subjects from the regression analysis (it was affected in Chapters 4 and 6).6

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6 Again, it became apparent that the unusual nature of one of the two groups deleted at the group level of analysis was adequately accounted for here with the inclusion of individual characteristics.
Table 7-4: Simple and Partial Regression Coefficients For Organization, Group, and Individual Characteristics With Net Commitment as Dependent Variable

<table>
<thead>
<tr>
<th>IVs Added</th>
<th>Source(^a)</th>
<th>(r)</th>
<th>(sr)</th>
<th>(\beta)</th>
<th>(t)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Organization</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normative Power</td>
<td>A</td>
<td>.135*</td>
<td>.164</td>
<td>.190</td>
<td>4.117*</td>
</tr>
<tr>
<td>Coercive Power</td>
<td>A</td>
<td>-.261*</td>
<td>-.151</td>
<td>-.190</td>
<td>-3.778*</td>
</tr>
<tr>
<td>Remunerative Power</td>
<td>A</td>
<td>.138*</td>
<td>-.015</td>
<td>-.021</td>
<td>-.369</td>
</tr>
<tr>
<td>Organization Size (log)</td>
<td>A</td>
<td>-.162*</td>
<td>-.101</td>
<td>-.117</td>
<td>-2.538*</td>
</tr>
<tr>
<td>2. Group</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Members’ Self-assertiveness</td>
<td>O</td>
<td>-.092</td>
<td>-.032</td>
<td>-.036</td>
<td>-.813</td>
</tr>
<tr>
<td>Relational Goals</td>
<td>M</td>
<td>.017</td>
<td>.009</td>
<td>.011</td>
<td>.220</td>
</tr>
<tr>
<td>Group Cohesion</td>
<td>O</td>
<td>.124*</td>
<td>.058</td>
<td>.071</td>
<td>1.452</td>
</tr>
<tr>
<td>Altruistic Goals</td>
<td>M</td>
<td>.205*</td>
<td>.029</td>
<td>.038</td>
<td>.729</td>
</tr>
<tr>
<td>Group Size (log)</td>
<td>C</td>
<td>-.049</td>
<td>.039</td>
<td>.049</td>
<td>.985</td>
</tr>
<tr>
<td>3. Individual</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Demographic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plans for Future Education</td>
<td>M</td>
<td>-.153*</td>
<td>-.029</td>
<td>-.033</td>
<td>-.714</td>
</tr>
<tr>
<td>Sex (Female)</td>
<td>M</td>
<td>.090</td>
<td>.078</td>
<td>.088</td>
<td>1.949</td>
</tr>
<tr>
<td>Age</td>
<td>M</td>
<td>.339*</td>
<td>.204</td>
<td>.306</td>
<td>5.110*</td>
</tr>
<tr>
<td>Education Level</td>
<td>M</td>
<td>.076</td>
<td>-.022</td>
<td>-.035</td>
<td>-.563</td>
</tr>
<tr>
<td>b. Role</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opportunities Elsewhere</td>
<td>M</td>
<td>.177*</td>
<td>.110</td>
<td>.118</td>
<td>2.753*</td>
</tr>
<tr>
<td>Time in Organization (log)</td>
<td>M</td>
<td>-.008</td>
<td>-.048</td>
<td>-.054</td>
<td>-1.192</td>
</tr>
<tr>
<td>Opportunity for Advancement</td>
<td>M</td>
<td>.071</td>
<td>.104</td>
<td>.120</td>
<td>2.614*</td>
</tr>
<tr>
<td>Union Membership</td>
<td>M</td>
<td>.047</td>
<td>.009</td>
<td>.011</td>
<td>.237</td>
</tr>
</tbody>
</table>

Continued
Table 7-4 Continued

<table>
<thead>
<tr>
<th>IVs Added</th>
<th>Source</th>
<th>r</th>
<th>sr</th>
<th>β</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>c. Personality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal Autonomy</td>
<td>M</td>
<td>-.108*</td>
<td>-.107</td>
<td>-.111</td>
<td>-2.669*</td>
</tr>
<tr>
<td>Achievement Motivation</td>
<td>M</td>
<td>.166*</td>
<td>.101</td>
<td>.110</td>
<td>2.517*</td>
</tr>
<tr>
<td>Liking for Change</td>
<td>M</td>
<td>-.120*</td>
<td>-.072</td>
<td>-.080</td>
<td>-1.808</td>
</tr>
</tbody>
</table>

Note: r = simple correlation; sr = semi-partial correlation; β = standardized partial regression coefficient; t = test statistic for partial regression coefficients.

a A = Administrators; O = Observers; M = Members; C = Composite of Members, Administrators, and Researcher.

* p < .05, based on 464 members.

After age, normative and the coercive power provided the largest point estimates (in absolute size) of population betas, and these were ordered as their corresponding semi-partial correlations. These coefficients were also markedly higher in absolute size than those for remaining predictors. The next four highest (of course, absolute) betas were also associated with the next highest semi-partial correlations, but the latter were ordered differently. Finally, achievement motivation had both the lowest beta and the lowest semi-partial correlation. The 95% confidence intervals for betas showed that all were likely to have similar values in the population, but the predictors ordered in importance according to their squared semi-partial correlations (or t-values) were age, normative power, coercive power, opportunities elsewhere, personal autonomy, opportunity for advancement, organization size, and achievement motivation. Again, age included some variation in net commitment over organizational ranks left unexplained by the other significant predictors; in particular, both coercive and normative power tended to be highest at low ranks (or ages; see Appendix Table E-4). While coercive power and normative power have betas of the same magnitude and of opposite sign, these are independent joint contributors to a member’s net commitment. When the two variables were removed from the equation together, the change in adjusted $R^2$ was .053, $F(2, 443) = 16.387, p < .05$. That is, coercive power and normative power together explained over 5% of the variance in the dependent variable, compared to about 4% for age ($R^2 = .042$). While the 95% confidence intervals of the multiple partial correlation for the former and the partial correlation for the latter (see p. 112, above) were quite similar (.170 to .345, and .145 to .321, respectively), the combination may be considered more important here.

Obviously, there is an increased likelihood of redundancy among such a large number of inde-
dependent variables and, as the SPSS$^3$ multicollinearity diagnostics indicated, this was apparent (though not serious) for net commitment as dependent variable. The method described earlier to test the magnitude and significance of suppression and redundancy effects (p. 99) may be used to further interpret results. As shown in Table 7-4, most significant betas were well below their significant simple rs, while others (e.g., group cohesion) were not significant predictors in the final analysis. The only variable where a nonsignificant simple correlation yielded a significant beta was opportunity for advancement (it was suppressed by organization size and age). It will be remembered that coercive power had a larger (absolute) $t$-value than normative power upon entering the equation, but the two kinds of power achieved quite similar betas after all independent variables had been entered. This was because the beta for normative power was increased due to suppression by group cohesion and opportunities elsewhere (the only such case of overall suppression), while coercive power was reduced by (or was somewhat redundant with) age and organization size. Group cohesion was significantly redundant with remunerative power, organization size, and altruistic goals, while being suppressed by normative power. Many clusters of variables were redundant to varying degrees, and the principal variables featuring in these were remunerative power, altruistic goals, and age; one or more were involved in various combinations with each other and other variables.\textsuperscript{7} Evidently, such variables featuring prominently among students affected correlations for net commitment, as discussed earlier. However, the effects on the beta coefficients were reasonably uniform.

The analysis reported in Tables 7-3 and 7-4 had deleted the two largest outliers (Studentized residuals $> 3$ in absolute size) in an attempt to satisfy the regression assumption of normality, but others appeared when the new regression was calculated. The apparent cause of the problem was a slightly skewed dependent variable, but no adequate transformation could be found. It was estimated that up to 10 cases would eventually have to be deleted to remove all large outliers, but the removal of so many observations could not be justified. The analysis was therefore left unchanged. A check was made to see whether any of the outliers were unusually influential on the fit of the equation or the sign and magnitude of the regression coefficients. While the affected observations yielded sizeable outliers, none had unusually large leverage and thus were not considered likely to affect estimates of the slopes for the independent variables; instead, these would be likely to affect estimates of the intercept and increase standard errors (Myers, 1986). The diagnostics did not indicate any observations having unusual influence on regression coefficients or model fit, so the results reported above are acceptable.

\textsuperscript{7}Note that remunerative power and altruistic goals were in a suppressor relationship at the group level of analysis, but were somewhat redundant here because remunerative power was correlated positively with net commitment (versus the zero correlation in Chapter 6).
The validity of the model was again tested using deleted residuals (p. 100), and the $R^2_{pred}$ statistic was .225 (versus $R^2 = .294$ for the model reported in Table 7-4). This reflects reasonable predictive validity, and the decrement is about the same as that for the previous dependent variable. The improvement in prediction (over the analysis for group an organization characteristics) was apparently gained by including individual characteristics, and age in particular.

In summary, net commitment tends to increase particularly when high normative power and low coercive power are exercised, and when members are older. Furthermore, net commitment tends to increase among individuals with many opportunities elsewhere, low personal autonomy, membership in small organizations, much opportunity for advancement within the organization, and high achievement motivation. Although age had the highest absolute beta and semi-partial correlation of all independent variables, it appeared to explain less variance in a member's net commitment score than did coercive power and normative power together (each was expected to predict a component of net commitment). Age accounted for variance in the dependent variable not explained by other predictors and represented, to some degree, variation attributable to organizational rank. It was apparent that the independent effects of coercive power and normative power applied mostly to lower ranks. An unexpected finding was that the exploratory interactions between each kind of organizational power and achievement motivation were not significant. Thus, the effects reported above for coercive power and normative power, adjusted for all other predictors, apply to all group members, regardless of their level of achievement motivation (which has its own independent effect). The model had acceptable prediction capabilities.

### 7.4. CHAPTER SUMMARY

The measures of member-reported individual characteristics were described, and those retained for regression analyses included four demographic variables (age, sex, education level, and plans for future education), four role variables (logarithm of time in the organization, opportunity for advancement, opportunities elsewhere, and union membership), and three personality variables (achievement motivation, personal autonomy, and liking for change). Scores on group and organization characteristics considered as predictors of group mean involvement in the previous chapter were assigned to all group members. Intercorrelations among these scores, individual characteristics, and member involvement indicated that some correlations (chiefly those for remunerative power, altruistic goals, and group size) increased substantially because large groups tended to have low scores on both remunerative power and altruistic goals. Correlations likely to contribute to linear dependencies among variables were discussed, and these appeared to be affected by the student subsample.
Separate hierarchical setwise regression analyses were carried out with two kinds of involvement as dependent variable: the logarithm of calculative involvement, and net commitment. Organization characteristics were entered as described in Chapter 4, up to the point where unpredicted residual effects were about to be tested. Group characteristics (except for instrumental goals) were then entered as a set. Next, individual characteristics were introduced to the analysis in three consecutive sets: demographic, role, and personality variables as described above. Then, interactions between each kind of organizational power and achievement motivation were considered, followed by effects-coded organization type.

The regression analyses provided partial support for the hypotheses. Among the predictors of calculative involvement, the simple effect of remunerative power at low achievement motivation had the second-highest absolute beta and semi-partial correlation (after the negative simple effect of achievement motivation at high levels of all kinds of power, i.e., high total power). Other predictors, in decreasing order of importance, were altruistic group goals, liking for change, age, the simple effect of normative power at high achievement motivation (all negative), organization size, personal autonomy, and coercive power. The absolute beta of achievement motivation at high total power was significantly larger than those for all other predictors except the remunerative power simple effect. Group cohesion was not a significant predictor. The relatively objective group-level measure of remunerative power performed well against self-report measures (which also were usually not group-level scores). The observed differential effect of remunerative power on calculative involvement by organization type was attributed to differential suppressive effects of altruistic goals, group cohesion, age, and achievement motivation within the different types of organizations, according to the sample obtained. The model had acceptable prediction capabilities.

A member's net commitment to the organization was predicted (in decreasing order of importance) by age, normative power, coercive power (negative), opportunities elsewhere, personal autonomy (negative), opportunity for advancement, organization size (negative), and achievement motivation. However, the variance explained by a combination of coercive and normative power (hypothesized to be predictors of components of net commitment) was the highest among all predictors. Since the exploratory interactions were not significant, coercive power and normative power influence all members in the same way, regardless of differences in personal achievement motives. Once more, the relatively objective group-level measures of organizational power performed reasonably well against self-report measures. The model achieved acceptable predictive validity.
Chapter 8

DISCUSSION

The results were encouraging and provided useful information about involvement and its antecedents. Evidence was provided for important differences between involvement types and how the social context affects members' attitudes. The kinds of organizational power discussed by Etzioni (1961) were found to be key predictors of particular attitudes and in some situations the effects of organizational power depended upon the level of members' achievement motivation; other organization, group, and individual characteristics were of secondary importance. The findings have implications for organization behaviour and Etzioni's (1961) compliance thesis. With further development of involvement theory around the compliance model, the relative importance of individual and structural characteristics may be specified in more detail to provide a complete understanding of member involvement in organizations. The major emphasis here is on the findings and their implications, but suggestions are made about how to improve the methodology and the possible directions of involvement research in the future. The chapter concludes by outlining the contributions of the present study.

8.1. STUDY FINDINGS

Before summarizing the main findings of the study, a brief overview of the regression analyses yielding these will be provided. Independent variables consisted of organization and group characteristics (each of which pertained to entire groups), individual characteristics (of group members), and combinations of individual and contextual (group-level) characteristics. Organization characteristics were administrator-reported organizational power (coercive, remunerative, normative), and administrator-reported organization size. Researcher-coded organization type, based on the expected purposes of the organizations sampled (business, health-welfare, or education), was used to test for unpredicted residual effects after all other independent variables had been considered. Group characteristics comprised the observers' measures of members' self-assertiveness and group cohesion, member-reported group goals (relational and altruistic), and a composite-source scale of group size (items were provided by group members, administrators, and the researcher). Individual characteristics consisted of member-reported demographic, role, and personality variables. Demographic variables included age, sex, education level, and plans for
future education. Role variables considered were time in organization, opportunity for advancement, opportunities elsewhere, and union membership. Personality variables consisted of achievement motivation, personal autonomy, and liking for change.

Results were reported at both the group and individual levels of analysis (n = 85 groups and 466 members, respectively). In the first instance, separate group-level hierarchical regression analyses were carried out with organization characteristics as independent variables (dependent variables were, in turn, the group means of alienative, calculative, and moral involvement). Because alienative and moral involvement were confounded, another regression analysis investigated organization characteristics as predictors of a group's mean net commitment (moral minus alienative involvement). For group mean calculative involvement as dependent variable, an interaction between remunerative power and organization type (business, health-welfare, or education) was included as an unpredicted residual effect. Group characteristics were then added to the regression analyses conducted with the group means of both calculative involvement and net commitment as dependent variables (ignoring the unpredicted residual effect just described). Finally, interactions between each kind of organizational power and members' self-assertiveness (the latter representing group-level achievement motivation among members) were considered.

Group-level scores on organization and group characteristics were then assigned to all group members as contextual characteristics. Separate hierarchical regression analyses (over 466 members) investigated organization, group, and individual characteristics as predictors of both calculative involvement and net commitment. Organization and group characteristics were entered into the analyses as they were at the group level, and individual characteristics were introduced in consecutive sets of demographic, role, and personality variables. Interactions between each kind of organizational power and achievement motivation were then considered.

In the remainder of this section, the findings pertaining to these analyses are reported for each hypothesis stated in Chapter 1. All tests of hypotheses were against a background of the other variables in the final equation at the group and individual levels of analysis. When summarizing the findings of interest to this study, restatement of the hypothesis is followed by the relevant results at the group level, followed by those at the individual level. The predictors of the most useful dependent variables in the various analyses are summarized in Figures 8-1, 8-2, and 8-3. These figures show betas for significant simple effects of interactions (as distinct from the main effects of interactions previously reported in tables) and main effects of remaining predictors. Significant main effects of component variables in interactions are shown parenthetically, as these have been used to compute the simple effects reported. Even though hypotheses 1 to 3 were directed at the effects of organizational power (others were concerned with secondary factors), all
other significant predictors will be reported at that time to provide an indication of how organizational power compared to other likely predictors suggested by the literature. Any implications of the results will be deferred until the next section; the emphasis here is on reporting the results and interpreting them.

The predictors of alienative involvement (the subject of hypothesis 1) were directly tested only with organization characteristics as independent variables at the group level of analysis. Since alienative and moral involvement were confounded and later combined to form net commitment (of which alienative involvement represented negative commitment), evidence for this hypothesis will be presented at the same time as the results for hypothesis 3 below. This will be in accordance with the presentation of results throughout the study. Thus, the summary of findings will begin with hypothesis 2.

**Hypothesis 2:** Calculative involvement is positively related to remunerative power. This hypothesis was clearly supported at the group level of analysis when organization and group characteristics were considered (Figure 8-2) and for individual members (Figure 8-3). When the independent variables were restricted to organization characteristics at the level of groups, remunerative power was found to predict a group’s mean calculative involvement only within health-welfare agencies (Figure 8-1); the differential effect of remunerative power on calculative involvement by organization type had to be included as an unpredicted residual effect. However, although the beta coefficient for the simple effect of remunerative power on group mean calculative involvement within health-welfare agencies was extremely high, it also had an unusually high standard error and was a less reliable predictor than the only other predictor (coercive power in the total sample). Coercive power had the highest t-value and appeared to be the most important predictor, regardless of whether the differential effect of remunerative power was included or not. While partial support was provided for the hypothesized effects of remunerative power, other variables may help to show these effects more clearly. The regression model using only organization characteristics had poor prediction capabilities and would most likely benefit from the consideration of additional independent variables.

When group characteristics were considered along with organization characteristics, remunerative power was positively related to group mean calculative involvement and this result applied to the total sample. Betas of predictors were ordered as for their squared semi-partial correlation coefficients; in decreasing order of importance, the mean calculative involvement within a group tended to be increased when the group’s altruistic goals were low, coercive power was high, remunerative power was high, the organization was large, and group cohesion was low (Figure 8-2). The differential effect of remunerative power on calculative involvement by organization
Figure 8-1: Organization Characteristics as Predictors of Group Mean Involvement

Note: Numbers are beta coefficients.

type (Figure 8-1) was attributed to remunerative power being suppressed by altruistic goals within business firms and educational institutions (where high remunerative power tended to coincide with high altruistic goals), and the independence of the two variables within health-welfare agencies. This regression model achieved reasonable predictive validity.

Figure 8-2: Organization and Group Characteristics as Predictors of Group Mean Involvement

Note: Numbers are beta coefficients.

A similar set of predictors (with the exception of organization size) was obtained with contex-
tual (organization and group) characteristics as independent variables at the individual level of analysis (where calculative involvement was distinct from, though correlated with, net commitment). After individual characteristics were added (without interactions), administrator-reported remunerative power had the second-highest absolute beta and third-highest squared semi-partial correlation (or t-value) after achievement motivation. While the relative sizes of absolute betas and squared semi-partial correlations corresponded closely, some variable pairs had these coefficients in reverse order, i.e., a variable having the higher beta had the lower semi-partial correlation. The variable pairs so affected were remunerative power and altruistic group goals, age and organization size, and coercive power and personal autonomy. The relative importance of predictors may be indicated by the ordering of absolute t-values: in decreasing order of importance, a member’s calculative involvement tended to be increased by low achievement motivation, low altruistic goals, high remunerative power, large organization size, younger age, little liking for change, high personal autonomy, and high coercive power. Here, both the achievement motivation and altruistic goals effects depended to some extent on measures obtained from the same source as involvement, and achievement motivation was an individual-level variable.

After this, the interaction set between organizational power and members’ achievement motivation was considered; two of its component interactions were significant and the model had reasonable prediction capabilities (Figure 8-3). In view of the current focus (the effect of remunerative power on calculative involvement), the most relevant expression of interactive effects is the conditional effects of each kind of organizational power. Expressed in this way, only the first two simple effects in Figure 8-3 apply, along with all main effects except the no-longer-interesting main effect for remunerative power (the achievement simple effect may be ignored for the present). A member’s calculative involvement thus tended to be increased by high remunerative power at low achievement motivation, large organization size, high personal autonomy, and high coercive power. In addition, calculative involvement tended to be decreased by high altruistic group goals, a liking for change, older age, and a conjunction of high normative power and high achievement motivation. The negative main effect for achievement motivation served to alter the intercept term for the full model, indicating that high achievement motivation tended to reduce calculative involvement. However, this effect was shown to vary with the arbitrary zero point of the organizational power scales, and was not significant when the measures of interaction variables were rescaled to begin at zero. While the main effect of an intercept term is not particularly meaningful with interval scales (Cohen & Cohen, 1975, p. 307), conditional negative effects for achievement motivation are implicit in the above simple effects for organizational power.

To illustrate the overall negative contribution of achievement motivation, the interactions may
be expressed as the simple effects of achievement motivation at different levels of organizational power (thus replacing the previous expression). A number of simple effects for achievement motivation at different combinations of power were found to reduce calculative involvement, but the one of most interest (and the most marked) was where all kinds of power were high (i.e., total power was high). Using this interpretation of interactive effects, the other simple effects in Figure 8-3, and the main effect for achievement motivation, may then be ignored. The main effects for coercive power and remunerative power then alter the intercept term at the mean of achievement motivation (an interval scale), and the main effect for remunerative power particularly is not meaningful in that context. Although the interactive effects could be expressed in two different ways (and not all these simple effects would be considered at the same time in the one equation), the simple effects all form part of the response surface and may be compared to determine their relative importance. Thus, while the simple effect of remunerative power at low achievement motivation can be shown to be the most important predictor for some purposes (e.g., a prediction equation with achievement altering the intercept), it remains a secondary predictor, particularly to the overall negative simple effect of achievement motivation at high total power. The simple effect of remunerative power (at low achievement motivation) had the second-highest absolute
beta and t-value after the simple effect of achievement motivation (at high total power) which, as indicated earlier, had the advantage of being an individual-level variable likely to be confounded with self-report.

These predictors may be compared to the other significant predictors in Figure 8-3, by means of the absolute sizes of partial coefficients. The betas for the achievement motivation simple effect, the remunerative power simple effect, and altruistic group goals were ordered as for their t-values, the predictors with the next three highest betas also had the next three highest t-values (but the t-values were in a different order), and the predictors grouped by the three lowest betas also provided the three lowest t-values (again, the latter were ordered differently from betas). According to the t-values, the predictors in decreasing order of importance were the achievement motivation simple effect (negative), the remunerative power simple effect (negative), altruistic group goals (negative), liking for change (negative), age (negative), the normative power simple effect (negative), organization size, personal autonomy, and coercive power. When 95% confidence intervals were calculated for all significant betas, the beta for the achievement motivation simple effect (at high total power) was likely to have different values from the betas of all other predictors except the remunerative power simple effect. Also, the beta for the remunerative power simple effect was likely to have different values from the betas for organization size, personal autonomy, and coercive power. No other significant differences were observed.

Remunerative power was suppressed primarily by altruistic group goals, group cohesion, age, and achievement motivation, all of which masked its true effect. The differential effect of remunerative power on calculative involvement by organization type first evident at the group level of analysis (Figure 8-1) was attributed to the differential suppressive effects of these variables in the different organizations. Age included differences in calculative involvement by organizational rank that were not attributable to other predictors. It will be remembered that age was positively correlated with level of duties and negatively with calculative involvement both for the total sample and for the sample excluding students ($r = .65$ and $.27$ for level of duties and $r = -.24$ and -.25 for calculative involvement, respectively; Appendix Tables E-2 and E-3). The simple (negative) effect of achievement motivation at high total organizational power represents how conflicts between organizational power and achievement motivation tend to increase calculative involvement (or, conversely, a conjunction of high achievement motivation and high total power tends to reduce calculative involvement, i.e., when there are common interests). Although

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1The size of simple effects depends on the values chosen to represent low and high scores on component variables (here, -1 and 1 SD, respectively), so any comparison with main effects can only be indicative.
it was a relatively objective group-level measure, remunerative power performed fairly well against self-report measures at both the group and individual level of analysis (including member-reported altruistic goals and personality characteristics). It was, however, not unlike the members' measure of remunerative power—the two sources of remunerative power converged highly \( (r = .71; \text{Table 4-3}) \) and produced similar correlations with involvement (Tables 4-4 and 4-5).

Comparing these results to those obtained at the group level of analysis, it is evident that remunerative power improved its standing in relation to altruistic goals and coercive power in particular (even before interactions were investigated). Despite the increased correlation between organization size and calculative involvement at the group level of analysis because of the deletion of one group from the regression analysis, its importance was minor there and comparable to its relative importance at the individual level of analysis. In the group-level regression analyses (Figures 8-1 and 8-2), coercive power was more important than remunerative power, but at the individual level of analysis (Figure 8-3), coercive power was the least important predictor of calculative involvement (and was significantly less important than the remunerative power simple effect). The main effect of coercive power in this analysis represents potential divisions between the individual and the organization. As shown in Appendix Table E-4, coercive power tended to be exercised over young people \( (r = -.34) \) who had a low level of education \( (r = -.49) \). Younger members tended to have low education level \( (r = .43) \), low achievement motives \( (r = .20) \), and a liking for change \( (r = -.21) \). Further, members with low achievement motivation tended not to favour change \( (r = .24) \). As high coercive power tended to be exercised over younger members, its inclusion at the group level represents important differences among members evident within groups. At the individual level of analysis, coercive power was somewhat redundant with age and education level, and its independent contribution (and relative importance) decreased when these and other correlates that suppressed remunerative power were included. Altruistic group goals decreased in importance slightly at the individual level of analysis for similar reasons. However, while being redundant with age, education level, and group cohesion, it also substantially boosted (and was boosted by) the effect of remunerative power. The relatively strong showing of coercive power, altruistic goals, and remunerative power at the level of groups was thus primarily responsible for that model explaining 50% of the variance in the dependent variable and having reasonable prediction capabilities.

**Hypothesis 1:** Alienative involvement is positively related to coercive power.

**Hypothesis 3:** Moral involvement is positively related to normative power.

As described above, direct tests of predictors of alienative and moral involvement were made only when independent variables were restricted to organization characteristics at the group level of analysis. Further regression analyses relevant to these hypotheses at the group level inves-
tigated predictors of a group’s mean net commitment; independent variables were first restricted to organization characteristics, then broadened to include group characteristics. At the individual level of analysis, a member’s net commitment was investigated as a function of organization, group, and individual characteristics.

Hypothesis 1 was supported when organization characteristics were considered as predictors of group mean alienative involvement. A group’s mean alienative involvement tended to be increased (in decreasing order of importance) by high coercive power, low normative power, and large organization size. All significant betas were similar in size and ordered as for squared semi-partial correlations. The model had rather poor prediction capabilities, and appeared to be underspecified. Hypothesis 3 was also supported when organization characteristics were used to predict moral involvement within groups—a group’s mean moral involvement tended to be high when normative power was high and coercive power was low (betas and squared semi-partial correlations were ordered thus, in decreasing size, but there was little difference between the contributions of the two predictors). Also, little variance in the dependent variable was explained, and the model had poor predictive validity.

When alienative and moral involvement were combined to form net commitment and another regression analysis carried out with group mean net commitment as dependent variable, support was again found for hypotheses 1 and 3 (Figure 8-1). The results were similar to those obtained when alienative and moral involvement were dependent variables, reflecting the high correlation between the components of net commitment. The predictors, in decreasing order of importance (squared semi-partial correlations) were coercive power (negative), organization size (negative), and normative power. Betas were around the same absolute value and ordered as for semi-partial correlations. When coercive power and normative power were removed from the equation together (each was hypothesized to predict one component of net commitment), the variance in the dependent variable explained by the combination was higher than that for organization size, so the set was the most important predictor of net commitment. However, the model (like the others that used only organization characteristics as predictors) did not have good prediction capabilities and appeared to suffer from underspecification.

After group characteristics were added to organization characteristics with net commitment as dependent variable, hypotheses 1 and 3 were again supported, but altruistic group goals was an additional predictor (Figure 8-2). Betas for significant predictors were ordered in absolute size as for squared semi-partial correlations, so in decreasing order of importance, a group’s mean net commitment score tended to be increased by high normative power, low coercive power, small organization size, and high altruistic group goals. The betas for coercive power and normative
power were again similar in absolute size and reflected the approximately equal contributions of the two predictors to the dependent variable. When coercive power and normative power were removed from the equation together, the combination explained more than twice the variance in group mean net commitment than did any other predictor -- the set's squared multiple semi-partial correlation, or the change in adjusted $R^2$ caused by its removal, was 0.151 (versus the squared semi-partial correlations of 0.068 for organization size and 0.061 for altruistic group goals). Thus, the combination of coercive and normative power was the most important predictor of net commitment within groups. Unfortunately, the model incorporating group characteristics again did not achieve good predictive validity (in contrast to the result for group mean calculative involvement).

Hypotheses 1 and 3 were also supported at the individual level of analysis (Figure 8-3), where net commitment was clearly distinct from (though negatively correlated with) calculative involvement. Before individual characteristics were included in the analysis, the same predictors to those at the group level of analysis were found to predict an individual's net commitment to the organization. After the addition of individual characteristics, high net commitment tended to be produced (in decreasing order of importance) by age, high normative power, low coercive power, many opportunities elsewhere, low personal autonomy, high opportunity for advancement, small organization size, and high achievement motivation. The betas for age, normative power, and coercive power were ordered (in absolute size) as for squared semi-partial correlations, the predictors with the next four highest (absolute) betas also had the next four highest squared semi-partial correlations (but the latter were ordered differently), and achievement motivation had both the smallest (absolute) beta and squared semi-partial correlation. Thus there was a fairly close correspondence between the ordering of betas and $t$-values. Again, the absolute sizes of the betas for coercive power and normative power were similar (reflecting roughly equal contributions to change in net commitment) and each was considerably smaller than the beta for age. However, there were no significant differences among the betas (all were likely to have similar absolute values when 95% confidence intervals were computed).

When coercive and normative power were removed from the equation together, the squared multiple semi-partial correlation for the set was higher than the squared semi-partial correlation for any other predictor. In particular, the set comprising coercive and normative power explained more variance in net commitment than did age (5% versus 4%, respectively). Thus, coercive power and normative power in combination were the most important predictors of the dependent variable, although age was still an important secondary predictor. The model at the individual level of analysis had reasonable prediction capabilities, and appeared to benefit from the inclusion of age, in particular. Besides including variation due to seniority, personal experience, etc., age
included variation in net commitment by organizational rank left unexplained by the other significant predictors in the equation (including organizational power). Both coercive and normative power tended to be applied over younger members (although the correlation between normative power and age was relatively low; Appendix Table E-4). Unexpectedly, normative power did not increase at higher organizational ranks (or for older members); when students were excluded, the correlation between normative power and age was not significant. The improved prediction capabilities of the model at the individual level of analysis was also aided by the inclusion of opportunity for advancement (suppressed by organization size and age), opportunities elsewhere (suppressed by normative power), personal autonomy (suppressed by age), and achievement motivation (suppressed by liking for change and plans for future education). These suppressive effects were tempered by various redundancies among these predictors and their relationships with other variables in the equation.

Differences between the results at the group and individual levels of analysis were slight; coercive power and normative power achieved similar betas (in absolute size) and semi-partial correlations at both levels of analysis, despite uneven simple correlations in the latter case. The latter 'correction' eventuated because 1) normative power was suppressed by both group cohesion and opportunities elsewhere while being redundant with organization size, and 2) coercive power was redundant with both organization size and age. As for the previous dependent variable, organization size had an inflated simple correlation with the dependent variable at the group level of analysis due to one of the two groups deleted from the regression analysis, but it was among the least important predictors of net commitment at both levels of analysis. The profession of altruistic goals was not a significant predictor of net commitment at the individual level of analysis while it was a significant predictor of a group's net commitment score (it was the least important predictor there). At the individual level of analysis, altruistic group goals were redundant with remunerative power, age, and (to a lesser degree) group cohesion, but (with the exception of age) these effects were not significant at the level of groups. Thus, the redundancy between age and altruistic goals appeared to be the most likely reason for altruistic group goals not being a significant predictor of a member's net commitment; altruistic goals apparently are not important for net commitment when the member's position in the hierarchy (or age) is taken into consideration. The method of assigning members group-level scores of remunerative power and altruistic goals, in particular, may also have served to increase redundancy among the variables because younger members (often in larger groups) tended to score low on both other variables (remunerative power, altruistic goals, and age were somewhat redundant at the individual level of analysis; see p. 182, above).

**Hypothesis 4: Group cohesion has no effect on member involvement.** This hypothesis was
partly supported at the group level of analysis (for net commitment only; Figure 8-2), but it was fully supported at the individual level (Figure 8-3). Group cohesion was found to be a significant predictor of group mean calculative involvement, although it was the least important predictor there (according to both its absolute beta and squared semi-partial correlation) and only marginally significant.

Before individual characteristics were included in the regression analyses at the individual level of analysis, the results for group cohesion were similar to those obtained at the level of groups (i.e., it was a significant predictor only of calculative involvement). Thus, individual characteristics had to be added for group cohesion to show the result expected for calculative involvement; it became significant only after personality characteristics were included and before interactions between organizational power and achievement motivation were considered. Group cohesion was significantly redundant with both altruistic group goals and union membership (and hence its beta was significantly reduced by them). Union membership implies a value system concerned with members’ interests in the organization, so the concept bears a similarity to altruistic group goals: each are likely to reduce calculative involvement because of the intrinsic satisfactions such a value system provides to members.

Although both altruistic goals and group cohesion failed to be significant predictors of an individual’s net commitment, altruistic goals were otherwise significant and usually instead of group cohesion (except for group mean calculative involvement, where altruistic goals were more important than group cohesion). Since altruistic group goals and group cohesion tended to be redundant in all analyses (but significantly so only at the individual level), some consideration should be given to the relationship between the variables and to whether altruistic goals represents effects relevant to group cohesion. Altruistic goals was conceived as the extent that a group had moral purposes likely to benefit others, regardless of members’ contributions to the group. Group cohesion was defined as the total unification of group members, implying the extent that members made contributions towards intra-group relations. Group cohesion included attention to values, but made no distinction between moral and pragmatic values (Katz & Kahn, 1978; see p. 36, above) and did not indicate the salience of moral values within the group. Groups may be cohesive due to all types of interactions or member sentiments, including situations where members interact to obtain extrinsic satisfactions (e.g., friendly contacts), so the presence of moral values may not in themselves imply strong cohesion. In this study, altruistic goals and group cohesion were independent ($r = .18$, NS; Table 6-1) at the group level of analysis (where each was measured) and correlated only .22 at the individual level (Appendix Table E-4). Thus, group cohesion was distinct from altruistic goals and the latter were expected to contribute more than group cohesion to the intrinsic satisfactions of members. When these goals are relevant to
organization membership (e.g., when the group carries out activities on behalf of the organization), as was usually the case in this study, calculative involvement was expected to be low.

**Hypothesis 5:** *High achievement motivation among group members tends to be related to low alienative involvement, low calculative involvement, and high moral involvement.* This hypothesis was investigated using an individual measure of achievement motivation, and also at the group level of analysis using the measure of members’ self-assertiveness as judged by observers to represent achievement motivation within groups (or members’ pursuit of their own interests), but the hypothesis was supported only at the individual level of analysis. Members’ judged self-assertiveness was not a significant predictor of any kind of involvement at either level of analysis (Figures 8-2 and 8-3).

At the individual level of analysis, achievement motivation was the most important predictor of calculative involvement before interactions were considered, while it was the least important predictor of net commitment (Figure 8-3). With the inclusion of interactions between organizational power and achievement motivation, high achievement motivation tended to reduce calculative involvement when all kinds of organizational power were high, and this proved to be the most important predictor of all. The simple effect of achievement motivation at high total power was significantly larger than the effects of all other predictor except the remunerative power simple effect (which would not be included in the same regression equation). The relative importance of achievement motivation did not appear to be entirely due to confounding with self-report, because personal autonomy and liking for change (also obtained by self-report) were less prominent predictors of calculative involvement. Also, with net commitment as dependent variable, both achievement motivation and personal autonomy were relatively minor (and approximately equal) predictors.

Members’ judged self-assertiveness may not have been a significant predictor of involvement at the group level of analysis because it did not assess the same thing for groups as achievement motivation did for individuals. At the group level of analysis, members’ self-assertiveness failed to correlate significantly with all other group and organization characteristics except group cohesion (Tables 6-1 and 6-2). Its correlations with the dependent variables also were not significant. At the individual level of analysis, members’ self-assertiveness correlated -.17 with remunerative power, -.10 with altruistic group goals, and -.17 with age (Appendix Table E-4). Achievement motivation, on the other hand, correlated .17 with remunerative power, .21 with altruistic goals, and .20 with age (Appendix Table E-2). Thus, members’ self-assertiveness apparently focused mainly on members’ self-interest independent of a value system (and opposite to group cohesion), while achievement motivation included attention to moral purposes.
Despite a superficial resemblance between personal autonomy and achievement motivation (each implying members' pursuit of their own interests), the results illustrate an important difference between them. Achievement motivation implies a value system providing intrinsic satisfactions to members, such that a high level of achievement motivation tends to reduce calculative involvement and increase net commitment. On the other hand, personal autonomy implies that members act in their own interests, different from the interests of the organization; high personal autonomy tends to increase calculative involvement and decrease net commitment. It appears that achievement motivation and personal autonomy involve the satisfaction of different needs (e.g., intrinsic and extrinsic, respectively), and hence different kinds of involvement in the organization. These needs may be difficult to reconcile for net commitment, concerned only with the organization's welfare, but high achievement motivation is expected to be more important for calculative involvement because the high intrinsic rewards associated with it are likely to reduce attachment based on material rewards.

**Hypothesis 6:** Interactions between each kind of organizational power and member achievement motivation show a differential effect on calculative involvement for high and low achievers: Compared to high achievers, the calculative involvement of low achievers is expected to decrease more with high coercive power, to increase more with high remunerative power, and to decrease less with high normative power. Partial support was found for hypothesis 6 since no significant effects were observed in the group-level analysis (where members' judged self-assertiveness was again used to represent group-level achievement motives; Figure 8-2), and only two of the three possible interactions between organizational power and achievement motivation were significant at the individual level of analysis (Figure 8-3). The failure to detect a significant result at the level of groups may have been due to the poor measure of members' self-assertiveness and the low statistical power of significance tests (limited by the number of variables entered by that stage and the sample size).

At the individual level of analysis, the two significant interactions showed that the effects of both remunerative power and normative power on calculative involvement depended on the level of achievement motivation, and in the expected directions. Remunerative power tended to increase a member's calculative involvement if he or she had low achievement motivation, but no significant effect was observed for high achievers. Also, administrator-reported normative power had no apparent effect on calculative involvement when members' achievement motivation was low, but it tended to reduce calculative involvement when members had high achievement motivation. Thus, an important distinction between these two interactions emerges: conflict between normative power exercised by the organization and the achievement motivation of members, or low levels of each, is related to high calculative involvement (congruence tends to reduce
calculative attitudes), while high remunerative power exercised over low achievers tends to increase calculative involvement.

Coercive power had no differential effect on calculative involvement because this effect was significantly redundant with that for normative power (the two products with achievement motivation were correlated .09; \( p < .05 \)). As already noted, coercive and normative power tended to behave similarly at the individual level of analysis: each tended to be exercised over younger members (who also tended to be low achievers and at lower ranks of the organization), and the two kinds of power correlated .14 and had similar correlations with some individual characteristics (Appendix Table E-4). However, coercive and normative power were only redundant in the context of achievement motivation (which assists the redundancy of products by being common to both). It is interesting to note in passing that the form of the coercive power interaction (if large enough to be significant) could have been different from that expected; it is probable, based on the above correlations, that coercive power would tend to decrease calculative involvement most for high achievers. Perhaps high achievers are likely to find high levels of coercive power acceptable (especially the kind encountered in this study).

**Hypothesis 7:** *Interactions between each kind of organizational power and member achievement motivation show a differential effect on moral involvement for high and low achievers: Compared to high achievers, the moral involvement of low achievers is expected to decrease less with high coercive power, to decrease more with high remunerative power, and to increase less with high normative power.* No support was found for this hypothesis at either the group or individual levels of analysis (where the dependent variables were group mean net commitment and net commitment, respectively). As for the previous two hypotheses, group-level achievement motivation was represented by members' judged self-assertiveness. Thus, no evidence could be found to show that a fit between organizational power and individual achievement motivation was important for commitment, particularly at the individual level of analysis where the measure of achievement motivation appeared to be valid. Thus, all members tend to have their commitment affected in the same way by the various measures of organizational power, regardless of their level of achievement motivation. This has important implications for distinguishing among different attitude types, as will be seen in the next section.
8.2. IMPLICATIONS OF FINDINGS

Since the study depended on the willingness of organizations, groups, and group informants to participate, the sample was not representative of all such organizations and generalizations about the findings have to be made with caution. However, the regression results are the best presently available for showing how organizational power compares to other organization, group, and individual characteristics as predictors of involvement. The study provided important information about the nature of involvement, the primary importance of organizational power for net commitment, and how combinations of individual and structural factors affect calculative involvement, in particular. This section discusses the implications of having distinguished discrete attitude types, the composition of predictors for different attitudes, the performances of some independent variables against those expected in the literature, and what these findings mean for the workplace. Finally, the implications for Etzioni's (1961) compliance thesis will be discussed.

Alienative and moral involvement cannot easily be distinguished at either the group or individual level of analysis--both are affective attitudes and appear to be on an involvement continuum as Etzioni (1961) suggested. Calculative involvement was distinct from (though correlated with) other kinds of involvement, including net commitment, at the individual level of analysis, but was confounded with them when group scores were formed (via group means). Thus, instrumental and affective attitudes were distinguished at the individual level of analysis. This was as others have found (e.g., Meyer & Allen, 1984; see Section 2.1), but with different conceptions of involvement types. The demarcation of different attitudes has implications for the kinds of involvement studied within utilitarian organizations, in particular--both kinds of attitudes are equally relevant within organizations where members are free to stay or leave. It also questions the usefulness of popular measures of commitment within such organizations (e.g., the Organizational Commitment Questionnaire, or OCQ; see p. 44, above). These measures tend to measure total involvement as identification, and by emphasizing affective attitudes blur any distinction between commitment and calculative involvement. The measures are also typically administered within organizations that, according to Etzioni (1961), are likely to have high calculative involvement in their lower ranks. Calculative involvement may be considered to be the reverse of identification and thus form a negative item in a scale of identification (cf., p. 7, above), but committed members need not be low in their calculative involvement or identify with the organization. At the present time, until better measures of identification have been developed, it is probably best to keep identification distinct from calculative involvement and net commitment because the latter have been shown to be distinguishable constructs that may usefully be applied to different settings.
Showing the distinct nature of calculative involvement was an important finding of this study, as previous attempts at its operationalization were not satisfactory. Therefore, little would be gained by dividing it into apathy and opportunism (as some authors suggest is necessary to provide an exhaustive coverage of compliance, e.g., Parkin, 1982, p. 80). It may indeed be appropriate to consider apathy as somehow different from calculative involvement, and with different consequences for social behaviour, but apathy could be represented by Etzioni's involvement types: apathy could be seen as low scores on all kinds of involvement at once, or as low scores on both alienative and moral involvement. Calculative involvement can be defined as apathy except for the material rewards offered, so perhaps the former interpretation is the most appropriate (see Etzioni, 1961, p. 25). In any case, it is difficult to see how 'opportunism' or similar concepts would be any different from the present conception of calculative involvement.

To the extent that calculative involvement could be distinguished from net commitment, their antecedents were also distinguishable, and particularly at the individual level of analysis. The different antecedents illustrated how calculative involvement and net commitment were distinct. At the group level of analysis, organization and group characteristics together generally provided more valid predictive models than did organization characteristics on their own (although the model for net commitment remained underspecified at the level of groups). Unfortunately, group means of calculative involvement and net commitment were not clearly distinguished at the level of groups. However, the inclusion of individual characteristics at the individual level of analysis (where attitudes were clearly distinguished) provided regression models with reasonable predictive validity for each dependent variable. Thus, individual-level predictors are more likely to show useful differences between attitudes. The differences between attitudes can be appreciated more readily after the implications of the various predictors have been examined. The predictors to be examined in turn are the various kinds of organizational power, and other organization, group, and individual characteristics.

The concepts of organizational power employed in this study, particularly the milder conception of coercive power (which was deemed to be applicable to the organizations under investigation), appeared to apply well to all situations, judging from the reliability and validity criteria reported for the measures. Both administrators and members tended to agree on the organizational power affecting groups, so subjective judgements of the social context by different interest groups can accurately reflect the objective social conditions. The observed relationships between the relatively objective measures of organizational power and subjective member involvement provided some validation for applying the compliance relations to the individual level of analysis. Different combinations of organizational power were found to predict each kind of involvement, whether at the group or individual level of analysis. Both high coercive power and high
remunerative power tended to increase calculative involvement at each level of analysis, and both low coercive power and high normative power tended to increase net commitment. However, while coercive power and normative power contributed about equally well to each of group mean net commitment and individual members’ net commitment (Figures 8-2 and 8-3, respectively), the relative contributions of coercive power and remunerative power to calculative involvement differed at the group and individual levels of analysis. As already discussed, coercive power was apparently more important at the group level of analysis because coercively controlled groups tended to be characterized by member attributes later found to be important at the individual level of analysis. When these member characteristics were included, the independent contribution of coercive power was significantly less than the independent simple effect of remunerative power for members low in achievement motivation. In addition, high normative power was found to further reduce calculative involvement among members high in achievement motivation, and was of intermediate importance as a predictor.

The general positive effects on calculative involvement of both coercive and remunerative power (and the additional negative simple effect of normative power at the individual level of analysis) implies that more than one kind of organizational power is important for that attitude. Azim and Boseman (1975; see p. 47, above) also found both coercive and remunerative power to predict the calculative involvement of students. A likely explanation may be offered. It will be remembered that Etzioni (1961) derived the utilitarian compliance relation from Marxian writings, but he did not claim that Marx was concerned with the utilitarian compliance relation in isolation; coercive and normative compliance were of secondary importance to economic relations in Marxian theory. Turner (1986, p. 108) observed that Marx, Simmel, and Weber all recognized that it was possible for genuine individuality to become submerged (and calculative relations to develop) within a society based on a money economy, but Simmel (like Weber, and unlike Marx) saw the ideal society as the logical outcome of bureaucratic rationalization which is inextricably linked with such an economy. Weber recognized that while economic structures may be divisive, bureaucracy could be the major source of social division (Parkin, 1982, pp. 91-104). Thus, there may be more than one source of calculative involvement. Bureaucracy encourages rational attachments; the impersonal discipline and detachment of participants is matched by secure careers, opportunities for advancement, protection from dismissal, criteria for promotions, etc. (Blau, 1968, p. 299), but this was not expected to cause difficulties if kept in check. The present findings show the salience of the utilitarian compliance relation as presented by Etzioni, with other kinds of organizational power making secondary contributions to calculative involvement.

While organizational power was found to differentially affect calculative involvement, with
most depending on the level of achievement motivation, no such interactive effects were found for net commitment; organizational power tended to affect all members' net commitment in the same way, regardless of their achievement motivation. Coercive power and normative power were hypothesized to predict alienative and moral involvement, respectively, but because these involvements were confounded, the independent effects of both kinds of power predicted alienative involvement, moral involvement, and net commitment equally well. In the regression equation, with all other predictors remaining equal (or, especially, low), net commitment tends to be intermediate when scores on both coercive and normative power are low, intermediate, or high; high or low commitment could only occur when coercive and normative power had widely divergent absolute scores. That is, where coercive power was high and normative power was low, net commitment tends to be low (i.e., alienative involvement is high). Conversely, when coercive power is low and normative power is high, net commitment (and moral involvement) would tend to be high. This provides some support for the separate existence of Etzioni's coercive and normative compliance relations, respectively, as would apply in organizations exercising such combinations of coercive and normative power.

The significant interactions between organizational power and achievement motivation provides some support for Argyris (1964; p. 26, above), who suggested that the needs of both the individual and the organization must be satisfied for calculative relations to be reduced and self-actualization made possible. The results also support Hackman and Lawler (1971) and the negative effects of role stress/conflict on commitment (see p. 62, above). In a work situation, assuming that individuals are highly motivated to achieve, it is evident that their calculative involvement will be reduced by high normative power, in particular; remunerative power has little effect when achievement motivation is high, and coercive power tends to increase calculative involvement for all. Thus, the power mix likely to reduce calculative involvement for high achievers would be low coercive power, any level of remunerative power, and high normative power. High normative power and low coercive power also tend to increase the net commitment of all members, but the exercise of high normative power is important for reducing the calculative involvement of members with high achievement motivation.

The finding that high achievement motivation in conjunction with high levels of all kinds of organizational power tends to reduce calculative involvement, and is the most important of all predictors, may help to clarify some effects that Etzioni (1975, p. 71) showed interest in. It will be remembered that Julian (1968; p. 47, above) suggested that all kinds of power probably should be considered to gain a better understanding of involvement (in particular, commitment). Julian speculated that when the total power exercised is low (i.e., when all kinds of power are low or absent), positive involvement would probably be at its highest, and when total power is high,
involvement would often be low (or alienative). The present results suggest that commitment is not affected by either the absence or presence of total power (comparable levels of coercive and normative power could only produce an intermediate commitment, all other factors being equal). Further, when all kinds of power are low, high achievement motivation has no effect on calculative involvement ($\beta = .002$; p. 173, above). Where total power is high, however, low achievement motivation tends to increase calculative involvement. If organizational identification may be considered to be the inverse of calculative involvement, members would then be less likely to identify with the organization (and hence place limits on positive involvement). Where at least some normative power is included in low total power (e.g., via a guiding philosophy in a kibbutz) and members are high achievers, calculative involvement could decrease (leading to an increase in identification).

In this study, organizational power was compared to other organization, group, and individual characteristics as predictors of involvement. It is obvious from the results that, as far as organization characteristics were concerned, organizational power did not explain all variation in member involvement. Organization size explained some variance in both calculative involvement and net commitment at both the group and individual levels of analysis, and additional to the effects of organizational power and other predictors (although it generally remained among the least important predictors). This implied that organization size was not synonymous with the compliance structure of the organization, i.e., the kind of organizational power did not vary in strict accordance with the size of the organization. It was evident that large organizations tended to separate the individual from the enterprise more readily than small organizations (e.g., by less opportunity for communications with leaders, etc.). The results showed, as expected, that large organizations tended to increase calculative involvement and reduce net commitment among their members. Conversely, small organizations tended to reduce a member’s calculative involvement and to increase his or her net commitment. Also, member involvement did not vary significantly by organization type (business, health-welfare, or education). This meant that the levels of involvement did not differ across organizations with different purposes and that the predictors applied equally well to all organizations.

Other contextual characteristics included in the study were characteristics of the immediate social group. Informants generally agreed with members’ reports about members’ self-assertiveness and group cohesion, but while the researcher’s ratings of the group’s goals appeared to agree with member-reported group goals, these were apparently biased by his perceptions of organizational power affecting some groups. Evidently, it was difficult to rate group goals and organizational power effectively, and perhaps the use of multiple-item scales by knowledgeable informants (e.g., observers) would have been more appropriate. Thus, member-reported group
goals had to be used in the analyses as these were the best available measures of the constructs. The most important of these was altruistic group goals, and while this measure may be confounded by self-report, its correlations with calculative involvement and net commitment were similar to those for the researcher’s ratings, so the members’ measure appears to be realistic. The implications of the findings for altruistic group goals and group cohesion will be discussed shortly, but first the implications of results for the remaining group characteristics will be outlined. As already discussed, members’ self-assertiveness did not appear to represent the concept intended as it did not correlate with individual characteristics in the same manner as achievement motivation. The group’s relational goals were not a significant predictor of involvement at either the group or individual level of analysis, but it was expected to produce similar results to those for group cohesion (it was actually redundant with group cohesion at both levels of analysis). Group size was a reliable scale with items from group members, an administrator, and the researcher, thus reflecting the agreement among the three sources on the construct, but it appears that group size is not important for member involvement; evidently, other features of small groups are more important.

The findings for group cohesion have implications for the usefulness of previous studies where cohesion has often been found to be a significant predictor of member commitment to the organization. Such positive findings may have occurred because the researchers did not consider sufficient variables, or the concept studied may have represented altruistic goals (which were often a significant predictor here). Part of the problem may have been the use of members’ satisfactions with their fellows, etc., to represent cohesive social relations. Clearly, members may express satisfaction with a group structure even if it is fragmented, depending on the members’ requirements of it. Although the measures of both altruistic group goals and group cohesion failed to be significant predictors of a member’s net commitment at the individual level of analysis, altruistic goals were a significant (negative) predictor of calculative involvement, and so was group cohesion at the group level of analysis. The members’ measure of group cohesion was a composite of group integration, group solidarity, and group consensus, and the components were usually measured by more than one method. The items formed a reliable scale that converged well with the observers’ scale of group cohesion while not correlating highly with the other variables. Thus, the concept achieved good convergent and discriminant validity. Consequently, while the observers’ measure of group cohesion was a multiple-item scale, it represented the components included in the members’ measure and was clearly distinct from the members’ measure of altruistic goals. As discussed when the results were reported, group cohesion was not important for an individual’s calculative involvement when the group’s altruistic goals and membership of a union concerned with members’ activities in the organization were taken into account. Of the latter variables, the profession of altruistic group goals was the only
significant predictor at the individual level, perhaps due in part to the way union membership was scored. If union membership were included along with altruistic goals as a group (rather than an individual) characteristic and scored as a continuous variable, group cohesion may not have been significant at the group level of analysis either.

Since group cohesion and altruistic goals often have different effects on involvement, for calculative involvement at the individual level of analysis in particular, these variables have implications for the designation of group processes in the workplace. It is obvious that attempts to manipulate group cohesion (e.g., by human relations methods) is irrelevant. Rather, high altruistic group goals (which were not highly correlated with group cohesion, even at the individual level; \( r = .22 \) in Appendix Table E-4) tended only to reduce members' calculative involvement. Viewing organizational identification as the inverse of calculative involvement, altruistic goals of groups are likely to increase identification (by reducing calculative involvement) but not members' net commitment. This suggests why autonomous work groups are effective: regardless of members' intra-group relations, altruistic group goals provide intrinsic satisfactions to members, thereby reducing calculative involvement and increasing identification as March and Simon (1958) suggested. Members of autonomous work groups are also likely to have high achievement motivation and appropriate power (conducive to low calculative involvement) exercised over them. The conjunction of organizational power and member achievement motivation, described above as interactions between them, would also be likely to reduce calculative involvement and increase effectiveness within such groups.

While individual characteristics were significant predictors of both kinds of involvement distinguished in this study, apart from the effects of achievement motivation on calculative involvement, these were usually of secondary importance to the effects of organizational power and certain other contextual characteristics. As predictors, individual characteristics were not as important as some parts of the literature would suggest.

Individual characteristics consisted of demographic, role, and personality variables. Of the demographic variables, it will be remembered that age was confounded with marital status and level of duties, and the latter were excluded to reduce the severity of multicollinearity. So, besides seniority and greater experience, age implied being married and at higher ranks of the organization. Age produced the results anticipated in regression analyses (tending to reduce calculative involvement and to increase net commitment), although the effect was most marked for net commitment. For each dependent variable, age accounted for members' involvement not accounted for by organizational power and other predictors. Sex (female) was not a significant predictor of any kind of involvement, as expected after the full range of independent variables were included.
Although education level was negatively correlated with calculative involvement, it failed to become significant in the regression analysis because it was somewhat redundant with coercive power, altruistic goals, age, and union membership. The nonsignificant effect of education level on any involvement contradicted many (but not all) previous studies which often found it to be negatively related to affective measures such as the OCQ (see Section 2.3.3.1). The reason for the disparity of these results is unclear, and should be the topic of further investigation with refined scales of the involvement types distinguished here. Having plans for future education was not a significant predictor of either calculative involvement or net commitment; its simple correlation with net commitment was negative, as expected, but redundancies with remunerative power, age, and liking for change (variables associated with student groups, the most likely to have such plans) were apparently more relevant.

Role-related variables were among the least important individual characteristics found to predict involvement; two were significant, and only for net commitment. The poor showing of time in organization indicated that members’ involvement did not depend on the length of time that members had been participants; perhaps, as March and Simon (1958, p. 74) suggested, time in organization may be curvilinearly related to identification, such that those with moderate service may identify less than new recruits and ‘old hands.’ Opportunity for advancement tended to increase net commitment, as expected, but it was not associated with calculative involvement. It appears that opportunity for advancement is associated with normative (rather than instrumental) rewards, as it was correlated .14 with normative power (Appendix Table E-4)—it could be part of the normative power exercised over members and be considered an organization (rather than individual) characteristic. Opportunities elsewhere was also positively related to net commitment (while not being related to calculative involvement) and it was associated with low coercive, high remunerative, and low normative power (r = -.15, .16, and -.19, respectively; Appendix Table E-4). The correlation with normative power was a suppressor relationship where normative power tended to mask some of the effect for opportunities elsewhere. Angle and Perry (1983) suggested that highly-skilled workers with many opportunities elsewhere are most likely to choose to stay and become committed. As suggested in Chapter 2, personnel with highly-transferable skills may not see greater overall rewards in other organizations, and this evidently depends on the power exercised over such members. Union membership was important for reducing the effects of group cohesion on calculative involvement, apparently having an effect similar to that of altruistic group goals on calculative involvement (i.e., providing intrinsic rewards to members).

Personality variables were self-report scales of achievement motivation, personal autonomy, and liking for change. While their associations with the dependent variables were likely to be confounded by self-report, this did not appear to be the only reason for the strong effect of
achievement motivation on calculative involvement because the other personality characteristics were much less important. Achievement motivation produced the expected relationship with involvement and its effect was clearly different from that of personal autonomy (despite the apparent self-interest in both concepts): Low calculative involvement and high net commitment tended to be produced by high achievement motivation and low personal autonomy. Perhaps surprisingly, achievement motivation was the least important predictor of net commitment, with an effect close to the absolute size of the effect for personal autonomy. In Salaman's (1979) description of the structuralist ideology of achievement (p. 34, above), achievement motivation may be most relevant to low calculative involvement (or organizational identification), rather than commitment. Achievement motivation is a higher-level need in Maslow's (1954) need hierarchy and, together with self-actualization (the highest need), is most likely under circumstances associated with a congruence of personal and organizational goals (cf., Argyris, 1964; p. 26, above). This also would affirm the structuralist perspective of organization behaviour as being most concerned with (or most able to handle) such higher-level 'needs' of members.

It is interesting that liking for change was found to be negatively related to calculative involvement, i.e., members who preferred change were most likely to have low (rather than high) calculative involvement. Liking for change had no effect on net commitment. Those who disliked change were therefore most likely to have high calculative involvement, thereby becoming attached for instrumental reasons (e.g., not having to change routine). In bureaucratic organizations, where routine is entrenched, a 'well-adjusted' person is thus likely to have high calculative involvement, but within a normative organization where members are expected to be creative or innovative, members may develop low calculative involvement (and, perhaps, high identification). The present results agree with Stevens et al.'s (1978; see Section 2.3.3.3, above) finding that preference for change was negatively related to the commitment measures of Ritzer and Trice (1969) and Hrebiniak and Alutto (1972). This would also imply that the latter measures are indeed similar to the concept of calculative involvement, as some authors have suggested (see Section 2.1).

We may now return to the different natures of the involvement types distinguished in this study, as indicated by their predictors. There were important similarities and differences in the predictors of each kind of involvement at both the group and individual levels of analysis. As shown in Figure 8-2, groups with high altruistic goals within small organizations and subjected to low coercive power tended to have both low calculative involvement and high net commitment among their members (although altruistic goals tended to be relatively less important for a group's mean net commitment). A group's mean calculative involvement was further increased by high remunerative power and decreased by high group cohesion. Group mean net commitment, on the other hand, tended to be increased by high normative power.
Before interactions were considered at the individual level of analysis, older people with low personal autonomy, high achievement motivation, and situated within small organizations that exercised low coercive power tended to have both low calculative involvement and high net commitment. However, as discussed earlier, the influence of achievement motivation and coercive power differed for the two kinds of involvement demarcated (these predictors were most important for calculative involvement and net commitment, respectively). Calculative involvement alone was increased by high remunerative power, low altruistic goals, and low liking for change (in addition to the relatively strong effect of low achievement motivation). Net commitment, on the other hand, was the only kind of involvement increased by high normative power, high opportunity for advancement, and many opportunities elsewhere. Also, low coercive power contributed most to high net commitment. The stronger contributing predictors to each kind of member involvement illustrate the distinctive nature of each kind of attitude: calculative involvement is an instrumental attitude related to conditional satisfactions, and net commitment is an affective attitude associated with normative rewards. After the interactions between each kind of organizational power and achievement motivation were included in the regression analyses, and found to be significant only for calculative involvement, another important distinction was apparent: calculative involvement depended to some extent on the absence of congruence between personal and organizational goals, and net commitment was reaffirmed as a positive orientation to the organization for its own sake (regardless of individual differences in achievement motivation).

The results show the relevance of the compliance theory to the workplace, but also indicate important group and individual characteristics to consider in some situations. In organizations where members are free to stay or leave, there is little basis for distinguishing between alienative and moral involvement, but this distinction may still be employed in other kinds of organizations (e.g., in prisons and churches, respectively). However, the distinction between calculative involvement and net commitment (moral minus alienative involvement) is particularly important in more common organizations, along with the predictors unique to each. The primary importance of organizational power was generally shown, but achievement motivation was of equal importance for calculative involvement. As Etzioni (1961) postulated, group cohesion was not important for any kind of involvement, and other organization, group, and individual characteristics were generally of secondary importance to the main or simple effects of the organizational power suggested by the theory. Age was an important individual characteristic to include to take account of variation in involvement at different levels of the organization. The social context was shown in most cases to be verifiable by leaders and members, so each can interpret the social context when evaluating involvement within it. To the extent that altruistic goals and personality characteristics are verifiable by informants, involvement may be predicted without relying on members'
subjective perceptions and expectations, and the social context may be altered to encourage the most appropriate involvement (e.g., as suggested by the compliance theory). For example, in utilitarian organizations, calculative involvement may be considered to be appropriate, rather than high loyalty and its obligations. Neither the organization nor its participants need be emphasized in an analysis of behaviour within organizations; instead, these relations may be fruitfully discussed using the relatively value-free structuralist perspective of organization behaviour.

8.3. SUGGESTED IMPROVEMENTS

The difficulties noted above (with measurement, sampling, and design) may be improved on replication, and this section outlines how such modifications may be made.

The operationalizations of involvement may be improved. In the present sample, the measures of calculative and moral involvement were more variable than that of alienative involvement, and were perhaps differentially sensitive to high or low scores on the constructs. Obviously, new items are required for the measure of calculative involvement; it will be remembered that the original scale of calculative involvement was extremely heterogeneous, and the only way to improve it was to delete most items and to include two compatible items originally intended for the scale of achievement motivation. New items should include milder forms of calculative involvement, so that members are less likely to report very low levels of calculative involvement (i.e., the floor effects observed). The measure of moral involvement may be modified to include items expressing higher levels of commitment or loyalty than is currently the case, and thus minimize the ceiling effects for the scale. To reduce the chance of confounding with member-reported normative power, the refined involvement scales could be included in a separate section of the members' report (possibly, with opportunity for advancement or other masking scales).

The measure of remunerative power may be amended along with the scale of calculative involvement to improve the possible relationship between them. The various measures of remunerative power were directed at the magnitude of remunerative power affecting members and performed reasonably well--each was independent of the other measures of organizational power from the same source and achieved acceptable reliability. The concept also achieved a high convergent validity coefficient ($r = .71$; Table 4-3). However, there is room for conceptual refinement. The remunerative power currently assessed is generally in the form of monetary rewards, but greater attention should be given to remunerative power with respect to services and benefits. An under-represented area in the present scale is where organization participants pay money or participate for valued services (e.g., education). The compliance structure may remain utilitarian where the organization has the power to discontinue services if the user fails to pay or participate (all other controls being low). Presently, this type of remunerative power (where there is a cost to
the user) is only represented as fines or monetary penalties (item 8, Appendix D.3.2.2, p. 265). Then, private students may be seen to have some remunerative power exercised over them, instead of none according to the present scale. This may more adequately explain calculative involvement among students. More account should also be given to the actual source of remunerative power. In the present scale, a paid member is considered to be subjected to remunerative power within the organization even if the source of remuneration is an outside organization, but perhaps the remunerative power assessed should be confined to that exercised by the focal organization. Thus, participants paid by an independent outside organization (or party) would have remunerative power exercised over them by the focal organization only to the degree that the latter organization makes recommendations to the former (presently measured by item 23, Appendix D.3.2.2, p. 265) or makes decisions as to whether the organization will continue to use the member’s services.

The remaining measures of organizational power may also be refined. The members’ scale of coercive power was the only measure of coercive power having a relatively poor item—the item directed at being able to leave at any time (item 135) had a lower-than-average item-total correlation. Perhaps this item should make clear that it includes taking a short break during working hours. The member’s measure of normative power had only one poor item—that concerned with badges, songs, etc. (item 91)—but this item may be more appropriate when a wider range of organizations is sampled. Similarly, the two items with low item-total correlations in the administrators’ measure of normative power—having a large say in activities (item 9) and the presence of a doctrine or creed (item 27)—may find better utilization in organizations exercising very high levels of normative power. In any event, the content of these items should be checked more closely before re-use.

The measure of normative power may be improved by some refinement of the concept. Normative power could be directed more towards ‘pure’ normative power (that provided from above via a value system), rather than also including ‘social’ normative power (which is facilitated by peer relations; see p. 12, above). ‘Pure’ normative power (appearing mostly to vertical relations) may show a stronger relationship with moral involvement (or net commitment) and thus increase its importance in relation to other predictors. Such a measure may more fully account for variation in net commitment over organizational ranks by including normative rewards specific to ranks (e.g., number of subordinates, amount of responsibility given, etc.). The essence of such a modification is that the emphasis should remain on whether subordinates are treated as valuable resources for the organization, rather than participants in social relations which could be reproduced elsewhere. Alternatively, characteristics of high-ranking jobs independent of organizational control could be assessed, e.g., experience in problem-solving, etc.
The use of a mixture of subjective and objective measures of independent variables made it difficult to assess the relative importance of organizational power, particularly when objective group-level measures of the latter were assigned to members at the individual level of analysis. It will be remembered that the members’ judgements of group goals had to be used instead of an independent rating made by the researcher when the latter proved to be inadequate. At the individual level of analysis, subjective personality scales were also included, together with other member characteristics. Member-reported characteristics thus received disproportionate weighting by being measured by the same source as involvement and often by the same method. Also, when such group-level scores are assigned to all members of a group (one group score on each variable was assigned to all members), these scores were insensitive to variation among members in the reported involvement. The relative importance of organizational power on member involvement may be shown by using members’ judgements of contextual characteristics instead of those provided by outside informants, provided that member-reported normative power is not confounded with alienative involvement, moral involvement, and net commitment (normative power was confounded with involvement here).

Modifications are thus required for some other measures of independent variables and the method by which these were obtained. The observers’ group-level concept of members’ self-assertiveness should be redefined to include a value-system (e.g., displaying perseverance, etc.). The construct could be defined in terms of the degree that the group has a reputation for its members being hard-working and applying themselves to difficult tasks. This construct cannot be expected to represent the average achievement motivation of members as the latter clearly varied substantially within groups in this study, but the group-level equivalent could represent the group norm for that behaviour and be measured reliably. Likewise, the measures of group goals may be refined to ensure adequate discrimination among the scales, and members’ reports could be validated against observers’ reports instead of the researcher’s ratings. Group-level measures of level in the hierarchy and affiliation with unions could also be included, to show that group cohesion has no effect on a group’s calculative involvement. Then, objective measures will be provided for all contextual characteristics, reducing difficulties in interpretation caused by a mixture of subjective and objective measures of contextual characteristics (particularly at the group level).

Efforts could also be made to assess achievement motivation (and other personality characteristics) from group informants, to ascertain the relative importance of achievement motivation and contextual characteristics for calculative involvement in particular. A strategy might be to ask each member to rate each other member on the personality variables, without retaining a permanent list of group members (hence, confidentiality would be maintained). Such a
procedure would require enormous amounts of time and resources, particularly for large groups, and may have to be investigated independently. If a good group-level measure of members' self-assertiveness is available, informants' reports of individual achievement motivation may not be required in a full study because all relevant group-level measures may be compared for their effects on an individual's involvement. A far simpler approach may be to use self-report measures of all independent variables, provided that these are not confounded with the dependent variables. As a final note, although the measure of achievement motivation was intended to assess a stable personality attribute of members, some portion of it may represent a consequence of having calculative involvement (rather than its cause). However, these effects are impossible to separate in a cross-sectional study.

In addition to assessing the goals of groups, which include the extent to which groups have moral purposes, the integration of members with respect to such a value system may be measured. As has been shown, group unity (which includes affective ties) is not as important for involvement as being in collectivities that provide a value system and hence intrinsic rewards, but additional work on these measures of group characteristics may provide more information about the relative importance of group cohesion and altruistic goals. The normative influence of groups over their members may be assessed in the same way that normative power was measured in organizations. It may be the case that group integration on moral values (a component of cohesion) reduces calculative involvement more than does group cohesion, and that a medium level of cohesion is ideal for groups as Etzioni (1961) suggested (see p. 17, above). Alternatively, if the sample is sufficiently diverse, cohesive groups having altruistic goals may be separated from those having relational goals (i.e., cohesive friendship groups), to observe any differential effects on calculative involvement. Also, the activities carried out within the group could be assessed along with those carried out within the organization (when these are different); it could be that when formal duties are dissatisfying, the altruistic goals of groups (which may be informal) may add to calculative involvement rather than decrease it.

If the involvement of various occupational groupings were of greater interest than it is here, level of duties could be recoded as a nominal scale and included in individual-level regression analyses. This would side-step the problems observed with the present scaling of the variable and, say, the calculative involvement of a particular occupational group (e.g., middle management) may be compared to the mean calculative involvement for any other grouping (e.g., students or the total sample). Thus, level of duties may be introduced as a set of seven effects-coded variables (assuming that categories are adequately delineated), where the mean dependent variable score for each such variable is compared to the the total sample mean. In such regression analyses, the use of beta to interpret comparative importance of predictors is not inherently meaningful because
beta depends on the relative sample sizes of groups coded 1 or 0 within categories. However, the unstandardized regression coefficients may be used to show differences between mean dependent variable scores, and squared semi-partial correlation coefficients may be used to show each variable's unique contribution to the dependent variable (Cohen & Cohen, 1975, p. 191).

The revised measures of power and involvement obviously have to be validated on a large sample to be most useful, but the study may be repeated with the useful measures modified as suggested. The range of organizations sampled is critical for such a purpose. Perhaps a stratified random sampling technique should be used where possible within participating organizations, to obtain a more representative sample of groups and group members; all major occupational groupings may be considered to ensure an adequate mixture of organization, group, and member characteristics. This should also help to reduce the chance of linear dependencies among independent variables and provide a wider range of involvement (not only the most committed). More blue-collar groups from the lower ranks of utilitarian organizations should be included, because these were identified by Etzioni (1961) as having predominant calculative involvement. Such groups are also more likely than white-collar groups to be coercively controlled and to have some alienative involvement in the organization. Also, more normative organizations could be included to increase the likelihood that normative power will be predominant in some situations. Perhaps students should be restricted to those above school-leaving age (e.g., from tertiary institutions). If a wide variety of organizations are sampled where members are relatively free to stay or leave, strong evidence should be provided for the compliance relations without resorting to extreme (i.e., total) organizations. This method may necessitate a reduction in the number of organizations sampled within each type, in order to be able to handle the increased amount of data generated within each organization. However, sufficient organizations will have to be included to provide adequate variance on the measures of organizational power.

8.4. FUTURE DIRECTIONS

Even if the modifications suggested above were made, a full understanding of involvement is still a long way off without an integrated theory of involvement. Despite some attempt in this study to integrate research on involvement (particularly the nature of involvement and its antecedents), little attention has been given to complex kinds of involvement and their consequences. A consideration of the consequences of involvement is likely to aid discussion of its antecedents. Further attention has to be paid to the relationship between complex kinds of attitudes and Etzioni's (1961) basic concepts (e.g., whether net commitment is a component of both calculative involvement and organizational identification, or whether the two kinds of involvement found here are components of organizational identification). It would be interesting to in-
vestigate whether low calculative involvement is sometimes associated with low (rather than high) net commitment and low identification. Calculative involvement may possibly be described in terms of net commitment and achievement motivation (or a similar concept defining an orientation to a personal value system). Behaviours such as self-actualization (Maslow, 1954) and innovation (or creative individualism; Schein, 1968) should be investigated in relation to the attitudes they engender and the benefits they provide.

March and Simon (1958) discussed the benefits of organizational identification for both the individual and the organization, and if this is the reverse of calculative involvement, does this mean that low calculative involvement is best, or are there limits within which identification or calculative involvement should fall to maintain effectiveness of both the organization and its members? In terms of the two kinds of involvement discriminated in this study, should calculative involvement be low and commitment be high, or are there optimal levels of each? Does this then mean there are optimal levels of organizational power? Some authors may suggest that extremely high levels of commitment are not ideal for participants, even when it is considered to be the appropriate kind of involvement for the organization, and similar speculations may be made about calculative involvement. As discussed above, Marx, Simmel, and Weber all recognized that genuine individuality may be achieved with benefits for both the individual and society when people are given the opportunity to realize their potential in relation to physical and social conditions, thereby de-emphasizing calculative relations. For Simmel and Weber, in particular, some calculative involvement is apparently acceptable in modern society. Thus, calculative involvement may only become unacceptable when it is sufficient to divide people from each other, their true natures, and their activities, as Marx (1932/1973) postulated. It would be interesting to investigate whether the acceptable conditions are more likely to be via contracted utilitarian compliance, rather than conflicts of interest produced by a one-sided division of labour or a dysfunctional bureaucracy. Etzioni (1961, p. 25) observed that some apathy (lack of involvement) is functional for all organizations, although they differ in this regard.

A topic worthy of further investigation is whether remunerative power may reach a point of declining marginal utility in economic terms, as Etzioni (1975, p. 86) questioned. With increasing remunerative power, calculative involvement may reach a point where it does not increase with further increases in remunerative power. This implies a curvilinear relationship between remunerative power and calculative involvement, and that secondary effects of tight economic control (e.g., alienative involvement) limit the calculative involvement possible. However, the optimal level of calculative involvement, if it occurs at all, should fall below this level.

To encompass all such possibilities, an integrated theory to guide research is required. As
Kanter (1968) observed (see p. 9, above), involvement has both theoretical and practical significance, but its real benefits have not been obtained because little attempt has been made to integrate current sociological and psychological theory. Organization theorists and organizational psychologists generally draw upon a systems model which assigns priority to structural factors. The systems concept is a useful heuristic device that cuts across different theories, but the contribution of system elements to system operation (or, more appropriately, the relationship between them) must be more fully specified to adequately explain behaviour within social systems. The essentials of a balanced conception of a system have already been suggested in many writings on social theory (e.g., Giddens, 1979; Wacquant, 1985), but these have to be brought together in such a way as to provide a general (yet relatively simple) conception of social behaviour that does not favour the system or its participants. Such a system, retaining the appeal of an open system but better able to explain the causes of conflict and change, certainly appears feasible. Attention would have to be paid to ways of operationalizing the central concepts for the purposes of research.

Such a model would include attention to both the cause and consequence of various kinds of involvement (including complex attitudes), thereby generating relevant hypotheses and restricting the variables to study. Also, such a conception of social behaviour would show how dualistic social theories (as discussed by Giddens, 1979) favour only one side of social reality and particular disciplines. However, in contrast to Giddens’ approach, it would be likely to show current models to be partial (but not invalid) solutions. Phenomena in the literature relevant to involvement could also be further specified, e.g., positive and negative feedback (Buckley, 1967), the cosmopolitan-local distinction (Gouldner, 1957), functional reciprocity (Gouldner, 1959b), creative behaviour (Hopkins, 1986), and the structuralist perspective of organization behaviour (Etzioni, 1964). It may also assist Stryker and Statham (1985) to link symbolic interactionism with structural role theory. A social paradigm is obviously crucial for organizational psychologists and will benefit the study of involvement.

8.5. CONTRIBUTIONS OF THE STUDY

The main methodological contribution of the study has been the generally applicable measures of Etzioni’s (1961) power and involvement concepts in a wide range of organizations where members are free to stay or leave. The scale of calculative involvement was a good starting point for the construct and distinguishable from net commitment (moral minus alienative involvement). The measures of organizational power were obtained from group members and organization
administrators; each construct achieved good convergent and discriminant validity, and the scales had adequate psychometric properties. The study adopted an integrated approach to involvement research, with Etzioni's (1961) compliance relations of central importance, and compared administrator-reported organizational power to other likely predictors suggested in the literature (organization, group, and individual characteristics). Measures also had to be specially developed for group and individual characteristics (group characteristics were obtained from more than one source) and extensive validation showed that the problematic concept of group cohesion was as intended. Hierarchical regression analyses were conducted first at the level of groups (using the best available measures of organization and group characteristics), and then for group members (individual characteristics plus group-level scores assigned to each group member). Each individual-level analysis thus conservatively tested the effects of organizational power on involvement, particularly against self-reported group goals and member characteristics. Interactive effects were carefully investigated and simple effects were computed to aid their interpretation. The regression analyses included many checks for their accuracy, e.g., for multicollinearity, regression assumptions, suppression and redundancy among independent variables, stability of regression coefficients, and the model's prediction capabilities. At all stages (measurement, sampling, and analysis), every attempt was made to ensure that the findings were not distorted due to extraneous factors, and the procedures used may easily be applied to any such study.

The major findings have implications for the workplace, especially in the attitudes relevant to everyday situations, the role that the social context plays in the formation of those attitudes, and the designation of group processes to facilitate each kind of involvement to the satisfaction of all participants. The study achieved some success in its attempt to show the generality of Etzioni's (1961) compliance relations over different levels of analysis and across different ranks of organizations having different purposes. The most useful results were obtained at the individual level of analysis, where involvement was measured and member characteristics were included. It was apparent that realistic assessments of the social context affecting group members can be made by knowledgeable informants, and that most of the variables found to predict involvement in the past were usually of secondary importance to administrator-reported organizational power (despite the latter being a relatively objective group-level score assigned to all group members). An exception was achievement motivation, which qualified the positive effect of remunerative power to form an important predictor of calculative involvement: high remunerative power tended to increase calculative involvement only for low achievers. Achievement motivation was also found to be the most important predictor of calculative involvement when total power was high. A combination of low coercive power and high normative power was found to be the most important predictor of net commitment (tending to increase it). Group cohesion was not a significant predictor of any kind of involvement (in contrast to the views of human relations
adherents; see Krupp. 1961, p. 26), but highly altruistic group goals tended to reduce members' calculative involvement. For each kind of involvement, age included differences in involvement over organizational ranks. This information is useful for leaders and members alike, for transforming their social environments without favouring either point of view.

The study has also made some contributions to involvement theory; an attempt was made to show the central importance of Etzioni's (1961) compliance relations to involvement theory in general, and to suggest ways that a full understanding of involvement may be gained. Etzioni's (1961) involvement concepts were shown to be basic to the kinds of involvement discussed by other theorists and upon which complex attitudes (e.g., identification) may be fruitfully investigated. Furthermore, Etzioni's (1961) compliance theory embraced other theories of involvement by suggesting that both structural and individual factors (rather than just one or the other) were important antecedents of involvement. When extending the compliance relations to the individual level of analysis, some attempt was made to include the theoretical relevance of group and individual characteristics for member involvement, but the success of this was limited by Etzioni's (1961) failure to specify his systems concept in detail. However, no other theorist has provided a satisfactory alternative. To fully understand involvement (and its antecedents), particularly that associated with self-actualization, innovation, or other similar phenomena, it is necessary to consider both the causes and consequences of various kinds of involvement. This necessitates having a model of social behaviour which distinguishes various influences on participants and the consequences of these for both the system and its participants. Although this study has, for the most part, been successful in its aims, it can only be considered as the first step towards gaining the many possible benefits that a complete understanding of involvement is likely to provide.
References


Appendix A

QUESTIONNAIRES

A.1. MEMBERS’ REPORTS

The Australian National University
Comparative Study of Organizations

Group Members’ Report

This is a standard questionnaire, meant to apply to various organizations. It contains a series of questions directed at aspects of your group, the organization of which the group is a part, and certain individual characteristics.

Please answer the questions as fully as you can. All replies are anonymous, and will be treated as confidential. The questionnaire should take about 30 minutes to complete.
1. How many members are there in this group? ____________

2. On average, how many hours per week do you have face-to-face contact with the other group members? ____________

3. How does your contact with other members influence the way you carry out your activities in this group? Does contact with others generally make it easier for you to carry out your activities, or harder? (tick one)

   _____ 1. Very much easier;
   _____ 2. Somewhat easier;
   _____ 3. No effect;
   _____ 4. Somewhat harder;
   _____ 5. Very much harder.

MEMBERS' VIEWS ABOUT THE GROUP

This group of questions concerns your views about this group. Please read over the following statements and, to the best of your knowledge, indicate (by a tick in the appropriate space) if each is generally false or generally true, with respect to this group.

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12. Members are in this group primarily to learn something.

13. Members only meet because they are required to, rather than because they look forward to it.

14. Most of the individuals in this group insist on remaining independent of the other members.

15. It is difficult to meet new people through this group.

16. Members agree on the methods to be adopted by the group to achieve the best results.

17. The members often fail to do what the group requires of them.

18. This group is concerned with helping people who are not members.

19. The members have not joined this group especially to benefit themselves.
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<tr>
<th></th>
<th>Generally False</th>
<th>Generally True</th>
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<tr>
<td>20.</td>
<td>The members prefer one another's company to that of outsiders.</td>
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<tr>
<td>21.</td>
<td>Individual members of this group avoid trying to display their unique skills.</td>
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<td>22.</td>
<td>The group provides many opportunities for individuals to learn more about the interests of other members.</td>
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<tr>
<td>23.</td>
<td>No two group members hold the same opinion about what this group is supposed to achieve.</td>
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<td>24.</td>
<td>Benefits to individual members depend on the success of the group.</td>
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<td>25.</td>
<td>Few people in the community would be disadvantaged if this group were to cease functioning.</td>
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<tr>
<td>26.</td>
<td>This group was recruited by someone to do a job for them.</td>
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<tr>
<td>27.</td>
<td>Many of the members of this group have antagonistic feelings towards one another.</td>
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<tr>
<td>28.</td>
<td>Most of the members of this group want to achieve the best possible results for themselves as individuals.</td>
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<td>29.</td>
<td>Being sociable is less important than most other things in this group.</td>
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<td>30.</td>
<td>There is very little disagreement in the group about the important personal qualities required of members.</td>
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<td>31.</td>
<td>The members never have group discussions to settle matters affecting the group.</td>
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<td>32.</td>
<td>The group's objectives may conflict with other groups who are pursuing different purposes.</td>
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<tr>
<td>33.</td>
<td>Very few members receive any type of payment for their activities in the group.</td>
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<tr>
<td>34.</td>
<td>Members prefer to do certain things with each other rather than with outside friends.</td>
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<td>35.</td>
<td>Individual members never try to be outstanding in this group.</td>
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<td>1</td>
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<tr>
<td>36.</td>
<td>The main concern of this group centres around the relationships among its members.</td>
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<td>37.</td>
<td>In group matters, some members interpret the same situation in ways different from the others.</td>
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<td>38.</td>
<td>The group's best interest is a major concern of members.</td>
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<tr>
<td>39.</td>
<td>Providing a service to other groups is not important for this group.</td>
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<tr>
<td>40.</td>
<td>In this group, the members improve skills which may be useful to them later.</td>
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<td>41.</td>
<td>If the members had their choice, some of them would rather be in another group than this one.</td>
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<tr>
<td>42.</td>
<td>People in this group want to be recognized as unique individuals.</td>
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<tr>
<td>43.</td>
<td>People are unlikely to join a group like this just to meet others with similar interests.</td>
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<tr>
<td>44.</td>
<td>Most members hold pretty much the same opinions about how members should carry out their part in the group.</td>
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<td>45.</td>
<td>It is of little concern to members whether or not the group is known to do things well.</td>
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<td>46.</td>
<td>The group distributes information to outsiders about its services.</td>
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<td>47.</td>
<td>Members have no interest in personal development through being involved in this group.</td>
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<td>48.</td>
<td>The members feel that this group is a good place to be.</td>
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<td>49.</td>
<td>Any sort of competition is rare among individuals in this group.</td>
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<td>50.</td>
<td>Members may have personal conversations in this group whenever they wish.</td>
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<tr>
<td>51.</td>
<td>There are conflicting opinions in the group about how the group should go about its business.</td>
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<tr>
<td>52.</td>
<td>Above all, the members ensure that the entire group receives the credit when it is due.</td>
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<td>1 Generally False</td>
<td>2 Generally True</td>
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<td></td>
<td>53. This group never requires members to make sacrifices for anyone.</td>
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<td></td>
<td>54. Members hope to better themselves substantially by participating in this group.</td>
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<td></td>
<td>55. If a group member had a personal problem, he or she would rather talk it over with someone outside the group.</td>
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<td></td>
<td>56. Members of this group may be specially rewarded for showing individual initiative.</td>
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<td></td>
<td>57. There is little opportunity for relating personally to other members of the group.</td>
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<td></td>
<td>58. Members have similar views about the group aims.</td>
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<td></td>
<td>59. Members rarely consider whether their behaviour is best for the group as a whole.</td>
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<td></td>
<td>60. A group like this is needed to work on behalf of others.</td>
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<td></td>
<td>61. In the future, members would find it difficult to earn a living from the activities they perform in this group.</td>
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<td></td>
<td>62. Members seem to like being with each other.</td>
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<td></td>
<td>63. Individual members never put their own well-being first and foremost in this group.</td>
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<td></td>
<td>64. The members' main goal in this group is to be sociable and congenial towards one another.</td>
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<td></td>
<td>65. Every member has his or her own views on what is important to them, different from the views of other members.</td>
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<td></td>
<td>66. Everyone in the group actively works towards ensuring that the group will succeed.</td>
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<td></td>
<td>67. The goals of the group have little to do with moral or ethical issues.</td>
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<td></td>
<td>68. Members are in this group to perform particular duties.</td>
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<td></td>
<td>69. Members tend to seek their close friends outside the group.</td>
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1 Generally False  2 Generally True

70. In this group's activities, individuals are mostly able to do what they like, when they like.

71. To make friends would be the least likely reason for joining this group.

72. The members appear to view most things in a similar way.

73. Members need not operate as a unit for this group to be successful in its aims.

74. This group has a clearly stated aim to work for a cause.

75. There are few opportunities for members to gain any material benefits from each other.

76. This group has quite a friendly atmosphere.

77. Individuals in this group never make demands on each other.

78. This group provides the setting required by people who seek personal contact with others.

79. It is hard to get members to agree about the way they should perform in the group.

80. Members will do whatever the group indicates is required of them.

81. It is of minor concern to this group whether anyone else might benefit from the group's activities.

82. Of all the people you know anywhere, whom do you prefer to be with? The identities don't have to be known to the researcher, just the different individuals you would choose, so please write first names, initials, or nicknames for all those mentioned.

83. Which people don't you particularly care to be with? (First names, initials, or nicknames again)
Please go back to questions 82 and 83, and place an asterisk (*) besides the names of any people who are in this group. If a person listed in questions 82 and 83 is not in this group, do not place an asterisk besides that person's name.

**MEMBERS' VIEWS ABOUT THE ORGANIZATION**

This group of questions concerns your views about matters affecting this organization: (Please write name of organization)

Please read over the following statements and, to the best of your knowledge, indicate (by a tick in the appropriate space) if each is generally false or generally true, with respect to the organization named above.

**Note:** 'we', 'our', or 'us' refer to people at your level in the organization.

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<td>Generally False</td>
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85. Rules and regulations have little to do with our activities in this organization.

86. This organization provides quite a valuable service to the community.

87. Even if I wanted a higher position, there are few available in this organization.

88. If I do not do what is expected in this organization, I could lose income here.

89. The organization is quite acceptable to me.

90. There are other positions that I could consider outside this organization.

91. This organization has no badges, songs, or other unique signs used by us.

92. My feelings towards this organization may vary from good to bad, depending on my circumstances.

93. People higher up in this organization issue commands and directives which they expect us to obey.
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<tr>
<td>94.</td>
<td>If it were to close, this organization would not be missed by most people who now contact it.</td>
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<tr>
<td>95.</td>
<td>I may soon move up in this organization.</td>
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<tr>
<td>96.</td>
<td>The organization expects that I will stay in it regardless of whether I am paid or not.</td>
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<tr>
<td>97.</td>
<td>The organization does not satisfy what is important to me.</td>
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<tr>
<td>98.</td>
<td>Outside this organization, positions like mine wouldn't suit me.</td>
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<tr>
<td>99.</td>
<td>People at our level in the organization are given a large say in how we operate.</td>
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<tr>
<td>100.</td>
<td>If other organizations of this type offer similar positions, I am never tempted.</td>
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<tr>
<td>101.</td>
<td>We can move about as we please while in this organization.</td>
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<tr>
<td>102.</td>
<td>The organization's aims deserve the respect of everyone.</td>
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<tr>
<td>103.</td>
<td>In this organization, there is a shortage of positions with more responsibility than I have now.</td>
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<tr>
<td>104.</td>
<td>Monetary penalties may be imposed on me if my performance is unsatisfactory in this organization.</td>
<td></td>
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<tr>
<td>105.</td>
<td>Most of what I do in this organization makes a lot of sense to me.</td>
<td></td>
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<tr>
<td>106.</td>
<td>The skills that I use here are in demand by several organizations at the moment.</td>
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<tr>
<td>107.</td>
<td>At organized gatherings, we are never encouraged to feel that we belong to an organization that cares for us.</td>
<td></td>
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<tr>
<td>108.</td>
<td>Very few, if any, of the goals or policies of this organization really affect me.</td>
<td></td>
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<tr>
<td>109.</td>
<td>The organization makes it unpleasant for those of us who depart from the required standards of conduct.</td>
<td></td>
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</tr>
<tr>
<td>110.</td>
<td>This organization is just another alternative, with little appeal different from other organizations of this sort.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1. Generally False
2. Generally True

111. I may eventually be able to learn more advanced skills in this organization.

112. I never receive any payment for my activities in this organization.

113. I ought to be given more opportunity than I have been given in this organization.

114. I would presently find it difficult to obtain a position in some other organization.

115. The organization persuades, rather than tells, us to follow its way of doing things.

116. I do not think of this organization as a place to obtain things, because I could more easily obtain them elsewhere.

117. People higher up in this organization rarely check to see that we are following correct procedures.

118. This organization is founded on a force greater than ourselves.

119. In this organization, I am provided with enough money for the basic necessities of life.

120. I feel valued by this organization.

121. The organization provides very little help for us to carry out our activities well.

122. All I'm interested in here is doing my job; nothing more.

123. Penalties for wrongdoing are strictly enforced in this organization.

124. Whatever qualities it has, this organization is not worth the effort of becoming too involved in it.

125. In this organization, I am never provided with additional monetary incentives such as bonuses, commissions, etc.

126. My outlook on life is quite different from those higher up in the organization.

127. Leaders of this organization relate to us on the same level.
<table>
<thead>
<tr>
<th></th>
<th>1 Generally False</th>
<th>2 Generally True</th>
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</thead>
<tbody>
<tr>
<td>128.</td>
<td>Within this organization, many issues other than my own opportunities are very important to me.</td>
<td></td>
</tr>
<tr>
<td>129.</td>
<td>If we break the rules, the organization never makes a point of criticizing us.</td>
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<tr>
<td>130.</td>
<td>This organization is much better than most others of its type.</td>
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<tr>
<td>131.</td>
<td>If I make a greater effort, I will receive more money in this organization.</td>
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<tr>
<td>132.</td>
<td>My basic needs are satisfied in this organization.</td>
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</tr>
<tr>
<td>133.</td>
<td>The organization never tries to make us feel that we are doing something worthwhile.</td>
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</tr>
<tr>
<td>134.</td>
<td>If I were offered a similar place in another organization, I would probably consider it.</td>
<td></td>
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<tr>
<td>135.</td>
<td>We cannot leave this organization at any time without the organization's approval.</td>
<td></td>
</tr>
<tr>
<td>136.</td>
<td>People higher up in this organization cannot always be trusted to look after the best interests of those served by the organization.</td>
<td></td>
</tr>
<tr>
<td>137.</td>
<td>People higher up in this organization never have to make recommendations to anyone about my level of pay.</td>
<td></td>
</tr>
<tr>
<td>138.</td>
<td>I don't feel accepted as a person in this organization.</td>
<td></td>
</tr>
<tr>
<td>139.</td>
<td>Those higher up often show us proof that the organization provides a good service.</td>
<td></td>
</tr>
<tr>
<td>140.</td>
<td>I rarely try to get as much as I can out of this organization.</td>
<td></td>
</tr>
<tr>
<td>141.</td>
<td>Leaders of this organization never threaten us with punishment or deprivation.</td>
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</tr>
<tr>
<td>142.</td>
<td>This organization should be promoted so that its good qualities will be made known to more people.</td>
<td></td>
</tr>
<tr>
<td>143.</td>
<td>I receive more money in this organization than I could normally expect outside.</td>
<td></td>
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<tr>
<td>144.</td>
<td>It never feels like a case of 'me against them' in any relations with people higher up in the organization.</td>
<td></td>
</tr>
<tr>
<td>1 Generally False</td>
<td>2 Generally True</td>
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</table>

145. The organization has no particular creed, or guide for living, or doctrine for us to follow.

146. I want to gain experience in this organization to help my future prospects.

147. People higher up in this organization keep a fairly close watch on us.

148. Few, if any, of those higher up in the organization would be a credit to the best organizations of this type.

149. People higher up in this organization do not use financial incentives to attract my support.

150. The activities that I carry out in this organization are a waste of time.

151. The organization has programmes which make our welfare most important.

152. I feel that it is undesirable to maintain cordial relations with those higher up just because a reference may be required one day.

**INDIVIDUAL CHARACTERISTICS**

153. Age (years)___

154. Sex: (circle one) 1 Male 2 Female

155. Marital status: (circle one) 1 Single 2 Married

*156. What do you do in this organization?______________________________

157. How long have you been in this position? ___years ___months

158. How long have you been in this group? ___years ___months

159. How long have you been in this organization? ___years ___months

160. How many years formal education have you completed?

    Full-time_____ Part-time_____

161. What is the highest level of education that you have reached?

    (also specify the type of institution)______________________________

162. Have you any plans for further education? (circle one) 1 No 2 Yes

163. Are you a member of a union concerned with activities in organizations such as this? (circle one) 1 No 2 Yes_

* General title. If unique in the group, don't be too specific.
The final group of questions is directed at your general behaviour, regardless of the group or organization you are in. Please read over the following statements and indicate (by a tick in the appropriate space) if each is generally false or generally true, with respect to yourself.

<table>
<thead>
<tr>
<th>1</th>
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<tbody>
<tr>
<td>Generally False</td>
<td>Generally True</td>
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</tr>
<tr>
<td>164. I get annoyed with people who never want to go anywhere different.</td>
<td></td>
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<tr>
<td>165. If public opinion is against me, I usually decide that I am wrong.</td>
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</tr>
<tr>
<td>166. I enjoy doing things which challenge me.</td>
<td></td>
</tr>
<tr>
<td>167. Changes in routine disturb me.</td>
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</tr>
<tr>
<td>168. I would like to wander freely from country to country.</td>
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<tr>
<td>169. Self-improvement means nothing to me unless it leads to immediate success.</td>
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<tr>
<td>170. I like to have new things to eat from week to week.</td>
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<tr>
<td>171. Family obligations make me feel important.</td>
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<tr>
<td>172. I get disgusted with myself when I have not learned something properly.</td>
<td></td>
</tr>
<tr>
<td>173. My likes and dislikes are the same from year to year.</td>
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<tr>
<td>174. When I was a child, I wanted to be independent.</td>
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<tr>
<td>175. I work because I have to, and for that reason only.</td>
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<tr>
<td>176. I would be willing to give up some financial security to be able to change from one job to another if something interesting came along.</td>
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<tr>
<td>177. I find that for most jobs the combined effort of several people will accomplish more than one person working alone.</td>
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<tr>
<td>178. I will keep working on a problem after others have given up.</td>
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<tr>
<td>179. I would be satisfied to stay at the same job indefinitely.</td>
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</tr>
<tr>
<td>180. If I have a problem, I like to work it out alone.</td>
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<td></td>
<td>Generally</td>
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<td>---</td>
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<tr>
<td>1</td>
<td>False</td>
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<td>2</td>
<td>True</td>
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Thank you for participating.

Could you please backcheck to see if any questions remain unanswered?
A.2. OBSERVERS' REPORTS

The Australian National University

Comparative Study of Organizations

Group Observers' Report

Group: ____________________________

You have been nominated by the above group as having sufficient knowledge of their affairs to be able to provide an informed appraisal of it. The group members have been asked similar questions, but an outsiders' view is required for completeness. No information about individual persons is asked for.

This is a standard questionnaire for all organizations. Please do your best to answer each question in a way that will help us understand the group. If the alternative replies provided are not appropriate, please feel free to write in a reply that would be suitable. Your replies will be treated as confidential.

Please read over the following statements and, to the best of your knowledge, indicate (by a tick in the appropriate space) if each is generally false or generally true, with respect to the group named above.

Note: 'members' refers to all, or most of, the members of the group.

<table>
<thead>
<tr>
<th>1</th>
<th>Generally False</th>
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<th>Generally True</th>
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</thead>
<tbody>
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</table>

1. Members agree on the methods to be adopted by the group to achieve the best results.

2. In times that challenge the unity of the group, the members tend to go their separate ways.

3. Most of the individuals in this group insist on remaining independent of the other group members.

4. Members only meet because they are required to, rather than because they look forward to it.

5. Benefits to individual members depend on the success of the group.

6. No two group members hold the same opinion about what this group is supposed to achieve.

7. The group members are immersed in traditions previously established by the group.

8. Individual members of this group avoid trying to display their unique skills.
<table>
<thead>
<tr>
<th></th>
<th>Generally False</th>
<th>Generally True</th>
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<tbody>
<tr>
<td>1</td>
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<tr>
<td>9</td>
<td>The members prefer one another's company to that of outsiders.</td>
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<tr>
<td>10</td>
<td>The members never have group discussions to settle matters affecting the group.</td>
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<tr>
<td>11</td>
<td>There is very little disagreement in the group about the personal qualities required of members.</td>
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<tr>
<td>12</td>
<td>The members have little loyalty to the group.</td>
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</tr>
<tr>
<td>13</td>
<td>Most of the members of this group want to achieve the best possible results for themselves as individuals.</td>
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</tr>
<tr>
<td>14</td>
<td>Many of the members of this group have antagonistic feelings towards one another.</td>
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<tr>
<td>15</td>
<td>The group’s best interest is a major concern of members.</td>
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<tr>
<td>16</td>
<td>In group matters, some members interpret the same situation in ways different from the others.</td>
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</tr>
<tr>
<td>17</td>
<td>When required to, the group members look after each other’s welfare as they would their own.</td>
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</tr>
<tr>
<td>18</td>
<td>Individual members never try to be outstanding in this group.</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Members prefer to do certain things with each other rather than with outside friends.</td>
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</tr>
<tr>
<td>20</td>
<td>It is of little concern to members whether or not the group is known to do things well.</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Most members hold pretty much the same opinions about how members should carry out their part in the group.</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>If circumstances required it, members could easily break off relations with each other.</td>
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</tr>
<tr>
<td>23</td>
<td>People in this group want to be recognized as unique individuals.</td>
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</tr>
<tr>
<td>24</td>
<td>If the members had their choice, some of them would rather be in another group than this one.</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Above all, the members ensure that the entire group receives the credit when it is due.</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>There are conflicting opinions in the group about how the group should go about its business.</td>
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<tr>
<td></td>
<td>Generally False</td>
<td>Generally True</td>
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<tr>
<td>27.</td>
<td>The group members would always stick together, through good or bad times.</td>
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<tr>
<td>28.</td>
<td>Any sort of competition is rare among individuals in this group.</td>
<td></td>
</tr>
<tr>
<td>29.</td>
<td>The members feel that this group is a good place to be.</td>
<td></td>
</tr>
<tr>
<td>30.</td>
<td>Members rarely consider whether their behaviour is best for the group as a whole.</td>
<td></td>
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<tr>
<td>31.</td>
<td>Members have similar views about the group aims.</td>
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<tr>
<td>32.</td>
<td>The group is not known to outsiders as having an identity all its own.</td>
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<tr>
<td>33.</td>
<td>Members of this group may be specially rewarded for showing individual initiative.</td>
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<tr>
<td>34.</td>
<td>If a group member had a personal problem, he or she would rather talk it over with someone outside the group.</td>
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</tr>
<tr>
<td>35.</td>
<td>Everyone in the group actively participates to ensure that the group will succeed.</td>
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</tr>
<tr>
<td>36.</td>
<td>Every member has his or her own views on what is important to them, different from the views of other members.</td>
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</tr>
<tr>
<td>37.</td>
<td>Members of this group are strongly united in a common purpose.</td>
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<tr>
<td>38.</td>
<td>Individual members never put their own well-being first and foremost in this group.</td>
<td></td>
</tr>
<tr>
<td>39.</td>
<td>Members seem to like being with each other.</td>
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</tr>
<tr>
<td>40.</td>
<td>Members need not operate as a unit for this group to be successful in its aims.</td>
<td></td>
</tr>
<tr>
<td>41.</td>
<td>The members appear to view most things in a similar way.</td>
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</tr>
<tr>
<td>42.</td>
<td>If there were an external threat to the group, the members would not come together to ensure survival of the group.</td>
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</tr>
<tr>
<td>43.</td>
<td>In this group's activities, individuals are mostly able to do what they like, when they like.</td>
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<tr>
<td></td>
<td>Generally True</td>
<td>Generally False</td>
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</tr>
<tr>
<td>44</td>
<td>Members tend to seek their close friends outside the group.</td>
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</tr>
<tr>
<td>45</td>
<td>Members will do whatever the group indicates is required of them.</td>
<td></td>
</tr>
<tr>
<td>46</td>
<td>It is hard to get members to agree about the way they should perform in the group.</td>
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</tr>
<tr>
<td>47</td>
<td>In the members' view, there is nothing so low as a traitor to the group.</td>
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</tr>
<tr>
<td>48</td>
<td>Individuals in this group never make demands on each other.</td>
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</tr>
<tr>
<td>49</td>
<td>This group has quite a friendly atmosphere.</td>
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</tr>
<tr>
<td>50</td>
<td>The members often fail to do what the group requires of them.</td>
<td></td>
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<tr>
<td>51</td>
<td>On average, how many hours a week in total would you say the members have face-to-face contact with each other?</td>
<td></td>
</tr>
<tr>
<td>52</td>
<td>How do members' face-to-face contact generally influence each other's interest in the group's activities? Would you say that the members' face-to-face contact tends to increase or decrease their interest in group activities? (circle one number)</td>
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<tr>
<td></td>
<td>Increase greatly</td>
<td>1  Increase interest greatly</td>
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<td></td>
<td>Increase somewhat</td>
<td>2  Increase interest somewhat</td>
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<tr>
<td></td>
<td>No effect</td>
<td>3  Decrease interest somewhat</td>
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<td></td>
<td>Decrease interest somewhat</td>
<td>4  Decrease interest greatly</td>
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<tr>
<td></td>
<td>Decrease interest greatly</td>
<td>5  Decrease interest greatly</td>
</tr>
<tr>
<td>53</td>
<td>How many hours a week, on average, would you say the members carry out tasks together in the group? (Tasks may be similar or different)</td>
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<tr>
<td>54</td>
<td>If the members do carry out tasks in the group, how do they generally influence each other's performance? Would you say that the members' efforts generally help, or generally hinder, others in carrying out their own tasks? (circle one number)</td>
<td></td>
</tr>
<tr>
<td>1  Help others greatly</td>
<td>2  Help others somewhat</td>
<td>3  No effect</td>
</tr>
</tbody>
</table>

Thank you for participating.
The Australian National University  
Comparative Study of Organizations  
Administrators' Report

The purpose of this questionnaire is to provide another view of the above group. The group members have been asked similar questions, but administrators' views are required for completeness. A separate questionnaire should be completed for each group being commented on, because your responses may alter for different groups.

This is a standard questionnaire for all organizations. Please do your best to answer each question in a way that will help us understand the group members' situation in this organization. If the alternative replies provided are not appropriate, please feel free to write in a reply that would be suitable. Your replies will be treated as confidential.

Please read over the following statements and, to the best of your knowledge, indicate (by a tick in the appropriate space) if each is generally false or generally true, with respect to people in the group named above.

Note: 'members' refers to people in this group.

<table>
<thead>
<tr>
<th></th>
<th>1 Generally False</th>
<th>2 Generally True</th>
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<tbody>
<tr>
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</tr>
<tr>
<td>1</td>
<td>Rules and regulations have little to do with the members' daily activities.</td>
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<tr>
<td></td>
<td>If they do not do what is expected of them, the members could lose income here.</td>
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<tr>
<td></td>
<td>The organization has no badges, songs, or other unique signs used by members.</td>
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<tr>
<td></td>
<td>People higher up issue directives which must be obeyed by the members.</td>
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<tr>
<td></td>
<td>The organization expects that the members will stay in it regardless of whether they are paid or not.</td>
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<tr>
<td></td>
<td>The members are rarely, if ever, told that the organization cares for them.</td>
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<tr>
<td></td>
<td>The members can move about just as they please while in this organization.</td>
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</tbody>
</table>
1. Generally False
2. Generally True

8. Fines or monetary penalties may be imposed on the members if their performance is unsatisfactory.

9. The members have a large say in how they operate within this organization.

10. The organization would make it unpleasant for any members who depart from the required standards of conduct.

11. The members are never paid for their activities in this organization.

12. The organization finds it easier to persuade, rather than tell, the members to accept its way of doing things.

13. People higher up in this organization rarely check that the members are following correct procedures.

14. In this organization, the members are provided with enough money for the basic necessities of life.

15. The organization does not provide special help for members to carry out their activities well; that is their own responsibility.

16. Penalties for members' wrongdoing are strictly enforced in this organization.

17. The members are never provided with additional monetary incentives such as bonuses, commissions, etc.

18. Leaders of this organization relate to the members as true equals.

19. If the members disobeyed the rules, they would not be strongly criticized by the organization.

20. The members will be paid more money if they work harder here.

21. The organization cannot spend time trying to convince members of the usefulness of their activities.

22. The members cannot leave at any time without the organization's approval.

23. People higher up in this organization are never required to make recommendations to anyone about members' level of pay.
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<th>Generally</th>
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<tbody>
<tr>
<td>1</td>
<td>False</td>
<td>True</td>
</tr>
<tr>
<td>24.</td>
<td>Those higher up often show the members detailed proof that the organization provides a good service.</td>
<td></td>
</tr>
<tr>
<td>25.</td>
<td>The members have never been warned of any disciplinary action which could be brought about by the organization.</td>
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</tr>
<tr>
<td>26.</td>
<td>The members are paid more in this organization than they could normally expect outside.</td>
<td></td>
</tr>
<tr>
<td>27.</td>
<td>The organization has no particular formal creed or doctrine for the members to follow.</td>
<td></td>
</tr>
<tr>
<td>28.</td>
<td>People higher up in this organization keep a fairly close watch on the members to ensure that they are performing as well as they should.</td>
<td></td>
</tr>
<tr>
<td>29.</td>
<td>People higher up in this organization are not concerned with using financial incentives to attract members.</td>
<td></td>
</tr>
<tr>
<td>30.</td>
<td>The organization has programmes which make the members' welfare most important.</td>
<td></td>
</tr>
</tbody>
</table>

31. In this organization, how many higher positions are available for most of the members of this group to apply for eventually? (circle one number)  

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Many positions</td>
</tr>
<tr>
<td>3</td>
<td>Several positions</td>
</tr>
<tr>
<td>2</td>
<td>A few positions</td>
</tr>
<tr>
<td>1</td>
<td>No positions</td>
</tr>
</tbody>
</table>

Thank you for participating.
A.4. RESEARCHER'S RATING SHEET

Group: ________________

The Australian National University
Comparative Study of Organizations

Rating Sheet

Use this scale: 1 Definitely Low;
2 Probably Low;
3 Average, neither high nor low;
4 Probably High;
5 Definitely High.

1. Goals of group: Instrumental ___ (members benefit from activities)
   Relational ___ (benefit from one another's company)
   Altruistic ___ (benefit to non-members)

2. Organization power: Coercive ___ (regulation by organization)
   Remunerative ___ (more money the better)
   Normative ___ (appeal to common values)
A.5. MISCELLANEOUS ORGANIZATION DETAILS

The Australian National University
Comparative Study of Organizations

Miscellaneous Organization Details (at /84)

Group: __________________________________________________________

Organization: ___________________________________________________

1. How many people in total are there in this organization?
   _____ Staff, employees, or volunteer workers
   _____ Other regular participants, where appropriate. 
   (e.g., students in schools, patients, members of associations, 
   societies etc.)

2. How long has this organization been in operation?
   _____ years _____ months

3. For the group as a whole, how many absences (apart from vacations) have there been during the last 6 months? (An absence is a failure to be available to the organization for the whole time that the member is expected to be available on any day, such as a sick day, etc. The total number of absences may be contributed to by one person's absences or those of different people.) Just consider current group members.
   ________ absences in total

4. How many times, in total, were group members supposed to be available to the organization over the last 6 months?
   _____ times

5. How many hours, on average, does any group member participate in the organization at one such time?
   _____ hours

6. How many people have permanently left this group during the last 6 months, for any reason?
   _______________________ people

7. Where did the people in question 6 go? Did they move to another group within the same organization, or did they move to another organization? Please indicate the numbers of people in Q6 who followed each course.
   Moved to another group within this organization
   Moved to another organization
   Other reason for departure: (specify why)
Appendix B

INFORMATION TO PARTICIPANTS

B.1. LETTER TO ORGANIZATIONS

I am seeking organizations that may be willing to participate in a study of their members' commitment to the organization. 'Members' here refers to people at the lower levels of the organization, and who regularly take part in the organization's activities. An outline of the study is enclosed. The study investigates commitment in different types of organizations, and how each form of commitment is related to influences within those organizations. Among the organizations of interest are those whose purposes have to do with business, welfare, and education. To investigate commitment within each of these types, and to permit comparisons among them, a variety of organizations of each type are required. Wherever appropriate, an effort will be made to include both public and private sectors.

Typical groups will be obtained from participating organizations, to observe how the group situation provided to members is related to commitment. A group would be people who operate together in some capacity, with at least three members.

The educational organizations of interest are secondary schools. To provide maximum benefit, I plan to include groups of teachers and students. Three groups of each from each school should be sufficient.

Would your organization be willing to contribute to this investigation in some way? I will phone in a week's time, in the hope of having an opportunity to discuss the research further, and to show you draft copies of the questionnaires.

Yours faithfully,

John Meilak,
Ph.D. Student (49 4003)

---

1This paragraph was omitted for business firms and health-welfare agencies.
B.2. RESEARCH OUTLINE FOR ORGANIZATIONS

Proposed Study of Commitment to Organization

Commitment to an organization (identification with an organization and its goals) depends in part on the individual member. In addition, the social context which the organization provides may be an important contributor. Recent research conducted in American institutions suggests that certain individual characteristics, and characteristics of the group and organization, are important for the development of a member’s commitment. This could be of practical interest to leaders and members alike. Benefits could include lower turnover and increased willingness to participate.

During 1984 I plan to undertake a study into how commitment may vary across organizations, and how commitment is related to social factors. The various forms of attitude to be investigated are alienation (anti-commitment), calculative (opportunistic) involvement, and altruistic commitment (in which the well-being of the organization is primary). Any organization may have all forms of commitment present among its members, but one form or another may predominate. The emphasis will be on business, welfare, and educational organizations, as there are a number of these locally.

To avoid disruption, only up to a few groups will be drawn from each participating organization. For each group, members will be asked to fill out a questionnaire. This will take about 45 minutes. The measures are directed at aspects of members’ relations within their group or organization, as well as selected individual characteristics. The individual characteristics include need for achievement and need for autonomy. Group characteristics include members’ attraction to their group, the level of agreement within the group, and the pattern of communications among members. Organization characteristics include various modes of control exercised over members (remuneration, persuasion, etc.), opportunities for advancement, and opportunities for alternative positions in other organizations.

Each group member may complete a questionnaire at their convenience, and seal it in an envelope provided. In addition, shorter questionnaires will be administered to two non-members nominated by the group and to administrators, to provide a check on the group members’ reports.

Individuals and groups will not be identified by name, and care will be taken to preserve the anonymity and confidentiality of respondents. Since the research is not directed at specific organizations, organizations also will not be named unless they desire acknowledgement. At the completion of the study, a summary of the overall results will be forwarded to all participating organizations.

Would your organization be willing to participate in this research?

John Meilak,
Ph.D. Student,
Australian National University. (494003)
Supervisor: Professor W. A. Scott (492804)
B.3. INFORMATION SHEET FOR GROUPS

Study of Groups
John Meilak, Ph.D. candidate
Australian National University

Organization: ________________________________

I am inviting various groups within this organization to participate in a research project sometime during 1984. The study is concerned with how organizations may affect their members' attitudes towards the organization. By showing how attitudes towards organizations are related to influences within those organizations, it is hoped that this research will be of interest to all concerned. A summary of the overall results will be forwarded to all participating groups at the completion of the study.

Organizations included in the study are a range of business firms, welfare services, and schools, and these will not be named. The group should be considered as an appropriate one for the people concerned, regardless of how often they take part in it. A group should have at least three members. It will be necessary for the group to decide exactly who its members are, because each person should be willing to participate. Groups from any one organization should not have overlapping membership, to avoid asking some people to answer additional questions.

Each person in a group will be asked to complete a questionnaire which should take about 45 minutes. The questions, for the most part, are directed at group relations and organization relations. Replies are anonymous, and no details of specific people are asked for. The group will also be asked to nominate two people who may be able to provide an outsider's general view of the group (a short questionnaire). Sealable envelopes will be provided, so that questionnaires may be collected later.

Would you be willing for your group to participate in this study? I will be coming to the organization soon, to answer any questions and to gauge interest. The support of groups will be greatly appreciated.
Appendix C

TABLES SHOWING BREAKDOWN OF SAMPLE

Table C-1: Number of Organizations, Groups, and Group Members Obtained Within 'Business Firms'

<table>
<thead>
<tr>
<th>Organization</th>
<th>Orgns</th>
<th>Groups</th>
<th>Total Members</th>
<th>Group Duties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department Stores</td>
<td>2</td>
<td>12</td>
<td>49</td>
<td>Shop Assistants (12\textsuperscript{a}).</td>
</tr>
<tr>
<td>Bank</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>Tellers/clerks (2).</td>
</tr>
<tr>
<td>Insurance Companies</td>
<td>2</td>
<td>3</td>
<td>12</td>
<td>Clerks (2);</td>
</tr>
<tr>
<td>Appliance Manufacturing Division</td>
<td>1</td>
<td>2</td>
<td>12</td>
<td>Salesmen (1).</td>
</tr>
<tr>
<td>Solicitors’ Firms</td>
<td>2</td>
<td>5</td>
<td>19</td>
<td>Assemblers (1);</td>
</tr>
<tr>
<td>Public Service Law Department</td>
<td>1</td>
<td>2</td>
<td>9</td>
<td>Lawyers/clerks (1\textsuperscript{b});</td>
</tr>
<tr>
<td>Public Service Building Department</td>
<td>1</td>
<td>3</td>
<td>28</td>
<td>Engineers (1);</td>
</tr>
<tr>
<td>Public Service Science Division</td>
<td>1</td>
<td>2</td>
<td>7</td>
<td>Architects (1);</td>
</tr>
</tbody>
</table>

Note: Numbers in parentheses indicate numbers of groups having the specified general duties among members.

\textsuperscript{a} Two social groups were obtained from one department store.

\textsuperscript{b} A touch football team.
<table>
<thead>
<tr>
<th></th>
<th>Orgns.</th>
<th>Groups</th>
<th>Total Members</th>
<th>Group Duties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Service Welfare Divisions</td>
<td>2</td>
<td>9</td>
<td>38</td>
<td>Researchers (2); Social workers (3); Clerks (4).</td>
</tr>
<tr>
<td>Public Health Facility</td>
<td>1</td>
<td>6</td>
<td>27</td>
<td>Doctors/nurses (1); Nurses (1); Counsellors (1); Researchers (1); Clerks (2).</td>
</tr>
<tr>
<td>Public Hospital</td>
<td>1</td>
<td>2</td>
<td>11</td>
<td>Clerks (2).</td>
</tr>
<tr>
<td>Public Hostel for Handicapped</td>
<td>1</td>
<td>3</td>
<td>9</td>
<td>Therapists (3).</td>
</tr>
<tr>
<td>Association for Disadvantaged</td>
<td>1</td>
<td>3</td>
<td>16</td>
<td>Social workers (2); Tradesmen (1).</td>
</tr>
<tr>
<td>Society for Childrens' Welfare</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>Committees (2).</td>
</tr>
<tr>
<td>Religion-based Social Services</td>
<td>3</td>
<td>3</td>
<td>22</td>
<td>Counsellors (2); Clerks/counsellors (1).</td>
</tr>
</tbody>
</table>

Note: Numbers in parentheses indicate numbers of groups having the specified general duties among members.
### Table C-3: Number of Organizations, Groups, and Group Members Obtained Within ‘Educational Institutions’

<table>
<thead>
<tr>
<th></th>
<th>Orgns.</th>
<th>Groups</th>
<th>Total Members</th>
<th>Group Duties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Primary School</td>
<td>1</td>
<td>2</td>
<td>6</td>
<td>Teachers (2).</td>
</tr>
<tr>
<td>Public Secondary School</td>
<td>1</td>
<td>6</td>
<td>23</td>
<td>Teachers (3); Yr. 10 students (3).</td>
</tr>
<tr>
<td>Public Secondary College</td>
<td>1</td>
<td>6</td>
<td>53</td>
<td>Teachers (2); Admin. staff (1); Yrs. 10 &amp; 11 students (3).</td>
</tr>
<tr>
<td>Public Tertiary College</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>First year students (1).</td>
</tr>
<tr>
<td>Religion-based Secondary Colleges</td>
<td>2</td>
<td>11</td>
<td>107</td>
<td>Teachers (4&lt;sup&gt;a&lt;/sup&gt;); Admin. Committee (1); Yrs. 10 to 12 students (6&lt;sup&gt;b&lt;/sup&gt;).</td>
</tr>
</tbody>
</table>

**Note:** Numbers in parentheses indicate numbers of groups having the specified general duties among members.

<sup>a</sup> One was a morning tea group.

<sup>b</sup> Two student groups from each college were social groups.
Appendix D

MULTIPLE-ITEM SCALES USED

D.1. ANALYSIS OF SCALES

Most multiple-item scales constructed for use in this study consisted of 10 items, with the exception of the members’ measures of opportunity for advancement and opportunities elsewhere. (These scales each comprised 4 items.) On the basis of all available responses from a particular source (members, administrators, or observers), each item was standardized (mean = 0; standard deviation = 1) and a scale analysis performed. To handle missing scores on component items within a scale, the mean of the remaining item-scores for that subject was substituted. Scale reliabilities (Cronbach’s alpha coefficient) were then computed as the mean of the coefficients obtained when the total sample mean was substituted for the missing score, and when the subject’s mean for other items in the scale was substituted. This procedure was adopted to balance the upward and downward biases associated with each method of supplying missing data. Generally, scale reliabilities were not particularly high. This was for several reasons, including the two-response format and the scarcity of items in some scales (see Nunnally, 1967). However, the aim was not to maximize reliability, but rather to discriminate among diverse groups; as Guilford and Fruchter (1978, p. 446) observed, there must be a compromise between test reliability and test validity.

Most scales appeared to be distinct from others measured from the same source (members, administrators, or observers), but a few scales were highly intercorrelated. In the members’ report, highly correlated scales were alienative involvement and moral involvement, normative power and alienative involvement, normative power and moral involvement, instrumental goals and altruistic goals of the group, and group consensus and members’ group-centredness. In the observers’ reports, the scales of group solidarity, group consensus, group cohesion, and members’ group-centredness were highly intercorrelated, and some were eventually discarded because they also failed to discriminate among groups.

Since there were a large number of multiple-item scales for some sources, a scale refinement technique was used to provide maximum discrimination among scales. For each source of
measure, intra- and extra-scale correlations were calculated and compared for every item in the scale. Those items that correlated (on average) .05 higher with items in their scale, relative to any other scale, were retained to form distinct constructs. Some same-source scales were combined in this process (e.g., instrumental and altruistic goals as reported by members), and some items were transferred to another scale if it made sense to do so. However, although the obtained scales generally corresponded to the intended constructs, and were maximally discriminated from each other, they were slightly different conceptually from the original scales. This was also the case for refined scales correlated across sources; the members’ scale for coercive power, for example, did not retain the same items as the refined administrators’ scale of the same name. Therefore, the refined scales did not produce better convergence across sources or significantly better discrimination among groups. However, the refined scale of calculative involvement was improved in this process, with the addition of two items originally designed by Jackson (1967) for the scale of Achievement (here assessed as ‘achievement motivation’). With the exception of these measures, most scales used in the final analysis were the original versions in their unrefined forms. Three of the original members’ report scales obtained improved reliabilities by removal of the worst items. These scales comprised instrumental goals of the group, members’ self-assertiveness, and members’ personal autonomy.

After the scale analysis, a one-way analysis of variance was carried out on all scales, over all groups having more than one respondent. The treatment levels were the different groups included. If a significant F was obtained, $\omega^2$ (Hays, 1963) was calculated (otherwise, it was assigned a value of zero). This omega-squared statistic indicates the strength of association between the measured variable and the different treatment levels (groups), or the degree of intra-group agreement in reports relative to the variation among all respondents’ scores. Whilst omega-squared has the advantage of being interpreted as the proportion of variance explained by group differences, intra-group agreement may be expressed as $\omega$ to be comparable with Cronbach’s (1951) coefficient $\alpha$ and correlation coefficients (Guilford & Fruchter, 1978).

This remainder of this appendix details the final multiple-item scales used to assess organization, group, and individual characteristics, from the various sources (members, administrators, and observers).

Key to symbols:

$k$ Number of items in scale.

$\alpha$ Cronbach’s (1951) coefficient alpha, an estimate of the scale reliability conceived as its correlation with a (hypothesized) parallel form. Alpha depends on the number of items in the scale and on the consistency of replies to them by each respondent.
Hays’ (1963) omega statistic. This indicates inter-respondent similarity within groups, relative to the variation over scores for all respondents.

(-) Denotes that the item is reverse-worded and reverse-scored in the scale.

Note: The number preceeding each item refers to its location in the questionnaire.

D.2. INVOLVEMENT - ASSESSED FROM MEMBERS’ REPORTS

D.2.1. ALIENATIVE INVOLVEMENT

\((k = 10; \alpha = .76; \omega = .49)\)

(-) 89. The organization is quite acceptable to me.

97. The organization does not satisfy what is important to me.

(-) 105. Most of what I do in this organization makes a lot of sense to me.

113. I ought to be given more opportunity than I have been given in this organization.

(-) 120. I feel valued by this organization.

126. My outlook on life is quite different from those higher up in the organization.

(-) 132. My basic needs are satisfied in this organization.

138. I don’t feel accepted as a person in this organization.

(-) 144. It never feels like a case of 'me against them' in any relations with people higher up in the organization.

150. The activities that I carry out in this organization are a waste of time.

D.2.2. MORAL INVOLVEMENT

\((k = 10; \alpha = .65; \omega = .53)\)

86. The organization provides quite a valuable service to the community.

(-) 94. If it were to close, this organization would not be missed by most people who now contact it.

102. The organization’s aims deserve the respect of everyone.
(-) 110. This organization is just another alternative, with little appeal different from other organizations of this sort.

118. This organization is founded on a force greater than ourselves.

(-) 124. Whatever qualities it has, this organization is not worth the effort of becoming too involved in it.

130. This organization is much better than most others of its type.

(-) 136. People higher up in this organization cannot always be trusted to look after the best interests of those served by the organization.

142. This organization should be promoted so that its good qualities will be made known to more people.

(-) 148. Few, if any, of those higher up in the organization would be a credit to the best organizations of this type.

D.2.3. CALCULATIVE INVOLVEMENT

\[(k = 5; \alpha = .62; \omega = .41)\]

108. Very few, if any, of the goals or policies of this organization really affect me.

122. All I'm interested in here is doing my job: nothing more.

(-) 128. Within this organization, many issues other than my own opportunities are very important to me.

169. Self-improvement means nothing to me unless it leads to immediate success.

175. I work because I have to, and for that reason only.

D.3. ORGANIZATION CHARACTERISTICS

D.3.1. COERCIVE POWER

D.3.1.1. ASSESSED FROM MEMBERS’ REPORTS

\[(k = 10; \alpha = .62; \omega = .45)\]

(-) 85. Rules and regulations have little to do with our activities in this organization.

93. People higher up in this organization issue
commands and directives which they expect us to obey.

(-) 101. We can move about as we please while in this organization.

109. The organization makes it unpleasant for those of us who depart from the required standards of conduct.

(-) 117. People higher up in this organization rarely check to see that we are following correct procedures.

123. Penalties for wrongdoing are strictly enforced in this organization.

(-) 129. If we break the rules, the organization never makes a point of criticizing us.

135. We cannot leave this organization at any time without the organization’s approval.

(-) 141. Leaders of this organization never threaten us with punishment or deprivation.

147. People higher up in this organization keep a fairly close watch on us.

D.3.1.2. COERCIVE POWER ASSESSED FROM ADMINISTRATORS’ REPORTS

\( (k = 10; \alpha = .63; \omega = .54) \)

(-) 1. Rules and regulations have little to do with the members’ daily activities.

4. People higher up issue directives which must be obeyed by the members.

(-) 7. The members can move about just as they please while in this organization.

10. The organization would make it unpleasant for any members who depart from the required standards of conduct.

(-) 13. People higher up in this organization rarely check that the members are following correct procedures.

16. Penalties for members’ wrongdoing are strictly enforced in this organization.

(-) 19. If the members disobeyed the rules, they would not be strongly criticized by the organization.

22. The members cannot leave at any time without the organization’s approval.
(-) 25. The members have never been warned of any disciplinary action which could be brought about by the organization.

28. People higher up in this organization keep a fairly close watch on the members to ensure that they are performing as well as they should.

D.3.2. REMUNERATIVE POWER

D.3.2.1. ASSESSED FROM MEMBERS’ REPORTS

\[ k = 10; \; \alpha = .62; \; \omega = .73 \]

88. If I do not do what is expected in this organization, I could lose income here.

(-) 96. The organization expects that I will stay in it regardless of whether I am paid or not.

104. Monetary penalties may be imposed on me if my performance is unsatisfactory in this organization.

(-) 112. I never receive any payment for my activities in this organization.

119. In this organization, I am provided with enough money for the basic necessities of life.

(-) 125. In this organization, I am never provided with additional monetary incentives such as bonuses, commissions, etc.

131. If I make a greater effort, I will receive more money in this organization.

(-) 137. People higher up in this organization never have to make recommendations to anyone about my level of pay.

143. I receive more money in this organization than I could normally expect outside.

(-) 149. People higher up in this organization do not use financial incentives to attract my support.

D.3.2.2. REMUNERATIVE POWER ASSESSED FROM ADMINISTRATORS’ REPORTS

\[ k = 10; \; \alpha = .75; \; \omega = .72 \]

2. If they do not do what is expected of them, the members could lose income here.

(-) 5. The organization expects that the members will stay in it regardless of whether they are paid or not.
8. Fines or monetary penalties may be imposed on the members if their performance is unsatisfactory.

(-) 11. The members are never paid for their activities in this organization.

14. In this organization, the members are provided with enough money for the basic necessities of life.

(-) 17. The members are never provided with additional monetary incentives such as bonuses, commissions, etc.

20. The members will be paid more money if they work harder here.

(-) 23. People higher up in this organization are never required to make recommendations to anyone about members' level of pay.

26. The members are paid more in this organization than they could normally expect outside.

(-) 29. People higher up in this organization are not concerned with using financial incentives to attract members.

D.3.3. NORMATIVE POWER

D.3.3.1. ASSESSED FROM MEMBERS' REPORTS

\( (k = 10; \alpha = .69; \omega = .58) \)

(-) 91. This organization has no badges, songs, or other unique signs used by us.

99. People at our level in the organization are given a large say in how we operate.

(-) 107. At organized gatherings, we are never encouraged to feel that we belong to an organization that cares for us.

115. The organization persuade, rather than tells, us to follow its way of doing things.

(-) 121. The organization provides very little help for us to carry out our activities well.

127. Leaders of this organization relate to us on the same level.

(-) 133. The organization never tries to make us feel that we are doing something worthwhile.

139. Those higher up often show us proof that the
organization provides a good service.

(-) 145. The organization has no particular creed, or guide for living, or doctrine for us to follow.

151. The organization has programmes which make our welfare most important.

D.3.3.2. NORMATIVE POWER ASSESSED FROM ADMINISTRATORS' REPORTS

\[(k = 10; \alpha = .66; \omega = .71)\]

(-) 3. The organization has no badges, songs, or other unique signs used by members.

(-) 6. The members are rarely, if ever, told that the organization cares for them.

9. The members have a large say in how they operate within this organization.

12. The organization finds it easier to persuade, rather than tell, the members to accept its way of doing things.

(-) 15. The organization does not provide special help for members to carry out their activities well; that is their own responsibility.

18. Leaders of this organization relate to the members as true equals.

(-) 21. The organization cannot spend time trying to convince members of the usefulness of their activities.

24. Those higher up often show the members detailed proof that the organization provides a good service.

(-) 27. The organization has no particular formal creed or doctrine for the members to follow.

30. The organization has programmes which make the members' welfare most important.
D.4. GROUP CHARACTERISTICS

D.4.1. SELF-ASSERTIVENESS OF MEMBERS

D.4.1.1. ASSESSED FROM MEMBERS' REPORTS

\( (k = 8; \alpha = .59; \omega = .49) \)

(-) 21. Individual members of this group avoid trying to display their unique skills.

28. Most of the members of this group want to achieve the best possible results for themselves as individuals.

(-) 35. Individual members never try to be outstanding in this group.

42. People in this group want to be recognized as unique individuals.

(-) 49. Any sort of competition is rare among individuals in this group.

56. Members of this group may be specially rewarded for showing individual initiative.

(-) 63. Individual members never put their own well-being first and foremost in this group.

(-) 77. Individuals in this group never make demands on each other.

D.4.1.2. SELF-ASSERTIVENESS ASSESSED FROM OBSERVERS' REPORTS

\( (k = 10; \alpha = .65; \omega = .69) \)

3. Most of the individuals in this group insist on remaining independent of the other members.

(-) 8. Individual members of this group avoid trying to display their unique skills.

13. Most of the members of this group want to achieve the best possible results for themselves as individuals.

(-) 18. Individual members never try to be outstanding in this group.

23. People in this group want to be recognized as unique individuals.

(-) 28. Any sort of competition is rare among individuals in this group.

33. Members of this group may be specially rewarded
for showing individual initiative.

(-) 38. Individual members never put their own well-being first and foremost in this group.

43. In this group’s activities, individuals are mostly able to do what they like, when they like.

(-) 48. Individuals in this group never make demands on each other.

D.4.2. GROUP-CENTREDNESS OF MEMBERS

D.4.2.1. ASSESSED FROM MEMBERS’ REPORTS

\( (k = 10; \alpha = .69; \omega = .55) \)

(-) 17. The members often fail to do what the group requires of them.

24. Benefits to individual members depend on the success of the group.

(-) 31. The members never have group discussions to settle matters affecting the group.

38. The group’s best interest is a major concern of members.

(-) 45. It is of little concern to members whether or not the group is known to do things well.

52. Above all, the members ensure that the entire group receives the credit when it is due.

(-) 59. Members rarely consider whether their behaviour is best for the group as a whole.

66. Everyone in the group actively works towards ensuring that the group will succeed.

(-) 73. Members need not operate as a unit for this group to be successful in its aims.

80. Members will do whatever the group indicates is required of them.

D.4.2.2. GROUP-CENTREDNESS ASSESSED FROM OBSERVERS’ REPORTS

\( (k = 10; \alpha = .67; \omega = .53) \)

5. Benefits to individual members depend on the success of the group.

(-) 10. The members never have group discussions to settle matters affecting the group.
15. The group’s best interest is a major concern of members.

(-) 20. It is of little concern to members whether or not the group is known to do things well.

25. Above all, the members ensure that the entire group receives the credit when it is due.

(-) 30. Members rarely consider whether their behaviour is best for the group as a whole.

35. Everyone in the group actively participates to ensure that the group will succeed.

(-) 40. Members need not operate as a unit for this group to be successful in its aims.

45. Members will do whatever the group indicates is required of them.

(-) 50. The members often fail to do what the group requires of them.

D.4.3. GROUP SOLIDARITY

D.4.3.1. ASSESSED FROM MEMBERS’ REPORTS

\( k = 10; \alpha = 0.71; \omega = 0.69 \)

(-) 13. Members only meet because they are required to, rather than because they look forward to it.

20. The members prefer one another’s company to that of outsiders.

(-) 27. Many of the members of this group have antagonistic feelings towards one another.

34. Members prefer to do certain things with each other rather than with outside friends.

(-) 41. If the members had their choice, some of them would rather be in another group than this one.

48. The members feel that this group is a good place to be.

(-) 55. If a group member had a personal problem, he or she would rather talk it over with someone outside the group.

62. Members seem to like being with each other.

(-) 69. Members tend to seek their close friends outside the group.

76. This group has quite a friendly atmosphere.
D.4.3.2. GROUP SOLIDARITY ASSESSED FROM OBSERVERS' REPORTS

\((k = 10; \alpha = .79; \omega = .57)\)

(-) 4. Members only meet because they are required to, rather than because they look forward to it.

9. The members prefer one another's company to that of outsiders.

(-) 14. Many of the members of this group have antagonistic feelings towards one another.

19. Members prefer to do certain things with each other rather than with outside friends.

(-) 24. If the members had their choice, some of them would rather be in another group than this one.

29. The members feel that this group is a good place to be.

(-) 34. If a group member had a personal problem, he or she would rather talk it over with someone outside the group.

39. Members seem to like being with each other.

(-) 44. Members tend to seek their close friends outside the group.

49. This group has quite a friendly atmosphere.

D.4.4. GROUP CONSENSUS

D.4.4.1. ASSESSED FROM MEMBERS' REPORTS

\((k = 10; \alpha = .69; \omega = .46)\)

16. Members agree on the methods to be adopted by the group to achieve the best results.

(-) 23. No two group members hold the same opinion about what this group is supposed to achieve.

30. There is very little disagreement in the group about the important personal qualities required of members.

(-) 37. In group matters, some members interpret the same situation in ways different from the others.

44. Most members hold pretty much the same opinions about how members should carry out their part in the group.

(-) 51. There are conflicting opinions in the group about how the group should go about its business.
58. Members have similar views about the group aims.

(-) 65. Every member has his or her own views on what is important to them, different from the views of other members.

72. The members appear to view most things in a similar way.

(-) 79. It is hard to get members to agree about the way they should perform in the group.

D.4.4.2. GROUP CONSENSUS ASSESSED FROM OBSERVERS’ REPORTS

\( (k = 10; \alpha = .78; \omega = .00) \)

1. Members agree on the methods to be adopted by the group to achieve the best results.

(-) 6. No two group members hold the same opinion about what this group is supposed to achieve.

11. There is very little disagreement in the group about the important personal qualities required of members.

(-) 16. In group matters, some members interpret the same situation in ways different from the others.

21. Most members hold pretty much the same opinions about how members should carry out their part in the group.

(-) 26. There are conflicting opinions in the group about how the group should go about its business.

31. Members have similar views about the group aims.

(-) 36. Every member has his or her own views on what is important to them, different from the views of other members.

41. The members appear to view most things in a similar way.

(-) 46. It is hard to get members to agree about the way they should perform in the group.

D.4.5. GROUP COHESION

D.4.5.1. ASSESSED FROM OBSERVERS’ REPORTS

\( (k = 10; \alpha = .67; \omega = .66) \)

(-) 2. In times that challenge the unity of the group, the members tend to go their separate ways.

7. The group members are immersed in traditions previously established by the group.
(-) 12. The members have little loyalty to the group.

17. When required to, the group members look after each other's welfare as they would their own.

(-) 22. If circumstances required it, members could easily break off relations with each other.

27. The group members would always stick together, through good or bad times.

(-) 32. The group is not known to outsiders as having an identity all its own.

37. Members of this group are strongly united in a common purpose.

(-) 42. If there were an external threat to the group, the members would not come together to ensure survival of the group.

47. In the members' view, there is nothing so low as a traitor to the group.

D.4.6. INSTRUMENTAL GOALS

D.4.6.1. ASSESSED FROM MEMBERS' REPORTS

\( k = 7; \alpha = .60; \omega = .72 \)

26. This group was recruited by someone to do a job for them.

(-) 33. Very few members receive any type of payment for their activities in the group.

40. In this group, the members improve skills which may be useful to them later.

(-) 47. Members have no interest in personal development through being involved in this group.

54. Members hope to better themselves substantially by participating in this group.

(-) 61. In the future, members would find it difficult to earn a living from the activities they perform in this group.

68. Members are in this group to perform particular duties.
D.4.7. RELATIONAL GOALS

D.4.7.1. ASSESSED FROM MEMBERS’ REPORTS

\((k = 10; \alpha = .64; \omega = .68)\)

 (-) 15. It is difficult to meet new people through this group.

  22. The group provides many opportunities for individuals to learn more about the interests of other members.

 (-) 29. Being sociable is less important than most other things in this group.

  36. The main concern of this group centres around the relationships among its members.

 (-) 43. People are unlikely to join a group like this just to meet others with similar interests.

  50. Members may have personal conversations in this group whenever they wish.

 (-) 57. There is little opportunity for relating personally to other members of the group.

  64. The members’ main goal in this group is to be sociable and congenial towards one another.

 (-) 71. To make friends would be the least likely reason for joining this group.

  78. This group provides the setting required by people who seek personal contact with others.

D.4.8. ALTRUISISTIC GOALS

D.4.8.1. ASSESSED FROM MEMBERS’ REPORTS

\((k = 10; \alpha = .73; \omega = .75)\)

  18. The group is concerned with helping people who are not members.

 (-) 25. Few people in the community would be disadvantaged if this group were to cease functioning.

  32. The group’s objectives may conflict with other groups who are pursuing different purposes.

 (-) 39. Providing a service to other groups is not important for this group.

  46. The group distributes information to outsiders about its services.

 (-) 53. This group never requires members to make
sacrifices for anyone.

60. A group like this is needed to work on behalf of others.

(-) 67. The goals of the group have little to do with moral or ethical issues.

74. This group has a clearly stated aim to work for a cause.

(-) 81. It is of minor concern to this group whether anyone else might benefit from the group's activities.

D.5. INDIVIDUAL CHARACTERISTICS-ASSESSED FROM MEMBERS' REPORTS

D.5.1. OPPORTUNITY FOR ADVANCEMENT

\((k = 4; \alpha = .56; \omega = .53)\)

(-) 87. Even if I wanted a higher position, there are few available in this organization.

95. I may soon move up in this organization.

(-) 103. In this organization, there is a shortage of positions with more responsibility than I have now.

111. I may eventually be able to learn more advanced skills in this organization.

D.5.2. OPPORTUNITIES ELSEWHERE

\((k = 4; \alpha = .44; \omega = .32)\)

90. There are other positions that I could consider outside this organization.

(-) 98. Outside this organization, positions like mine wouldn't suit me.

106. The skills that I use here are in demand by several organizations at the moment.

(-) 114. I would presently find it difficult to obtain a position in some other organization.
D.5.3. ACHIEVEMENT MOTIVATION

\( (k = 8; \alpha = .59; \omega = .26) \)

166. I enjoy doing things which challenge me.

172. I get disgusted with myself when I have not learned something properly.

178. I will keep working on a problem after others have given up.

(-) 181. I would rather do an easy job than one involving obstacles which must be overcome.

184. My goal is to do at least a little bit more than anyone else has done before.

(-) 187. It doesn't really matter to me whether I become one of the best in my field.

190. People have always said that I am a hard worker.

(-) 193. I am sure some people think that I don't have a great deal of drive.

D.5.4. PERSONAL AUTONOMY

\( (k = 7; \alpha = .46; \omega = .26) \)

(-) 165. If public opinion is against me, I usually decide that I am wrong.

(-) 171. Family obligations make me feel important.

180. If I have a problem, I like to work it out alone.

(-) 183. To have a sense of belonging is very important to me.

186. I find that I can think better without having to bother with advice from others.

(-) 189. I can do my best work when I have the encouragement of others.

192. I would not mind living in a very lonely place.

D.5.5. LIKING FOR CHANGE

\( (k = 10; \alpha = .54; \omega = .24) \)

164. I get annoyed with people who never want to go anywhere different.

(-) 167. Changes in routine disturb me.
170. I like to have new things to eat from week to week.

(-) 173. My likes and dislikes are the same from year to year.

176. I would be willing to give up some financial security to be able to change from one job to another if something interesting came along.

(-) 179. I would be satisfied to stay at the same job indefinitely.

182. I am always looking for new routes to take on a trip.

(-) 185. When I find a good way to do something, I avoid experimenting with new ways.

188. I like to change the pictures on my walls frequently.

(-) 191. I would be content to live in the same town for the rest of my life.
Table E-1: Intercorrelations Among Composite Measures of Organizational Power, Other Organization Characteristics, and Mean Member Involvement in Groups

<table>
<thead>
<tr>
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<th>1</th>
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<td>1. Coercive</td>
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<td>2. Remunerative</td>
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<td>3. Normative</td>
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<td>6. Education Type</td>
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<td>7. Size (log)</td>
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<td>8. Alienative</td>
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<td>9. Calculative (sq rt)</td>
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<td>10. Moral</td>
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<td>11. Net Commitment (Moral minus Alienative)</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td>(-.29*)</td>
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</tbody>
</table>

Note: Scale reliabilities, estimated from Cronbach's (1951) coefficient alpha, appear in parentheses.

a No reliability estimate available from single item.
b Spurious correlation due to the inclusion of variables 8 and 10 in variable 11.

* p < .05
Table E-2(a): Intercorrelations Among Individual-level Measures for Total Sample: Variables 1 to 11  
(N = 466 members)

<table>
<thead>
<tr>
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<tr>
<td>1.</td>
<td>Age</td>
<td>(a)</td>
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<td>2.</td>
<td>Sex (Female)</td>
<td>-.14*</td>
<td>(a)</td>
<td></td>
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<td>3.</td>
<td>Marital Status (Married)</td>
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<td>-.08</td>
<td>(a)</td>
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</tr>
<tr>
<td>4.</td>
<td>Education Level</td>
<td>.43*</td>
<td>-.23*</td>
<td>.37*</td>
<td>(.95)</td>
<td></td>
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<td>5.</td>
<td>Plans for Future Education</td>
<td>-.41*</td>
<td>.02</td>
<td>-.37*</td>
<td>-.08</td>
<td>(a)</td>
<td></td>
<td></td>
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<tr>
<td>6.</td>
<td>Level of Duties</td>
<td>.65*</td>
<td>-.23*</td>
<td>.55*</td>
<td>.68*</td>
<td>-.32*</td>
<td>(a)</td>
<td></td>
<td></td>
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<tr>
<td>7.</td>
<td>Time in Duties (log)</td>
<td>-.13*</td>
<td>.18*</td>
<td>-.14*</td>
<td>-.15*</td>
<td>.13*</td>
<td>-.41*</td>
<td>(a)</td>
<td></td>
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<td>8.</td>
<td>Time in Organization (log)</td>
<td>.29*</td>
<td>.07</td>
<td>.20*</td>
<td>.07</td>
<td>-.10*</td>
<td>.09*</td>
<td>.54*</td>
<td>(a)</td>
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<td>9.</td>
<td>Opportunity for Advancement</td>
<td>-.16*</td>
<td>-.18*</td>
<td>-.12*</td>
<td>-.20*</td>
<td>.07</td>
<td>-.13*</td>
<td>-.15*</td>
<td>-.13*</td>
<td>(.56)</td>
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<td>Opportunities Elsewhere</td>
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<td>.15*</td>
<td>.21*</td>
<td>-.04</td>
<td>.27*</td>
<td>-.13*</td>
<td>-.03</td>
<td>.06</td>
<td>(.44)</td>
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<td>11.</td>
<td>Union Membership</td>
<td>.30*</td>
<td>-.11*</td>
<td>.24*</td>
<td>.32*</td>
<td>-.14*</td>
<td>.44*</td>
<td>-.13*</td>
<td>.12*</td>
<td>-.05</td>
<td>.14*</td>
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</table>

Note: Scale reliabilities, estimated from Cronbach's (1951) coefficient alpha, appear in parentheses.

* No reliability estimate available from single measure.

P < .05
### Table E-2(b): Intercorrelations Among Individual-level Measures for Total Sample (Continued):

Variables 1 to 11 with Variables 12 to 16

(n = 466 members)

<table>
<thead>
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<th>2</th>
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<td><strong>Personality:</strong></td>
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<tr>
<td>12. Achievement Motivation</td>
<td>.20*</td>
<td>-.01</td>
<td>.15*</td>
<td>.07</td>
<td>.08</td>
<td>.15*</td>
<td>-.14*</td>
<td>.02</td>
<td>-.03</td>
<td>.14*</td>
<td>.06</td>
</tr>
<tr>
<td>13. Personal Autonomy</td>
<td>.14*</td>
<td>-.18*</td>
<td>.00</td>
<td>.04</td>
<td>-.05</td>
<td>.13*</td>
<td>-.08</td>
<td>.03</td>
<td>-.04</td>
<td>-.05</td>
<td>.06</td>
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<tr>
<td>14. Liking for Change</td>
<td>-.21*</td>
<td>.03</td>
<td>-.15*</td>
<td>.04</td>
<td>.31*</td>
<td>-.08</td>
<td>-.03</td>
<td>-.10*</td>
<td>.05</td>
<td>.04</td>
<td>-.02</td>
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<td><strong>Involvement:</strong></td>
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</tr>
<tr>
<td>15. Calculative (log)</td>
<td>-.24*</td>
<td>-.08</td>
<td>-.24*</td>
<td>-.19*</td>
<td>-.04</td>
<td>-.21*</td>
<td>-.01</td>
<td>-.08</td>
<td>.01</td>
<td>-.15*</td>
<td>-.12*</td>
</tr>
<tr>
<td>16. Net Commitment (moral minus alienative)</td>
<td>.33*</td>
<td>.08</td>
<td>.32*</td>
<td>.07</td>
<td>-.15*</td>
<td>.23*</td>
<td>-.12*</td>
<td>-.00</td>
<td>.08</td>
<td>.19*</td>
<td>.06</td>
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</tbody>
</table>

**Notes:**
1. For names of variables 1 to 11, see Table E-2(a).
2. Intercorrelations among variables 12 to 16 are shown in Table E-2(c).

* * p < .05
Table E-2(c): Intercorrelations Among Individual-level Measures for Total Sample (Continued):
Variables 12 to 16
(n = 466 members)

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<th>13</th>
<th>14</th>
<th>15</th>
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<tr>
<td>12.</td>
<td>1.00</td>
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<tr>
<td>13.</td>
<td></td>
<td>.59</td>
<td>(.46)</td>
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<tr>
<td>14.</td>
<td></td>
<td></td>
<td>.24*</td>
<td>.00</td>
<td>(.54)</td>
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<tr>
<td>15.</td>
<td></td>
<td></td>
<td></td>
<td>-.34*</td>
<td>(.62)</td>
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<tr>
<td>16.</td>
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<td></td>
<td></td>
<td></td>
<td>-.44*</td>
</tr>
</tbody>
</table>

Personality:

12. Achievement Motivation  (.59)
13. Personal Autonomy      -.00  (.46)
14. Liking for Change      .24*  .00  (.54)

Involvement:

15. Calculative (log)      -.34*  .11*  -.16*  (.62)
16. Net Commitment (moral minus alienative) .17*  -.10*  -.12*  -.44*  (.75)

Note: Scale reliabilities, estimated from Cronbach's (1951) coefficient alpha, appear in parentheses.
* P < .05
Table E-3(a): Intercorrelations Among Individual-level Measures Excluding Students:
Variables 1 to 11
(n = 343 members)

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<td>1. Age</td>
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<td>2. Sex (Female)</td>
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<td>3. Marital Status (Married)</td>
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<td>4. Education Level</td>
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<td>5. Plans for Future Education</td>
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</table>

| Role: |    |    |    |    |    |    |    |    |    |    |    |
| 6. Level of Duties |    |    |    |    |    |    |    |    |    |    |    |
| 7. Time in Duties (log) |    |    |    |    |    |    |    |    |    |    |    |
| 8. Time in Organization (log) |    |    |    |    |    |    |    |    |    |    |    |
| 9. Opportunity for Advancement |    |    |    |    |    |    |    |    |    |    |    |
| 10. Opportunities Elsewhere |    |    |    |    |    |    |    |    |    |    |    |
| 11. Union Membership |    |    |    |    |    |    |    |    |    |    |    |

Note: Scale reliabilities, estimated in total sample from Cronbach's (1951) coefficient alpha, appear in parentheses.

* No reliability estimate available from single measure.

* P < .05
Table E-3(b): Intercorrelations Among Individual-level Measures Excluding Students (Continued):
Variables 1 to 11 with Variables 12 to 16
(n = 343 members)

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<tr>
<td>Personality</td>
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<tr>
<td>12. Achievement Motivation</td>
<td>.12*</td>
<td>.01</td>
<td>.05</td>
<td>-.01</td>
<td>.15*</td>
<td>-.02</td>
<td>-.03</td>
<td>.04</td>
<td>.04</td>
<td>.11*</td>
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<td>13. Personal Autonomy</td>
<td>.07</td>
<td>-.12*</td>
<td>-.12*</td>
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<td>.06</td>
<td>-.01</td>
<td>-.06</td>
<td>.02</td>
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<tr>
<td>14. Liking for Change</td>
<td>-.19*</td>
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<td>-.10</td>
<td>.13*</td>
<td>.32*</td>
<td>.06</td>
<td>-.15*</td>
<td>-.12*</td>
<td>.07</td>
<td>.12*</td>
<td>.01</td>
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<td>Involvement:</td>
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<tr>
<td>15. Calculative (log)</td>
<td>-.25*</td>
<td>-.10</td>
<td>-.26*</td>
<td>-.20*</td>
<td>-.10</td>
<td>-.23*</td>
<td>-.12*</td>
<td>-.12*</td>
<td>-.01</td>
<td>-.12*</td>
<td>-.08</td>
</tr>
<tr>
<td>16. Net Commitment (moral minus alienative)</td>
<td>.26*</td>
<td>.14*</td>
<td>.25*</td>
<td>-.06</td>
<td>-.06</td>
<td>.04</td>
<td>.06</td>
<td>.02</td>
<td>.09</td>
<td>.11*</td>
<td>-.06</td>
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Notes: 1. For names of variables 1 to 11, see Table E-3(a).
2. Intercorrelations among variables 12 to 16 are shown in Table E-3(c)

* p < .05
Table E-3(c): Intercorrelations Among Individual-level Measures Excluding Students (Continued):
Variables 12 to 16
(n = 343 members)

<table>
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<tr>
<th></th>
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<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
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<tbody>
<tr>
<td>12.</td>
<td>Achievement Motivation</td>
<td>(.59)</td>
<td></td>
<td></td>
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<tr>
<td>13.</td>
<td>Personal Autonomy</td>
<td>-.02</td>
<td>(.46)</td>
<td></td>
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<tr>
<td>14.</td>
<td>Liking for Change</td>
<td>.22*</td>
<td>.08</td>
<td>(.54)</td>
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<tr>
<td></td>
<td><strong>Involvement:</strong></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>15.</td>
<td>Calculative (log)</td>
<td>-.33*</td>
<td>.09</td>
<td>-.14*</td>
<td>(.62)</td>
</tr>
<tr>
<td>16.</td>
<td>Net Commitment (moral minus alienative)</td>
<td>.15*</td>
<td>-.11*</td>
<td>-.09</td>
<td>-.45*</td>
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</tbody>
</table>

Note: Scale reliabilities, estimated in total sample from Cronbach's (1951) coefficient alpha, appear in parentheses.

* p < .05
Table E-4(a): Intercorrelations Among Individual and Contextual Characteristics:

Variables 1 to 13

\( n = 466 \) members

<table>
<thead>
<tr>
<th>Source</th>
<th>1</th>
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<th>3</th>
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<th>12</th>
<th>13</th>
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<tr>
<td>1. Coercive Power</td>
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<td>2. Remunerative Power</td>
<td>A</td>
<td>-.12*</td>
<td>-</td>
<td></td>
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<td>3. Normative Power</td>
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<td>.14*</td>
<td>-.08</td>
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<td>4. Business Type</td>
<td>R</td>
<td>.14*</td>
<td>.61*</td>
<td>-.02</td>
<td>-</td>
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<tr>
<td>5. Health-welfare Type</td>
<td>R</td>
<td>-.30*</td>
<td>.14*</td>
<td>-.23*</td>
<td>-.41*</td>
<td>-</td>
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</tr>
<tr>
<td>6. Education Type</td>
<td>R</td>
<td>.15*</td>
<td>-.70*</td>
<td>.22*</td>
<td>-.56*</td>
<td>-.52*</td>
<td>-</td>
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<tr>
<td>7. Orgn. Size (log)</td>
<td>A</td>
<td>.06</td>
<td>.03</td>
<td>-.13*</td>
<td>-.08</td>
<td>.03</td>
<td>.04</td>
<td>-</td>
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</table>

**Organization Characteristics:**

8. Members' Self-assertiveness | O   | -.06  | -.17* | .08  | -.14* | .02  | .12* | .15* | - |     |     |     |     |
| 9. Group Cohesion | O   | .10*  | .12* | -.17* | .17* | -.13* | -.05  | -.08  | -.28* | - |     |     |     |
| 10. Instrumental Goals | M   | -.08  | .62* | -.21* | .29* | -.27* | -.52* | -.01  | -.15* | .17* | - |     |     |
| 11. Relational Goals | M   | .24*  | -.12* | .13* | .19* | -.23* | .02  | .01  | .00  | .32* | -.25* | - |     |
| 12. Altruistic Goals | M   | -.19* | .49* | -.17* | .08  | .52* | -.55* | .02  | -.10* | .22* | .72* | -.06  | - |
| 13. Group Size (log) | C   | .12*  | -.46* | .09* | -.32* | -.13* | .42* | .14* | .22* | .03  | -.30* | -.07  | -.24* |

**Note:** For scale reliabilities, see Tables 4-5 and 5-3.

\( ^a \) A = Administrators; R = Researcher; O = Observers; M = Members; C = Composite of Administrators, Members, and Researcher.

\* \( p < .05 \)
Table E-4(b): Intercorrelations Among Individual and Contextual Characteristics (Continued): Variables 1 to 13 With Variables 14 to 26
(n = 466 members)

Source\(^{a}\)  1  2  3  4  5  6  7  8  9  10  11  12  13

| Individual Characteristics | 14. Age | M | -.34* .40* -.17* .23* .14* -.35* .05 -.17* .13* .41* -.17* .50* -.20* |
|----------------------------|---------|---|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| 15. Sex (Female)           | M       | .07 | -.26* .14* -.18* -.10* .26* -.18* -.08 .12* -.16* .12* -.10* .08 |
| 16. Education Level        | M       | -.49* .18* -.42* -.15* .20* -.04 .18* -.01 .04 .30* -.38* .34* -.03 |
| 17. Plans for Fut. Education| M       | .06 | -.30* .08 -.27* .02 .24* -.01 .20* -.14* -.20* .06 -.16* .17* |
| b. Role:                   |         |    |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 18. Time in Orgn. (log)    | M       | .07 | -.04 -.08 .03 -.10* .07 .21* -.12* .14* .03 .02 .08 -.05 |
| 19. Opport. for Advancement| M       | .05 | .06 .14* .14* .02 -.15* .19* .10* .01 -.01 .27* -.01 .05 |
| 20. Opports. Elsewhere     | M       | -.15* .16* -.19* .10* .04 -.13* -.04 -.04 .08 .16* -.07 .11* -.09* |
| 21. Union Membership       | M       | .01 | .29* -.12* .12* -.02 -.09* .17* .03 .14* .26* .02 .27* -.25* |
| c. Personality:            |         |    |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 22. Achievement Motivation | M       | -.05 | .17* -.04 .14* .07 -.19* .01 .02 .08 .19* -.03 .21* -.03 |
| 23. Personal Autonomy      | M       | .01 | .08 -.00 .07 .08 -.14* .05 .01 -.03 .08 -.11* .03 -.03 |
| 24. Liking for Change      | M       | .01 | -.08 -.03 -.12* .07 .05 .05 .12* -.00 -.06 -.05 -.02 .08 |
| Member Involvement:        |         |    |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
| 25. Calculative (log)      | M       | .19* | .01 .01 .06 -.04 -.01 .08 -.04 -.17* -.12* -.02 -.25* -.05 |
| 26. Net Commitment (moral minus alienative) | M | -.25* .14* .14* .08 .01 -.08 -.16* -.10* .12* .12* .02 .21* -.06 |

Note: 1. For names of variables 1 to 13, see Table E-4(a).
2. Intercorrelations among variables 14 to 26 are shown in Tables E-2(a), E-2(b), and E-2(c).

\(^{a}\) M = Members.

\(^{*}\) \(P < .05\)