A Study of Role Conflict, Role Ambiguity, Locus of Control, Job Satisfaction and Participation in Decision Making Among Front-line Vocational Service Workers for Mentally Retarded Adults

Celia L. Findlay

Department of Graduate and Undergraduate Studies in Education

(Submitted in partial fulfillment of the requirements for the degree of Master of Education)

COLLEGE OF EDUCATION
BROCK UNIVERSITY
St. Catharines, Ontario

May, 1987

(C) C. L. Findlay, 1987
Acknowledgements

A variety of people contributed their assistance toward the development of this thesis. Special gratitude is extended to my advisor, Dr. Don Dworet, for the encouragement and guidance that he provided throughout this research investigation. In addition, acknowledgement and thanks are granted to Dr. Robert Knoop, Dr. Adele Thomas (Committee Members) and the other Brock University faculty members who devoted their time toward the completion of this thesis.

It was also greatly appreciated that the front-line employees from across nine Adult Rehabilitation Centres (ARC Industries) dedicated their energies in the form of active participation by responding to questionnaires. (ARC Industries were located in St. Catharines, West Lincoln, Greater Niagara, Port Colborne, Welland, Port Erie, Hamilton, Guelph and Brantford.) The implementation of this study was attributed to the co-operation of the management personnel from these vocational facilities.

The actual typing of this document was conducted by Gina Nardangeli who maintained admirable patience and perseverance.

Finally, I am indebted to my husband, Sandy, for his demonstration of confidence in my efforts and ongoing support.
Abstract

This study was an investigation of individual and organizational factors, as perceived by front-line vocational service workers from Adult Rehabilitation Centres (ARC Industries) for mentally retarded adults. The specific variables which were measured included role conflict/role ambiguity (role factors), internal/external locus of control (individual differences), job satisfaction with work and supervision (job attitudes) and participation in decision making (organizational factor). The exploration of these constructs was conducted by means of self-report questionnaires which were completed by sixty-nine out of a total of ninety front-line employees. The surveys were distributed in booklet form to nine distinct rehabilitation facilities from St. Catharines, West Lincoln, Greater Niagara, Port Colborne, Welland, Fort Erie, Hamilton, Guelph and Brantford. The survey data was evaluated by the Statistical Package for the Social Sciences (SPSS) which used the Pearson Product Moment Correlation procedure and a comparison of means test. A comparison of correlation coefficients test was also conducted. This statistical procedure was calculated mathematically. The results obtained from the statistical evaluation confirmed the prediction that self-reported measures of participation in decision making and satisfaction (work and supervision) would be negatively correlated with role conflict and role ambiguity. As well, the speculation that perceived (iii)
satisfaction (work and supervision) would be positively correlated with participation in decision making was empirically supported. Internal and external locus of control did not contribute to a significant difference in responses to role perceptions (conflict and ambiguity), satisfaction (work and supervision) or the correlational relationship between participation in decision making and satisfaction (work and supervision). Overall, the findings from this study substantiated the importance of examining employee perceptions in the workplace and the interrelationships among individual and organizational variables. This research was considered a contribution to the general area of occupational stress and to the study of individuals in work organizations.
# Table of Contents

<table>
<thead>
<tr>
<th>CHAPTER ONE: An Introduction to the Study of Occupational Stress</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assumptions</td>
<td>5</td>
</tr>
<tr>
<td>Limitations of the Study</td>
<td>5</td>
</tr>
<tr>
<td>Research Questions</td>
<td>6</td>
</tr>
<tr>
<td>Definition of Terms</td>
<td>8</td>
</tr>
<tr>
<td>Rationale</td>
<td>12</td>
</tr>
<tr>
<td>Summary</td>
<td>13</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHAPTER TWO: The Study of Stress in Work Organizations</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summary</td>
<td>32</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHAPTER THREE: Research Methods</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>33</td>
</tr>
<tr>
<td>Hypotheses</td>
<td>40</td>
</tr>
<tr>
<td>Subjects</td>
<td>41</td>
</tr>
<tr>
<td>Procedures</td>
<td>42</td>
</tr>
<tr>
<td>Instrumentation</td>
<td>43</td>
</tr>
<tr>
<td>Role Conflict/Role Ambiguity</td>
<td>44</td>
</tr>
<tr>
<td>Locus of Control</td>
<td>45</td>
</tr>
<tr>
<td>Job Satisfaction with Work and Supervision</td>
<td>46</td>
</tr>
<tr>
<td>Participation in Decision Making</td>
<td>47</td>
</tr>
<tr>
<td>Data Analysis Process</td>
<td>47</td>
</tr>
<tr>
<td>Statistical Design</td>
<td>48</td>
</tr>
<tr>
<td>Summary</td>
<td>51</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHAPTER FOUR: Results</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>52</td>
</tr>
<tr>
<td>Results of Analysis</td>
<td>53</td>
</tr>
<tr>
<td>Discussion of Hypotheses</td>
<td>62</td>
</tr>
<tr>
<td>Summary</td>
<td>63</td>
</tr>
</tbody>
</table>

(v)

Acknowledgements.................................. ii
Abstract................................................................ iii
List of Tables....................................... vii
Table of Contents - continued

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHAPTER FIVE: Discussion</td>
<td>64</td>
</tr>
<tr>
<td>Introduction</td>
<td>64</td>
</tr>
<tr>
<td>The Findings of the Study</td>
<td>65</td>
</tr>
<tr>
<td>Discussion of the Findings</td>
<td>66</td>
</tr>
<tr>
<td>Limitations</td>
<td>74</td>
</tr>
<tr>
<td>Implications for Future Research</td>
<td>75</td>
</tr>
<tr>
<td>Summary and Conclusions</td>
<td>81</td>
</tr>
<tr>
<td>References</td>
<td>83</td>
</tr>
<tr>
<td>Appendix A: Target Sample</td>
<td>101</td>
</tr>
<tr>
<td>Appendix B: Job-Related Questionnaire Booklet</td>
<td>103</td>
</tr>
</tbody>
</table>
List of Tables

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 1</td>
<td>A Research Model of Hypothesized Relationships Between Measures of Role Perceptions, Personality Attributes, Job Attitudes and Participation</td>
<td>37</td>
</tr>
<tr>
<td>Table 2</td>
<td>Pearson Correlation Coefficient Matrix for Measures of Role Perceptions, Job Satisfaction and Participation</td>
<td>52</td>
</tr>
<tr>
<td>Table 3</td>
<td>Locus of Control Responses</td>
<td>54</td>
</tr>
<tr>
<td>Table 4</td>
<td>Pearson Correlation Coefficients for the Relationship Between Job Satisfaction and Participation for Internals and Externals</td>
<td>57</td>
</tr>
<tr>
<td>Table 5</td>
<td>T-test Results of Internal and External Subjects' Responses to Role Perceptions and Job Satisfaction</td>
<td>59</td>
</tr>
</tbody>
</table>
CHAPTER ONE

An Introduction to the Study of Occupational Stress

Contemporary researchers have illustrated the importance of the investigation of stress in the workplace (Levi, 1981; Rogers & Cochrane, 1984). Wallis (1983) stated that, "no one really knows if there is more stress now than in the past, but many experts believe that it has become more pervasive" (p. 54). In the past, many studies of work stress focused on high profile occupations such as physicians, air traffic controllers and dentists (MacBride, 1984) as well as people in executive positions (Caplan, Cobb & French, 1975; Goldberg, 1978; Kiev & Kohn, 1979). In the interest of progressive research, MacBride (1983a) suggested that empirical studies move beyond the popular exploration of stress in high status jobs. She advocated for an increase in empirical studies of employees in subordinate, frontline work roles.

Pines, Aronson and Kafry (1981) were particularly interested in the issue of stress among direct service workers in the helping profession. They found that the literature and course material dealing with human services pertained almost exclusively to the recipients of the service. They claimed that in regard to the actual service
providers "little attention is given to the emotional stresses experienced by professionals" (p. 53). Eaton (1980) identified that workers in the social service field may experience stress which is unhealthy and anxiety producing. He explained that the responsibility of dealing with other people's problems may generate stress in the work environment and within individual workers. A common outcome of prolonged job strain in the helping profession is reduced quality of service (Wilder, 1981). Clients may be jeopardized by staff frustrations arising from agency-related matters. This was demonstrated by Sarata (1974) in a study of three agencies for the mentally retarded. He showed that satisfaction with the agency was correlated with overall job satisfaction. Dissatisfaction led to communication problems among staff. Sarata stated that, "without effective communication, the co-ordination of efforts breaks down and the needs of the client go unmet" (p. 440).

It was the opinion of MacBride (1983b) that the interests of employees and their job circumstances should be taken into account in the continued exploration of stress across various occupational groups. She made reference to the gap between job stress research and stress management approaches by stating that many of these packages are "ineffective because they are not based on an accurate
understanding of the nature and causes of job stress and of the roles and responsibilities of the individual and the organization in responding to stress in the workplace" (p. 1). The examination of occupational stress is extremely important in consideration of the billions of dollars lost in stress-related disability claims, decreased productivity, absenteeism and staff replacement costs (Finn, 1982).

In a review of stress research approaches, House (1981) confirmed a consensus among investigators that stress is a "phenomenon or process" (p. 35). McLean (1979) explained that the process of stress includes the actual source of stress (stressor) and the associated stress response. The heightened awareness of the nature and causes of stress was largely responsible for the increased commitment to this topic area (Seyle, 1981). In 1979 McLean commented on the "mounting interest in what has come to be called job stress" (p. 37). A large portion of this interest was generated from the documentation of detrimental stress outcomes. "Occupational stress is in general, dysfunctional for both the individual and the organization and should be minimized" (Allen, Hitt & Greer, 1982, p. 369). In their concern for employee well-being and health, Parker and DeCotiis (1983) identified the need for more empirical studies of the nature of stress in work organizations. They stated that "there have been relatively few reports of empirical
investigations of stress in work organizations" (p. 160).

This thesis was designed with the intention of contributing to the area of occupational stress research. Specifically, this study examined the relationships between role stress (role conflict, role ambiguity); personal factors, (internal and external locus of control); work attitudes (job satisfaction with work and supervision) and an organizational condition (participation in decision making), as perceived by workers in the occupational field of vocational rehabilitation.

The subjects in this study included front-line vocational service workers from across nine adult rehabilitation centres (ARC Industries) for moderately and mildly mentally retarded adults (see Appendix A). Chapter Three describes this sample population and outlines the data collection procedures. The actual personal and organizational variables measured in this study are discussed in Chapter Two in terms of their importance to the area of stress research. The analysis of data and discussion of results are contained in Chapters Four and Five respectively.
Assumptions

Several assumptions were made with respect to this research study. It was expected that the work organizations included in this investigation would be associated with some degree of reported stress. Perceived stress levels were assumed to vary among individual workers, however, general themes were predicted to evolve in the examination of job-related attitudes and their relationship to occupational stress factors. Self-report scales (see Appendix B) were expected to identify accurate internal perceptions of a respondent's view toward himself/herself and aspects of his/her job.

Limitations of the Study

Various limitations were acknowledged in the planning and implementation of this research study. The time of the year that the data was accumulated and interpreted was considered an important issue. It was believed that work stress may be at an increased level during a busy season (i.e., Christmas time). In an attempt to avoid this influence, careful planning was taken with the agencies involved in regard to the time of the survey distribution. The study itself was conducted within the month of
February, 1987. According to the management personnel from the vocational centres, this was a suitable time to distribute questionnaires since ample time had passed since the busy Christmas season and regular work operations had resumed following the Christmas holidays. It should be noted that this research was conducted at a specific point in time and the fact that responses to surveys may change over time (Jackson, 1983) was taken into account in the discussion of results (see Chapter Five). The survey method used in this study measured job stress-related factors from the subjective views of the respondents. Objective measures of stress (i.e., physiological or behavioral) were not investigated in this study. The multitude of occupational stress factors cannot all be explored in a single study due to the complex nature of this phenomenon (Parker & De Cotiis, 1983).

Research Questions

The following questions were formulated for this research study of front-line workers in vocational services for the mentally retarded:

1. Will there be a relationship between role perceptions (conflict and ambiguity) and self-reported satisfaction (work and supervision)?
2. Will there be a relationship between role perceptions (conflict and ambiguity) and perceived participation in decision making?

3. Will perceived participation in decision making be related to perceived satisfaction with work and supervision? If a relationship is found between participation and satisfaction (work and supervision) will it be more pronounced for workers with an internal rather than external locus of control?

4. Will locus of control (internal and external) be related to role conflict and role ambiguity levels?

5. Will locus of control (internal and external) be related to levels of perceived satisfaction (work and supervision)?
Definition of Terms

The following terms were used in the literature review section (Chapter Two):

**ARC Industries (Adult Rehabilitation Centre):** A facility which provides vocational training and work programs for mentally retarded adults eighteen years of age or older. ARC's services assist these individuals in developing appropriate work skills and habits.

**Client:** an individual who receives service from a staff person employed to provide this service.

**Concept:** a word that represents a generalized idea or an abstract notion.

**External locus of control:** a belief that events or circumstances are attributed to factors other than one's own acts (i.e., luck, fate).

**Front-line workers:** individuals working in direct contact with service recipients for the major portion of the working day. In Adult Rehabilitation Centres (ARC Industries) this position typically involves the responsibilities of providing supervision, skill development, emotional support and other vocationally oriented services to mentally retarded adults.

**Hazardous occupational stress outcome:** a response to stimuli (stress-producer) in the workplace which
requires an individual to depart from self-desired functioning as a result of perceived constraints or demands (stimuli: i.e., events, conditions).

Health: a state of well-being (i.e., emotional wellness).

Human Service Profession: an occupation in which workers deal with other human beings in a helping role.

Individual differences: traits or characteristics which distinguish one person from another person (i.e., personality attributes of internal and external locus of control).

Internal locus of control: a belief that events or circumstances are contingent or occur relative to one's own behaviour.

Job dissatisfaction: negative attitudes or feelings toward certain aspects of one's job (i.e., dissatisfaction with work and/or supervision).

Job satisfaction: positive attitudes or feelings toward certain aspects of one's job (i.e., satisfaction with work and/or supervision).

Mentally retarded: sub-average intelligence often accompanied by associated deficits (i.e., behaviour, social, etc.). The individuals in ARC programs are primarily in the moderate or mildly retarded intelligence range. This usually entails that staff supervision is required for these individuals, however,
not on a consistent basis as demanded by more severely retarded people.

**Organization**: a system which is composed of individuals with varying roles, responsibilities and activities directed toward common goals.

**Organizational factors**: variables used in occupational research (i.e., participation in decision making, role conflict and role ambiguity).

**Participation in decision making**: the amount of influence that a person perceives he/she has in his/her job.

**Personal factors**: (also referred to as "individual factors) variables used in occupational research (i.e., internal and external locus of control).

**Phenomenon**: a condition which can be observed and studied.

**Role ambiguity**: the lack of sufficient information regarding the conducting of one's job (i.e., uncertainty about the expectations, responsibilities, nature and objectives of one's job; lack of clarity regarding the relationship of one's job to the organization as a whole).

**Role conflict**: incompatible job demands which may lead to job role problems between workers or within a job role (i.e., differences of opinion with supervisors; incongruent messages sent from co-workers).
Stress: a process or system which includes some form of a demand (i.e., role strain such as role conflict and role ambiguity) and an associated condition (i.e., job dissatisfaction).

Stress management: a wide range of approaches for assisting people in dealing with the effects of stress (i.e., employee assistance programs).

Stress outcome: the consequences of a stress producer.

Stressors: causes or sources of stress.

Vocational training: the teaching of basic work habits, skills and attitudes.

Work environment: the work atmosphere or climate including such factors as worker attitudes, job conditions, etc.

Work organization: people in the workplace working toward common goals within a specific work arrangement and structure (i.e., includes roles, responsibilities, activities).

Work stress: (also referred to as job stress or occupational stress). A wide area of study which may include the combination of individual and organizational factors, as perceived by an employee in the workplace (i.e., internal and external locus of control; role conflict and role ambiguity; participation in decision making; job satisfaction with work and supervision).
Rationale

The rationale for conducting this study was based on previous research findings and recommendations from investigators in the field of occupational stress. Schuler (1980a) declared that the majority of stress research has been conducted in the medical and health sciences. He believed that studies in organizational research should be increased in an effort to contribute new knowledge to the topic of stress. Sarata (1974) recommended that more empirical research be conducted in human service agencies for the mentally retarded in order to plan programs and work procedures that relate to staff attitudes and/or concerns. He claimed that systematic research dealing with work attitudes is lacking in the human service field. Pettifor (1986) claimed that service professionals are exposed to work-related problems which may lead to conflict, frustration and dissatisfaction. Brown (1986) explained that in rehabilitation services for the disabled, differences in philosophy between upper management and front-line staff can lead to an inconsistency in service delivery to clients. He claimed that this and other agency-related matters deserve critical investigation in order to promote good quality service. Brown also acknowledged the problem of the "widening gap between research and practice in the
rehabilitation field" (p. 30). The demonstrated need for research in vocational services and in the area of occupational stress signifies the relevance of this study of front-line service workers from adult rehabilitation centres.

It was predicted that the results obtained from this particular study would provide empirical evidence of the existence of perceived role stress (conflict and ambiguity) among front-line vocational service workers. The examination of the relationships among measures of self-reported role conflict and ambiguity, satisfaction (work and supervision), participation in decision making and locus of control (internal and external) was expected to contribute to the understanding of the nature of the work stress phenomenon.

Summary

This chapter introduced the importance and need for research of individuals within work organizations. The existence of stress in the helping profession was discussed in terms of its detriment to workers, agency operations and client service. The development and nature of this research study were discussed in the form of assumptions, limitations, research questions, definition of terms and rationale.
CHAPTER TWO

The Study of Stress in Work Organizations

It has been widely accepted that work is an integral part of human life (Perlman & Litt, 1982). "In order to function normally man needs work as he needs air, food, sleep, social contact or sex" (Selye, 1981, p. 5). The workplace has assumed a crucial role in the provision of human elements, aside from the obvious physical rewards. Gottlieb (1983) stated that the significant amount of time that people invest in their jobs has led to a "profound impact on their morale, their physical and mental health, and their personal identity" (p. 160). Trist (1977) insisted that the humanistic aspects associated with work must be addressed, in our efforts to promote desirable outcomes in employment situations. "A new work ethic is beginning to emerge concerned about the workplace as a central part of the quality of life as a whole" (Trist, 1977, p. 1). This trend of thinking was viewed as particularly important in relation to the increasing demands facing people in today's work force. "Clearly the working Canadian of the 1980's faces a more varied and complex employment scene than ever existed before in history" (Canadian Mental Health Association [C.M.H.A.], 1984, p. 1).
This was stated in a C.M.H.A. report entitled, "Work and Well-Being," which indicated a variety of factors which may affect working people (i.e., economic fluctuations; high unemployment; technological advancements). Dr. Jean Bureau (1983) regarded adaptability to this type of change as "the key to survival" (p. 3). Adaptation was also referred to as a means of living a healthy existence (Levinson & Weinbaum, 1970).

The focus on health promotion in the workplace was reflected in employee assistance programs which offered policies, education and training directed toward enrichment in work organizations (Ford, Ford & Weingart, 1985). Mansell (1980) claimed that there are various means of providing work environments with innovative ways of enhancing organizational effectiveness. MacBride (1983b) and Mansell (1980) believed in co-operation between management and employees toward the achievement of collective goals. Pike (1985) argued that employment improvement strategies should continue to be developed, expanded and refined in order to meet the changing needs of working people. Mills (1978) claimed that feedback is essential to the success of people-based, quality of working life approaches. Therefore, he encouraged that "there should be measures to document the impact of diminished stress and/or improved mental health" (p. 12).
The issue of stress in organizations has gained recognition in "organizational practices" and "academic research" (Schuler, 1980a, p. 184). Parker and DeCotiis (1983) made reference to the wealth of conceptual information pertaining to the topic of occupational stress. In advance of conducting an actual investigation of stress in the workplace, Beehr and Newman (1978) emphasized the importance of obtaining "a general notion of the stress phenomenon" (p. 688). This task may be complicated by the fact that stress has been considered a vague term, which has not been clearly defined (Howard, 1973). McLean (1979) described how stress is used to define itself, as well as to label its own cause and effect. "It is sometimes used to denote stressful events, sometimes to denote the effect of these events on performance, and sometimes to denote an individual reaction" (p. 1). Although stress is conceptualized in many different ways (Schuler, 1980a), numerous researchers have acknowledged the contributions of Dr. Hans Selye (Cohen & Cohen, 1984; Levi, 1981). In Selye's definition, stress was described as "a nonspecific response of the body to any demand made upon it", by a stress producing agent (1974, p. 27). He explained that the degree of this reaction depends upon the intensity of the demand, which may be positive or negative in nature (i.e., winning a tennis game; death of a close friend).
Similarly, Lazarus (1966) perceived stress as a cycle of events involving the stressors (causes) and consequences (reactions) to the stimulus conditions. Levi (1981) extended these definitions by confirming that stress at a maximum level (too much stress) and minimum level (too little stress) are incompatible with good performance. Stress was also found to lead to psychological outcomes (i.e., anxiety) (Kutash, Schlesinger & Associates, 1980).

Bureau (1983) and Selye (1981) agreed that individuals must become aware of their personal stress limits and strive to achieve a healthy balanced lifestyle. Selye (1981) believed that finding a comfortable amount of stress can be a positive source of energy and motivation. It was noted by Bureau (1983) that stress tolerance levels may vary among individuals. Goldberg (1978) identified a host of intervening variables which he attributed to a person's vulnerability and resistance to stress. These factors included "differences in biochemistry, physical strength, psychological and emotional make-up, values, attitudes, habits, social settings and others" (p. 30). A person's appraisal or individual perception of a situation was also associated with stress reactions (Kutash et al., 1980; Lazarus, 1966). It was stated by Woolfolk and Richardson (1978) that "stress is always linked to some act of understanding resulting from
the interaction between the environment and the organism" (p. 3).

The individual nature of stress has been applied to people in the workforce. Klarreich (1985) indicated that "Events in the work environment are not significant unless the person attributes significance to them and perceives them to be stressful" (p. 306). It was evident from the study of air traffic controllers (MacBride, 1983b) that employees in similar job circumstances and settings presented different job attitudes and sources of stress.

In addition to the variety of occupational stress reactions, there was not a universally accepted method of studying or measuring stress in the workplace (Schuler, 1980a) Kyriacou and Sutcliffe (1977) determined that past researchers focussed "on the environment, others on individual differences in perceptions and appraisal of situations and still others concentrate on the individual's stress response" (p. 299). Beehr and Newman (1978) looked at the phenomenon of stress as "complicated interactions between the person and environment" (p. 669). Van Harrison (1978) and Schuler (1980a) described the use of the popular person-environment fit perspective, whereby strain may occur when expectations surpass workers' abilities and resources or when needs are unmet by the job environment. In an examination of the concept of work stress, House (1981) concluded
that this phenomenon has been collectively viewed as a general area of study. According to McLean (1979) this field of research has included the examination of stressors and intervening variables which place demands on the minds, bodies and/or environments of individuals.

Studies in job stress have involved a multitude of intercorrelated variables worthy of previous and future research (Cooper & Marshall, 1978; Parker & DeCotiis, 1983). Some investigators were strictly interested in the relationship between personal characteristics (i.e., personality types) and stress levels as perceived by people in the workplace (Caplan & Jones, 1975; Caplan et al., 1975). Other researchers were concerned about the environmental causes of stress (i.e., conflicts on the job) (Karasek, 1979). The interaction of personal and environmental factors was yet another focus of previous research (Vredenburgh & Trinkaus, 1983). In summary, Parker and DeCotiis declared that "stress has been studied from three perspectives of individual differences, environmental factors and some admixture of the two" (p. 162). They agreed that it is appropriate to select one perspective over another, according to the research question(s) to be answered.

It was noted by Schuler (1980a) that the study
of work stress is not a simple endeavour. This is due to the fact that a multitude of conditions have been related to stress (Cooper & Marshall, 1978). Parker and DeCotiis (1983) supported partial testing of research models because of the complexities associated with multi-dimensional theoretical frameworks. They were also aware of potential problems in the study and interpretation of stress. They claimed that difficulties may arise from the following factors: "A lack of conceptual clarity on the meaning of stress, the choice of an appropriate research perspective, and methodological problems inherent in the stress phenomenon" (p. 161).

Despite research complexities, the multi-dimensional model was well supported as a theoretical means of analysing the relationships and interaction of variables relevant to the study of occupational stress (Matteson & Ivancevich, 1982). Beehr and Newman (1978) based their multi-facet research approach on extensive employee-health and job stress literature. They presented numerous variables which were pertinent to the job stress domain. Among these variables were the personality characteristics of internal and external locus of control; organizational role strains of role conflict and role ambiguity, the psychological aspects of job satisfaction and many others.
The importance of the study of occupational stress was reflected in the theory of organizations (Dessler, 1980), and in the great influence that organizations have placed on people (Nord, 1977). Nord specified that, "In the lives of many people significant personal contingencies are controlled by organizations; organizations have powerful effects on where people live, when they eat, when and whether they work and what they do at work and even after work" (p. 1028). Dessler (1980) described an organization as a system of people with diverse roles, responsibilities and activities directed toward common goals. Similarly, Rogers and Molnar (1976) considered an organization in terms of its various positions and their related roles.

A well established means of examining individuals in work organizations involved the theory of roles (Schuler, Aldag & Brief, 1977). This role theory was viewed as a conceptual orientation which incorporated the study of the distinguishable factors of role conflict and role ambiguity (Kahn, Wolfe, Quinn, Snoek & Rosenthal (1964). Rizzo, House and Litzman (1970) and House and Rizzo (1972) considered role conflict and ambiguity to be significant variables in the study of individuals in work organizations. Kahn et al. (1964) defined role conflict as the degree of incongruity or incompatibility of expectations sent to an individual in a particular occupational position.
This included the sending of incompatible messages from one person, conflicting demands sent by several people or incompatibility between the personal views of the individual and the actual requirements of that person's job responsibilities. Kahn et al. (1964) defined role ambiguity as the degree to which clear or adequate information is available regarding a worker's roles and responsibilities.

"Recent years have seen an increased interest in the use of the role theory to describe and explain stresses associated with membership in organizations" (Van Sell, Brief & Schuler, 1981, p. 43). In previous literature the constructs of role conflict and role ambiguity were often referred to as job stressors (Stout & Posner, 1984) or psychological strains (Jackson, 1983). Levinson and Weinbaum (1970) concurred that role conflict and ambiguity are apt to produce emotional stress within individuals in the workplace. Cherniss (1980) supported this claim by indicating that "previous research and theory have suggested several specific characteristics of a role that contribute to job stress, including role conflict, role ambiguity" (p. 80).

Role conflict and role ambiguity have been researched separately (Lyons, 1971; Miles & Perreault, 1976) or in combination (Brief & Aldag, 1976). Studies which evaluated
these role issues together in a particular investigation were often successful in revealing their relationships to other variables (Tracy & Johnson, 1981). In their research review, Van Sell et al. (1977) described several studies which indicated that role conflict and role ambiguity were both positively related to decreased productivity and tension on the job. Results of previous researchers have also indicated the existence of a negative correlation between role conflict and role ambiguity, and the psychological outcome of job satisfaction (Kahn et al., 1964). Bedeian and Armenakis (1981) verified that nursing practitioners and administrators, who experienced role conflict and ambiguity, reported low levels of job satisfaction. These results were consistent with the findings of Stout and Posner (1984). They provided evidence that both role conflict and role ambiguity were negatively correlated with job satisfaction, among direct service workers in mental retardation, mental health and restoration facilities. Brief and Aldag (1976) demonstrated somewhat different results in their study of nursing personnel. They discovered that role conflict (not role ambiguity) was related to satisfaction with work itself and supervision. This type of inconsistency in results was characteristic of other research. Tosi and Tosi (1970) substantiated a negative correlation between role conflict and job
satisfaction of teachers, however, they did not reveal a relationship between role ambiguity and job satisfaction for these subjects. In contrast, Hamner and Tosi (1974) were unsuccessful in showing a relationship between role conflict and job satisfaction for industrial managers. However, they did confirm a negative correlation between role ambiguity and job satisfaction for this occupational group. Hamner and Tosi did not find it unusual to discover a variance in research results. They stated that, "Since it has been determined that role stress is multi-dimensional, it is not surprising that the components of role conflict and role ambiguity would act in different ways under different conditions" (p. 499).

Hamner and Tosi (1974) postulated that the worker's level in an organization may account for different stress reactions and outcomes. They suggested that managerial tasks frequently involve the solving of unstructured problems which may create a lack of clarity or role ambiguity. In comparison they claimed that at lower organizational levels functions are typically more clearly defined, but employees are "more likely to face conflicting role demands from others" (p. 499), which may lead to role conflict.

The varying perceptions of role conflict and role ambiguity were also explained by individual differences
which are found among working people (Van Sell et al., 1981). Pressures at work have evoked many types of responses, and personality factors have contributed to this situation (Cooper & Marshall, 1978; Matteson & Ivancevich, 1982). In particular, the personality attributes of internal and external locus of control were found to be significant in determining differential reactions to work stress (Phares, 1976). Rotter (1966) categorized people as internally oriented if they believed that outcomes in their lives (i.e., rewards, reinforcements) occurred in relation to their own behaviour. On the other hand, externals were described by Rotter as people who attributed outcomes to the result of outside forces (i.e., luck, chance or fate). "Briefly stated, an individual believes that events are controlled by internal, personal forces of the actor or that events are controlled by external, situational forces of the environment" (Duffy, Shiflett & Downey, 1977, p. 214). In the book entitled, "Locus of Control and Personality " Phares (1976) determined that externals are characteristically less confident in their own initiative to handle stress and therefore less competent than internals in personal stress management. Rose and Veiga (1984) referred to studies in the literature which proved that internals obtained and used information more effectively when subjected to stressful tasks and
experienced less anxiety than externals.

Researchers in locus of control have also demonstrated that reactions to role stress can be determined by internal and external personality characteristics. Vredenburgh and Trinkaus (1983) provided empirical confirmation that hospital nurses with a more external than internal locus of control, reported greater levels of role ambiguity. These results were supported by Organ and Greene (1974) in their study of an electronics firm, where internally inclined engineers perceived less role ambiguity than externals.

Aside from the established linkages between locus of control and stress factors, relationships were shown to exist between internal/external personality types, job satisfaction and participation in decision making. Perceived participation in decision making was described by Vroom (1964) as the amount of influence that an individual feels in regard to their personal decision authority. Job satisfaction was viewed by Singh and Srivatsava (1972) as, "a pleasant and positive attitude possessed by an employee toward his job-life" (p. 56). Various investigations focused on the importance of both participation in decision making and job satisfaction issues. In a study of rehabilitation counsellors from a vocational rehabilitation centre, Majumder, MacDonald and Greever (1977)
provided results which indicated that workers with an internal locus of control have greater overall job satisfaction and hold more positive attitudes toward their supervisors and clients than externals. Runyon (1973) based his study of locus of control on the speculation that internals are more desirous of motivating characteristics such as personal initiative and externals are more responsive to direct structure at work. He succeeded in proving this prediction among employees in a chemical manufacturing plant. Internals were found to prefer working under a participative management style which provided opportunity for employee input and creativity. In contrast, externals preferred that direction and guidance be provided by management personnel. Runyon also found that internals experienced greater satisfaction with supervision than externals when working under their preferred type of management. Kimmons and Greenhaus (1976) examined job attitudes of managers in a utility company. They found that internals perceived more autonomy and feedback from their jobs, and exhibited greater overall job satisfaction than externals. Similarly, in a study by Knoop (1981) it was shown that public school teachers who were internal in their beliefs reported greater overall job satisfaction than externals. Furthermore, the internal group of teachers were found to perceive more influence
Research dealing with participation in decision making also contributed to the understanding of job strain (Jackson, 1983). Karasek (1979) discovered that the reduction of mental strain (anxiety) was significantly related to increases in perceived participation in decision making for employees in low status positions in an organization. Morris, Steers and Koch (1979) claimed that, "individuals who are afforded participation will be less likely to experience uncertainty about their roles as a consequence of increased information and feedback which typically accrue from the participation process" (p. 69). Morris et al. (1979) substantiated a negative relationship between perceived participation in decision making and role conflict and ambiguity for secretarial, clerical and professional employees in a public organization. They concluded that a key means of diminishing role strain was achieved by providing employees with opportunities to make decisions which affected their jobs. Additional support of this nature was provided by Jackson (1983). Greater opportunity for decision making was achieved by increasing the number of staff meetings where ideas could be openly expressed. This condition resulted in reducing perceived levels of role strain (role conflict and ambiguity) among nursing, clerical and technical employees.
in an outpatient hospital. Jackson also showed that participation in decision making had a positive effect on perceived influence (belief in personal control and ability to influence the environment) which in turn was related to increased job satisfaction. The association between participation in decision making and job satisfaction was also apparent in a study conducted by MacEachron, Zober and Fein (1985). They redesigned a large institutional residence for the mentally retarded into smaller homes. This strategy resulted in an increased level of perceived influence in decision making and led to greater overall job satisfaction for residential staff. Driscoll (1978) presented a correlation between perceived levels of job participation and overall job satisfaction in his analysis of college faculty members. He also found that the greater the congruence between desired and perceived participation, the higher the degree of expressed satisfaction with the organization. Schuler (1977) enriched this research on job attitudes and decision making by including an examination of role perceptions in his study of workers in low levels of a work organization. He argued that better opportunities for role clarification and awareness can be achieved through participation on the job. He established that perceived participation in decision making was more strongly associated with work satisfaction when role conflict and
role ambiguity were at high rather than low levels.

In addition to the already mentioned negative outcomes which may be connected with role stress, unfavourable consequences have also been linked to job attitudes. The results of a study of psychiatric technician trainees in a hospital setting for the mentally retarded, displayed that job dissatisfaction was related to withdrawal behaviour. Individuals who left their jobs held less favourable work attitudes than those who remained at work (Porter, Steers, Mowday & Boulian, 1974). In another study of hospital employees, Mobley, Horner and Hollingsworth (1978) demonstrated that intention to quit the job was positively correlated with low overall job satisfaction levels. Job dissatisfaction was viewed as a component of strain by Wiener, Vardi and Muczyk (1981). They established that work satisfaction correlated positively with mental health for different groups of employees from a manufacturing firm and retail stores. In regard to the helping occupation, Wilder (1981) discussed a common pattern which was evident among health professionals in response to job strain. He explained that:

Job satisfaction diminishes. Negative attitudes develop toward patients, colleagues, hospital or facility and finally toward oneself. A professional becomes more distant from patients
and more irritable with colleagues and family. Job performance suffers, standards fall, quantity of work diminishes and work quality is compromised. (p. 656)

Sarata (1974) concluded that there is a lack of systematic research concerning job satisfaction in human services and recommended that greater attention be given to this area.

The need for empirical research was also acknowledged by Schuler (1980a). He professed that studies are required to add richness to the body of existing knowledge in occupational stress and to examine a variety of critical variables. Schuler (1980b) incorporated several important variables into a conceptual research model which illustrated predicted relationships between self-reported organizational and individual conditions in the workplace. His findings reinforced the results of many of the studies discussed in this literature section. His research design verified a positive correlation between reported satisfaction levels (work and supervision) and perceived participation in decision making. He also demonstrated a negative correlation between participation in decision making and role perceptions (conflict and ambiguity). Schuler (1980b) proceeded to recommend that his correlational research approach be used as a guide for future research. Parker and DeCotiis (1983)
proposed that future studies should concentrate on the investigation of the dimensions of job stress in a variety of occupations. These research recommendations were given consideration in the development of the present study of occupational stress among front-line vocational service workers in adult rehabilitation centres for the mentally retarded.

Summary

This chapter provided a review of the relevant studies found in the literature which pertained to the topic of stress in work organizations. This literature review highlighted the complex nature of occupational stress, which was shown to be related to a number of important individual and organizational factors worthy of continued research. The studies which related to the human service profession, reinforced the importance of exploring workers' perceptions of themselves and aspects of their jobs in relation to experienced stress.
CHAPTER THREE

Research Methods

Introduction

Interest in the concept of occupational stress has escalated (Dolan, Arseneault, Abenhaim & Bilodeau, 1984). In recent years there has been a great amount of conferences, workshops and seminars on the topic of stress at work (Rogers & Cochrane, 1984). Beehr and Newman (1978) ascertained that systematic research in the workplace is essential in refining knowledge about the imprecise concept of job stress. They declared that evaluative studies should be designed to examine relationships between variables associated with stress in the workplace. Jackson (1983) also supported the use of empirical evaluations to test the theoretical principles of job-related strain.

Besag and Besag (1985) presented a philosophical position which signified the importance of research in specific relation to the helping profession.

Research is one of the most important tools available to the helping professional; institutions can and should be made better and more humane and research can be brought to
bear on that process; we as helping professionals are involved in the process of increasing human freedom and dignity and research should play a role in that process. (p. 14)

A popular method of conducting stress research across a wide range of occupations has involved the use of self-report instruments (Van Sell et al., 1981). Dolan et al. (1984) found that "a common design in organizational stress research is to select an organization and administer questionnaires to gather individual's perceptions of both organizational conditions and individual responses" (p. 54). They also indicated that only a limited number of organizational studies have used objective types of stress measures (i.e., physiological, behavioral). Caplan and Jones (1975) highlighted the distinguishing nature of these research approaches. They stated that, "objective stress is measured independently of a person's perceptions, whereas subjective stress relies on self-reports" (p. 714). They emphasized the effectiveness of the subjective measurement approach by referring to research in which subjectively derived role conflict was a better predictor of job-related strain than objectively measured conflict. The frequent appearance of subjective evaluation methods in role-stress literature (Van Sell et al., 1981) led to the selection of a survey technique
in the current investigation of front-line worker stress. A variety of valid and reliable measurement scales have been used for data collection purposes and analysis of key organizational and individual variables (Schuler, 1980b). The scales which were used in this study (see Appendix B) measured the following: the role perceptions of role conflict and role ambiguity; the personality attributes of internal and external locus of control; job satisfaction toward work and supervision and the perception of participation in decision making. Schuler (1980b) contended that future research should examine these types of organizational and individual conditions which have been previously associated with role perceptions. Many investigators have presented research models which illustrated that role-related stress is related to a multitude of factors (Bedeian & Armenakis, 1981; House & Rizzo, 1972; Miles & Perreault, 1976). The examination of combinations of these variables was considered important in the study of occupational stress (Beehr & Newman, 1978). Schuler (1980b) discussed a potential difficulty associated with the multi-variable nature of stress. He claimed that:

the fact that stress seems to be related to such a large number of conditions has in part prevented systematic focus on stress in organizations. That is, it has been stated that essentially stress is too all encompassing
In recognition of this problem, Parker and DeCotiis (1983) recommended that a theoretical model be used which reflects the investigator's research perspective and concept of stress in the workplace.

Vredenburgh and Trinkaus (1983) indicated the importance of using a research model which illustrates "a comprehensive set of individual attributes and perceived organizational conditions" (p. 83). Individual attributes (i.e., internal, external locus of control) and organizational variables (i.e., task complexity) were included in their research in order to determine the relationship of these variables with role conflict and ambiguity. It was found that roles were inadequately defined by hospital nurses with an external locus of control. Furthermore, lack of task variety and feelings of job insignificance were related to role ambiguity.

This study signified the importance of bringing "together a set of variables which have been theoretically or empirically shown to be associated with role stress" (p. 84). Many studies which were discussed in Chapter Two also reinforced the significance of including organizational and individual variables in the study of stress in the workplace. The review of this research revealed relationships among the personal attributes of internal and external locus of control (Majumder et al., 1977), the work-related attitude of job satisfaction (Jackson, 1983) and perceived organizational conditions of role conflict, role ambiguity (Beehr & Newman, 1978) and participation in decision
making (Van Sell et al., 1981). It was highlighted in Chapter Two that role conflict and role ambiguity were negatively correlated with job satisfaction (Bedeian & Armenakis, 1981; Stout & Posner, 1984) and participation in decision making (Morris et al., 1979). Participation in decision making was found to be positively related to job satisfaction (MacEachron et al., 1985). Locus of control was also associated with organizational variables and work attitudes. Externals in comparison to internals reported higher levels of role ambiguity (Vredenburgh & Trinkaus, 1983), greater job satisfaction (Majumder et al., 1977) and perceived more influence in decision making (Knoop, 1981). It was recommended by Johnson and Stinson (1975) that the investigation of relationships among variables in the exploration of role stress should continue to be investigated across different occupational groups.

This particular study concentrated on the examination of previously studied individual characteristics (internal, external locus of control) perceived organizational conditions (role conflict, role ambiguity and participation in decision making) and job attitudes (satisfaction with work and supervision) as reported by front-line vocational service workers for the mentally retarded. A research model was developed for this study (see Table 1) which was based upon the findings of the literature reviewed in Chapter Two. Particular attention was given to Schuler's (1980b) theoretical research model since it incorporated
Table 1

A Research Model of Hypothesized Relationships Between Measures of Role Perceptions, Personality Attributes, Job Attitudes and Participation.

participation in decision making  \(\rightarrow\) role conflict satisfaction with work; role ambiguity satisfaction with supervision locus of control: external, internal

Note. This theoretical model illustrates predicted relationships and correlations. Arrows signify relationships and do not indicate causality.
a variety of variables which he claimed are worthy of empirical investigation. He examined measures of role conflict, role ambiguity, participation in decision making and satisfaction with work and supervision in a study of employees from a large manufacturing firm. As indicated in Chapter Two, Schuler confirmed that there was a positive association between participation in decision making and satisfaction (work and supervision) and a negative relationship between participation in decision making and role conflict and ambiguity. These variables in addition to locus of control were arranged in a theoretical framework which was an adaptation of Schuler's (1980b) model. Table 1 displays these variables and illustrates predicted relationships. This theoretical model indicates that role conflict and ambiguity were expected to be correlated with participation in decision making and satisfaction with work and supervision. Table 1 also shows that participation in decision making was predicted to be correlated with satisfaction with work and supervision. Furthermore, this model demonstrates that locus of control (internal and external) was hypothesized to be related to role perceptions (conflict and ambiguity) and satisfaction measures (work and supervision). The correlation between participation in decision making and job satisfaction (work and supervision) was also expected to be related to locus of control. The variables which formed this theoretical framework were
incorporated into a series of hypotheses which were tested in this study.

Hypotheses

This study was designed to examine the following hypotheses which were formulated as a result of previous theory and research evidence.

1) It was predicted that role conflict and role ambiguity would be negatively correlated with
   a) satisfaction toward work, and
   b) supervision.

2) It was predicted that role conflict and role ambiguity would be negatively correlated with participation in decision making.

3) It was predicted that participation in decision making would be positively correlated with
   a) satisfaction with work,
   b) satisfaction with supervision, and
   c) this relationship was expected to be more pronounced for individuals with a more internal than external locus of control.

4) It was predicted that individuals with a more external than internal locus of control would report greater levels of role conflict and ambiguity.
5) It was predicted that internals would report greater satisfaction toward
a) work, and
b) supervision in comparison to externals.

Subjects

The participants in this study consisted of front-line vocational service workers from across nine separate Adult Rehabilitation Centres (ARC Industries), which serve mentally retarded adults eighteen years of age and older. These vocational training facilities were selected from across nine Associations for the Mentally Retarded. These associations were from the following areas: St. Catharines, Greater Niagara, Fort Erie, Port Colborne, Welland, West Lincoln, Brantford, Guelph and Hamilton. According to the conversations held with management personnel from these agencies (see Appendix A) the general job responsibilities of the front-line workers from the ARC Industries were very similar in nature. It was expressed that the common objective for these workers is to provide vocational training for disabled adults who are primarily, moderately and mildly mentally retarded. This training focuses on the development of basic work habits, skills and attitudes (Weintraub & Harnois, 1981). The service
providers are commonly referred to as front-line staff because they spend the majority of their work day in contact with service recipients (Goering & Rogers, 1986). Front-line vocational staff were only included in this study if they had been employed in their current job position for six months or longer. This condition was established in an effort to diminish the stressful influences which have been associated with adjustment to new employment situations (Rogers & Cochrane, 1986). A total of ninety front-line workers were suitable participants for this investigation. The number of subjects selected from each ARC Industries varied according to the number of staff in each facility who had been working in their job for a minimum of six months (see Appendix A).

Procedures

The intent and nature of this research initiative were discussed by telephone correspondence with management personnel from each of the nine ARC Industries (see Appendix A). Permission to conduct this study was acquired from these individuals. This procedure was followed by a letter of introduction which was mailed to each centre for distribution to the eligible subjects. This letter outlined the general purpose of the study and requested
participation in the completion of survey booklets (see Appendix B). Individuals were assured of confidentiality and anonymity. Prior to the actual survey distribution management personnel were asked for their co-operation in allotting time within the regular work day for the completion of the questionnaires. Fortunately, there was a positive response to this request from all of the agencies. Surveys were distributed through the mail to seven out of the nine ARC Industries. In the case of St. Catharines and West Lincoln ARC Industries, the surveys were personally delivered. Survey booklets were circulated and collected by a staff member who was designated by each facility. A total of sixty-nine surveys were returned in confidentiality marked envelopes before February 28, 1987. This return rate indicated a seventy-seven per cent rate. The survey data was used in the research analysis phase

Instrumentation

A questionnaire booklet which contained four self-report scales (see Appendix B) was used to obtain and measure the respondents' perceptions toward themselves and their jobs. The measurements included in this booklet were selected on the basis of their appearance in the
research literature and included the following: Role Conflict/Role Ambiguity (Rizzo et al., 1970); Locus of Control (Valecha, 1972); Participation in Decision Making (Siegel & Ruh, 1973); and Job Satisfaction with Work and Supervision (Hatfield, Robinson & Huseman, 1985).

**Role Conflict/Role Ambiguity** (see scale, Appendix B, p. 103)

The perceptions of role conflict and role ambiguity emerged as two separate dimensions (Rizzo et al., 1970). In order to systematically examine these role factors and their relationship with organizational and personal variables, Rizzo et al. (1970) constructed two scales called role conflict and role ambiguity from a factor analysis of twenty-nine items (Schuler et al., 1977). The Rizzo et al. (1970) role conflict and role ambiguity scales contained eight items and six items respectively. Respondents were requested to respond to each item by indicating whether or not role statements applied to themselves, using a seven point range from very true to very false. The eight role conflict items were worded to describe feelings of role stress and the six ambiguity items were worded to indicate non-stressful role characteristics.

House, Schuler and Levanoni (1983) investigated the
nature of the role conflict and ambiguity constructs and stated that "continued use of the Rizzo et al. scales may be warranted" (p. 337). Schuler et al. (1977) also supported further use of these scales based on their evaluation of the psychometric properties of role conflict and ambiguity. They discovered that these role factors were stable and valid constructs in organizational research. Many investigators have used the Rizzo et al. (1970) scales to measure role conflict and ambiguity (Van Sell et al., 1981). The present study was no exception.

Locus of Control (see scale, Appendix B, p. 104)

The items used to measure locus of control were derived from Rotter's (1966) twenty-nine item internal/external scale known as the I-E scale. Abbreviated versions of Rotter's scale were used by Valecha (1972) and Knoop (1981). Rotter designed the original evaluation tool to measure the extent to which a person believes that external (outside) forces or internal (inside) forces shape outcomes in his/her life. Rose and Veiga (1984) indicated that Rotter's scale was widely used and validated across numerous studies. Rotter (1975) recommended that future investigators continue to evaluate the elements of internal and external locus of control, taking into account previous research
in this area. The forced choice items used in this study provided a measure which indicated that the higher the score the more external the belief. This self-rating tool provided a generalized locus of control measurement.

Job Satisfaction with Work and Supervision (see scale, Appendix B, p. 105)

Job satisfaction with work and supervision was measured by the Job Perception Scales (Hatfield et al., 1985) which is a shorter version of the Job Descriptive Index (Smith, Kendall & Hulin, 1969). The Job Descriptive Index was described as a valid and reliable measure of job satisfaction which examines five distinct dimensions (Brady, Kinnaird & Friedrich, 1980). Hatfield et al. (1985) included the same core satisfaction dimensions in their measurement scale. This included perceptions of work, pay, promotions, supervision and co-workers. They demonstrated substantial support for the validity and reliability of these scales. The index consisted of pairs of opposites to which the person responded on a scale from one through seven. In this investigation, the two scales of satisfaction with work and supervision were selected. Hatfield et al. (1985) recommended the use of these scales since they are quick measurements which can evaluate independent dimensions of satisfaction.
Participation in Decision Making (see scale, Appendix B, p. 106)

This variable was measured using four items from Siegel and Ruh (1973). Statements assessed the degree of influence that an individual perceived in job-related decisions. Responses were scored on a five point Likert scale ranging from very little to very much. In the literature reviewed, Siegel and Ruh's participation in decision making questionnaire was used in various empirical studies (Knoop, 1981; MacEachron et al., 1985; Schuler, 1977, 1980b).

Data Analysis Process

The Statistical Package for the Social Sciences (hereafter referred to as SPSS) (Nie, Hull, Jenkins, Steinbrenner & Brent, 1975) is the computer program which was used as the primary method of data analysis for the present investigation. Survey data was entered into the computer in the month of March, 1987. A data print-out was extracted from the computer which provided pertinent statistical information for the interpretation of results and hypotheses testing.
**Statistical Design**

Different statistical tests were selected for data analysis according to the nature of the hypotheses under investigation. Hypothesis #1 was concerned with examining a negative correlation between both role conflict and ambiguity and satisfaction with a) work, and b) supervision. Similarly, hypothesis #2 predicted that role conflict and ambiguity would be negatively correlated with participation in decision making. Participation in decision making was predicted to be positively correlated with satisfaction toward a) work, and b) supervision (hypothesis #3). The examination of the speculated relationships between these variables was computed by a correlation design. A correlation procedure was described by Snedecor and Cochran (1967) as a statistical technique for detecting the relationship between two variables. Besag and Besag (1985) discussed that relationships between variables may be in a positive direction (when x increases, y increases) or a negative direction (when x increases, y decreases). It was revealed by Borg (1981) that a benefit of this research approach is that several relationships can be investigated in one particular study.

In this investigation, sets of scores were expressed in the form of a correlation coefficient, using the Pearson
Product Moment Correlation of Coefficient Method (Kendall & Buckland, 1971). This has been considered one of the most popular of the correlation evaluations (Besag & Besag, 1985). The Pearson Correlation Coefficients were displayed in a matrix in which variables were examined to determine the significance of relationships of "r" values at intersecting points. A minimum level of \( p < .05 \) was used to test the hypotheses in this study.

Hypothesis #3 c) was also concerned with the examination of relationships between variables. It was speculated that the correlational relationship between participation in decision making and satisfaction would be more pronounced for internally scoring subjects than for externally scoring respondents. In this investigation two distinct groups of internal and external subjects were identified using a split median technique which divided the population at the middle most point. The values of \( r \) for the relationship between participation in decision making and job satisfaction with work and supervision were calculated by the Pearson Product Moment Correlation statistical procedure. Values of \( r \) were provided for both the internal and external groups. In order to test for a significant difference between the coefficient values, the \( r \) scores were entered into a z-transformation formula (Sokal & Rohlf, 1969a, p. 277). This calculation was done
mathematically and was not conducted by the SPSS.
The probability of the values obtained from this equation
were examined using a table entitled, "Areas of the Normal
Curve" (Sokal & Rohlf, 1969b).

A comparison of means test, known as a t-test, was
used to examine hypothesis #4 and #5 a) and b). Hypothesis
#4 stated that externally scoring subjects would report
higher degrees of role stress than the internally oriented
respondents. The later group were predicted in Hypothesis
#5 to report greater satisfaction levels toward a) work,
and b) supervision. The t-test was provided by the
computer in order to examine response differences between
the internals and externals. Borg (1981) stated that,
"this is a statistical test designed to determine if the
mean scores of two groups are significantly different"
(p. 125). Two-tailed probability scores were also provided
and examined to determine their level of significance at
the .05 level. This two-tail process incorporated scores
at both ends of the total distribution of scores (Borg,

These various statistical evaluation techniques
were used to analyse the data in a collective manner. The
results obtained from individual facilities were not
examined in isolation, or for comparison purposes in this
particular study. The results from the total sample
population are presented and described in Chapter Four.

**Summary**

This chapter has demonstrated the research design and procedures followed in this study of front-line vocational service workers for mentally retarded adults. Self-report scales were used to acquire information concerning workers' perceptions toward themselves and their jobs. This data collection process was conducted in a confidential manner within nine Adult Rehabilitation Centres across various Associations for the Mentally Retarded. The data in this study was statistically analysed in an attempt to verify correlational relationships and differential responses among several key variables in the research field of occupational stress.
CHAPTER FOUR

Results

Introduction

This study was conducted in order to investigate vocational service workers' perceptions of role conflict, role ambiguity, locus of control (internal and external), job satisfaction (work and supervision) and participation in decision making. The fundamental objective of this research was to gain insight into the nature of the job stress phenomenon as it applies to front-line employees from Adult Rehabilitation Centres for mentally retarded adults. Sixty-nine subjects out of the total population of ninety direct service staff, completed and returned job-related survey booklets. This data collection process was a means of acquiring responses from the subjective views of the participants, in regard to the measurements found in the questionnaire (see Appendix B). The survey data was examined from the data print-out sheet which presented the results of the statistical operations which were performed in this study. The results of these computations were interpreted in accordance with several hypotheses (see Chapter Three) which were developed for this study of occupational stress.
Results of Analysis

The statistical results provided in this investigation were successful in supporting various hypothetical predictions. Several hypotheses speculated that correlational relationships would be found among measures of role conflict, role ambiguity, job satisfaction (work and supervision) and participation in decision making. R. Sokal and F. Rohlf (1969) stated that "the purpose of correlation analysis is to measure the intensity of association observed between any pair of variables to test whether it is greater than could be expected by chance alone" (p. 277). In this study, Pearson Product Moment Correlation coefficients were computed and displayed in the form of a matrix. Table 2 reveals the coefficient values (r) which were obtained for the relationship between certain pairs of variables. In the case of the association between role conflict and job satisfaction with a) work, and b) supervision, the findings were $r = -.34, p < .01$ and $r = -.23, p < .05$ respectively. These results provided verification for hypothesis #1 a) and b) which stated that role conflict would be negatively correlated with satisfaction toward both work and supervision. Empirical support was also provided for the predicted negative correlation between role ambiguity and job satisfaction measures. Table 2 illustrates that the coefficient values
Table 2

Pearson Correlation Coefficient Matrix for Measures of Role Perceptions, Job Satisfaction and Participation

<table>
<thead>
<tr>
<th>Variables:</th>
<th>ROC</th>
<th>ROA</th>
<th>JSW</th>
<th>JSS</th>
<th>PDM</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROC</td>
<td>---</td>
<td>.44</td>
<td>-.34**</td>
<td>-.23*</td>
<td>-.43**</td>
</tr>
<tr>
<td>ROA</td>
<td>---</td>
<td>---</td>
<td>-.37**</td>
<td>-.38**</td>
<td>-.52**</td>
</tr>
<tr>
<td>JSW</td>
<td></td>
<td>---</td>
<td>.51</td>
<td></td>
<td>.62**</td>
</tr>
<tr>
<td>JSS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.49**</td>
</tr>
<tr>
<td>PDM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>---</td>
</tr>
</tbody>
</table>

Note. The r values are presented for the correlations which were examined.

ROC = Role Conflict
ROA = Role Ambiguity
JSW = Job Satisfaction with Work
JSS = Job Satisfaction with Supervision
PDM = Participation in Decision Making.

n = 69
*p < .05
**p < .01
for the relationship between role ambiguity and job satisfaction with work were \( r = -0.37, p < 0.01 \). The value for role ambiguity and satisfaction with supervision was \( r = -0.38, p < 0.01 \). This was evidence of a significant negative correlation between job satisfaction and the role perception of ambiguity (Hypothesis 1a & b). Furthermore, empirical support was also obtained for the speculation that both role conflict and role ambiguity would be negatively correlated with participation in decision making (Hypothesis #2). Table 2 demonstrates that these correlation values were \( r = -0.43, p < 0.01 \) for role conflict and participation and \( r = -0.52, p < 0.01 \) for the relationship between ambiguity and participation. It was also predicted and confirmed that participation in decision making would be positively correlated with a) job satisfaction with work and b) supervision (Hypothesis 3a & b). In Table 2 it is illustrated that these correlation coefficients were \( r = +0.62, p < 0.01 \) for participation and work satisfaction and \( r = +0.49, p < 0.01 \) for participation and job satisfaction with supervision.

The measures of participation, job satisfaction and role perceptions were also studied in conjunction with the personality attribute of locus of control. Table 3 indicates the frequency of responses which were acquired from the sixty-nine respondents in regard to their belief
Table 3
Locus of Control Responses

<table>
<thead>
<tr>
<th>Code</th>
<th>Absolute Frequency</th>
<th>Internals</th>
<th>Externals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Absolute</td>
<td>Relative</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Frequency</td>
<td>Frequency</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Percent)</td>
<td>(Percent)</td>
</tr>
<tr>
<td>0</td>
<td>4</td>
<td>5.8</td>
<td>5.8</td>
</tr>
<tr>
<td>1</td>
<td>10</td>
<td>14.5</td>
<td>20.3</td>
</tr>
<tr>
<td>2</td>
<td>16</td>
<td>23.2</td>
<td>43.5</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>7.2</td>
<td>50.7</td>
</tr>
<tr>
<td>4</td>
<td>15</td>
<td>21.7</td>
<td>72.5</td>
</tr>
<tr>
<td>5</td>
<td>9</td>
<td>13.0</td>
<td>85.5</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>2.9</td>
<td>88.4</td>
</tr>
<tr>
<td>7</td>
<td>4</td>
<td>5.8</td>
<td>94.2</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
<td>2.9</td>
<td>97.1</td>
</tr>
<tr>
<td>9</td>
<td>2</td>
<td>2.9</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>69</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

M = 3.4 = Mean
Md = 2 = Mode
Mdn = 3.4 = Median

Note. Respondents scoring less than 3.4 were considered to be internal in their locus of control belief. Individuals scoring greater than 3.4 were considered to be external in their belief. These groups were established by a split median procedure.
that internal (inside) or external (outside) forces determine outcomes (i.e., events or circumstances) in one's life. The split median process which was used in this study separated the subjects into two distinct groups of externals and internals according to their response scores. The middle score (median of 3.4) was used as the dividing point. Individuals scoring greater than 3.4 were considered external in their locus of control belief and subjects scoring less than 3.4 were considered internal in their belief. The scores of the respondents indicated that thirty-five workers were included in the internal group and thirty-four workers were in the external group. An examination of the distribution and frequency of scores (see Table 3) showed that the subjects as a whole scored primarily from 1 to 5 inclusively, and responses were slightly skewed toward the lower end of the response (code) scale. A total of 72.5% of the respondents scored 4 or less. Scores ranged from 0 to 9 inclusively. According to Phares (1976) the higher the score the more external the belief in locus of control. The tendency for the subjects in this study to select lower response scores indicated a slight inclination toward internality for the front-line workers.

The two groups of internal and external subjects were examined to determine whether or not these personality
differences were associated with significant variations in responses to the job-related factors under investigation. Hypothesis #3 c) predicted that the correlation between measures of job satisfaction (work and supervision) and participation in decision making would be stronger for the internal group in comparison to the external group. Table 4 shows the coefficient values which were calculated for these variables using the Pearson Product Moment Correlation technique. The r values for the relationship between participation and job satisfaction with work were +.58 for the externals and +.62 for the internals. In the case of participation and job satisfaction with supervision the values were r = +.62 and r = +.39 for externals and internals respectively. These coefficients were transformed to scores using a z-transformation formula taken from Sokal and Rohlf, 1969a, p. 277). They claimed that tests of significance can be performed in order to determine the difference between two correlation coefficients. A transformation score of +.16 was obtained when the correlation coefficients for the relationship between participation in decision making and job satisfaction with work were compared for the external and internal group. A transformation score of -.92 was calculated when the correlation coefficients for the relationship between participation in decision making and job satisfaction with supervision were
Table 4

Pearson Correlation Coefficients for the Relationship Between Job Satisfaction and Participation for Internals and Externals

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>Variables</th>
<th>PDM</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>a</td>
<td>JSW</td>
<td>0.58</td>
</tr>
<tr>
<td></td>
<td></td>
<td>JSS</td>
<td>0.62</td>
</tr>
<tr>
<td>2</td>
<td>b</td>
<td>JSW</td>
<td>0.62</td>
</tr>
<tr>
<td></td>
<td></td>
<td>JSS</td>
<td>0.39</td>
</tr>
</tbody>
</table>

Note.
JSW = Job Satisfaction with Work
JSS = Job Satisfaction with Supervision
PDM = Participation in Decision Making
Group 1 = Externals
Group 2 = Internals
\[ \bar{n} = 34 \]
\[ \bar{n} = 35 \]
compared for the externals and internals. In both of these comparisons it was not demonstrated that the correlation coefficients were significantly different. In conclusion, although the actual coefficient values were different for the internal and external groups, the variation was not large enough to statistically support the expectation that the correlation between participation in decision making and job satisfaction (work and supervision) would be more pronounced for internals than externals.

Several other hypotheses were also concerned with testing the response difference between externals and internals. Hypothesis #4 predicted that externals would experience greater levels of role conflict and ambiguity in comparison to internals. The latter group were expected to report greater satisfaction toward a) work, and b) supervision (Hypothesis #5 a & b). These speculations were not empirically supported as can be seen from the results presented in Table 5. These results were derived from the t-test procedure which was used to compare mean scores. The scores presented in the 2-tail probability column in Table 5 were .07 for role conflict, .71 for role ambiguity, .16 for job satisfaction with work and .50 for job satisfaction with supervision. These scores were not significant at the .05 level and therefore Hypothesis #4 and #5 a) and b) were not statistically verified.
Table 5
T-test Results of Internal and External Subjects' Responses to Role Perceptions and Job Satisfaction

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>n</th>
<th>Mean</th>
<th>T-value</th>
<th>2-Tail Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROC</td>
<td>1</td>
<td>a</td>
<td>4.2</td>
<td>1.85</td>
<td>0.07</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>b</td>
<td>3.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROA</td>
<td>1</td>
<td>a</td>
<td>3.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>b</td>
<td>2.9</td>
<td>0.38</td>
<td>0.71</td>
</tr>
<tr>
<td>JSW</td>
<td>1</td>
<td>a</td>
<td>4.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>b</td>
<td>5.0</td>
<td>-1.43</td>
<td>0.16</td>
</tr>
<tr>
<td>JSS</td>
<td>1</td>
<td>a</td>
<td>4.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>b</td>
<td>5.0</td>
<td>-0.68</td>
<td>0.50</td>
</tr>
</tbody>
</table>

Note.
ROC = Role Conflict
ROA = Role Ambiguity
JSW = Job Satisfaction with Work
JSS = Job Satisfaction with Supervision
Group 1 = Externals
Group 2 = Internals
a n = 34
b n = 35
Discussion of Hypotheses

The hypotheses testing which was conducted in this study provided results which are relevant to the front-line participants and the work organizations in which they are employed. Several correlational relationships were statistically supported within this investigation of occupational stress in vocational services. A negative correlation was discovered between participation in decision making and the role perceptions of conflict and ambiguity. These role factors were also found to be correlated in a negative direction with job satisfaction toward work and supervision. Furthermore, job satisfaction was positively correlated with participation in decision making. Although cause-and-effect inferences cannot be made from a correlation study, it is interesting to note the nature of these relationships (Wiener et al., 1981). Parsons (1974) explained that a positive correlation indicates a direct relationship between two variables under investigation, whereas a negative correlation signifies an inverse relationship between two variables. In this particular study both positive and negative correlations were statistically confirmed from the responses of the sixty-nine workers from across nine ARC Industries. The attributes of internal and external locus of control did
not indicate significant differences in responses when these personality factors were associated with role conflict, ambiguity or job satisfaction (work and supervision). Similarly, locus of control was not related to significant differences in the correlation between job satisfaction and participation measures.

Summary

This chapter presented the findings which were acquired from this investigation of direct-line staff from vocational centres for mentally retarded adults. The results of the statistical operations which were performed in this study were illustrated in various tables. Empirical evidence was discussed in terms of its relation to a series of hypotheses formulated for this study. Several correlations were statistically verified which indicated the importance of examining relationships among the measures of role conflict, role ambiguity, job satisfaction with work and supervision and participation in decision making within the work organizations studied.
Introduction

The primary purpose of this study was to examine role-related stress among vocational employees working in direct service positions in Rehabilitation Centres for mentally retarded adults. The perceptions of role conflict and role ambiguity were investigated due to their popularity in the field of stress research (Van Sell et al., 1981). It was stated by Warshaw (1979) that "the individual's role at work is a significant source of stress" (p. 22). Interest in this exploration of occupational stress was generated from a review of previous research findings concerning individuals in work organizations (see Chapter Two). Many researchers demonstrated that role strain (conflict and ambiguity) was associated with a variety of personal and organizational variables (Van Sell et al., 1981). Among these variables the following factors have previously been studied: locus of control (Vredenburgh & Trinkaus, 1983); job satisfaction (Bedeian & Armenakis, 1981) and participation in decision making (Morris et al., 1979). In the present study these particular constructs were examined.
in combination with role conflict and ambiguity and incorporated into testable hypotheses (see Chapter Three). The Pearson Product Moment Correlation procedure and a comparison of means test (t-test) were the statistical techniques used in this study to assess the data which was collected from job-related questionnaires (see Appendix B). In addition, a comparison of correlation coefficients test (z-transformation) was conducted mathematically.

The Findings of the Study

A noteworthy outcome of this study was the confirmation of correlational relationships between certain variables. The empirical evidence which was acquired from this investigation demonstrated that both role conflict and role ambiguity were negatively correlated with measures of satisfaction (work and supervision) and participation in decision making. In addition, a positive correlation was computed between the measures of participation in decision making and job satisfaction (work and supervision). This study also examined these variables (role conflict, role ambiguity, job satisfaction, participation in decision making) in relation to the personality attribute of internal and external locus of control. The results accumulated from this study were not successful in determining a
significant variation in responses between externals and internals in regard to the following variables: role conflict, role ambiguity, job satisfaction, or the relationship between job satisfaction (work and supervision) and participation in decision making.

Discussion of the Findings

The results of this study of role-related stress identified key variables which are part of "the building blocks of a theory of role stress" (Miles & Perreault, 1976, p. 39). Role conflict, role ambiguity, job satisfaction with work and supervision and participation in decision making emerged as critical variables in this investigation as a result of the correlational relationships which were discovered among these measures. The nature of the correlations discovered in this study provides important information to the service workers and the work organizations included in this study. Mullen (1975) explained that if an increase in the value of one variable is associated with an increase in the value of another variable, the two are said to be positively correlated. If an increase in the value of one variable is associated with a decrease in the value of the other variable,
the variables are said to be negatively correlated. (p. 240)

The application of these principals to the current findings enables inferences to be made regarding the structure of the relationships found in this investigation. The negative correlations which were discovered signify that as perceived participation in decision making and/or job satisfaction (work and supervision) increased, role perceptions (role conflict and ambiguity) decreased. The inverse relationship was also true, whereby an increase in role conflict and ambiguity was associated with a decrease in the satisfaction and participation measures. The positive correlation which was found in this study indicated that as participation in decision making increased, job satisfaction also increased.

In summary, the front-line workers in this investigation who reported higher degrees of role strain in the form of conflict and ambiguity were less satisfied with their work and supervisor and experienced lower degrees of participation in decision making than workers who perceived lower levels of role stress. In addition, as perceived participation in decision making increased, satisfaction toward work itself and supervision also escalated among the subjects in this study.

The corresponding changes in these measures are
particularly important in consideration of previous investigations which demonstrated that role strain (conflict and ambiguity), job dissatisfaction and lack of decision making were associated with hazardous stress outcomes (see Chapter Two). A brief review of the research shows that role conflict and ambiguity were positively related to emotional strain (Jackson, 1983) and lower job performance (Johnson & Stinson, 1975). Studies which were reviewed by Van Sell et al. (1981) found associations between role conflict and ambiguity and withdrawal from the work group. In the literature it was also documented that job dissatisfaction was connected with unfavourable outcomes. This included propensity to leave the organization (Bedeian & Armenakis, 1981) and subsequent job turnover (Porter et al., 1974). In regard to participation in decision making Karasek (1979) found that in work organizations where job demands were high (i.e., work load) and decision authority was low, mental strain resulted. MacBride (1983b) claimed that

    Perhaps one of the most potentially stressful job components is the notion of responsibility without authority. People who experience their jobs as stressful are those who bear the front-line responsibilities of making the system work, while at the same time having
little or no authority to change or influence the system. (p. 2)

Brown (1986) discussed a common concern found across Canadian rehabilitation agencies. He stated that "when stress occurs, negative feelings and actions are more likely to follow" (p. 29). Pines et al. (1981) reported that stress may diminish service effectiveness in the helping profession.

It is also interesting to consider the positive influences which were discovered by previous investigators in regard to the variables of satisfaction and participation (see Chapter Two). Briefly highlighting previous findings, it was shown that job satisfaction was related to employee mental health (Wiener et al., 1981). Participation in decision making opportunities have also been associated with positive circumstances. MacEachron et al. (1985) found that increases in participation were linked with increases in both staff effectiveness and client adaptive behaviour in residential services for the mentally retarded. White and Ruh (1973) found that participation in decision making was related to increases in job involvement, motivation and identification with the organization for workers in a manufacturing firm. McGregor (1960) believed that the participative involvement of employees was a means of promoting personal growth through the heightening of
one's sense of responsibility. These various findings emphasize the need to implement strategies which will reduce role-related stress, promote organizational effectiveness (Miles & Perreault, 1976) and ensure good quality service to clients (Christie, 1981).

This background research information can be applied to the correlations which were discovered in this study of vocational service workers. The findings that role strain was negatively related to measures of satisfaction and participation and that satisfaction was positively linked to participation, can be incorporated into practical efforts to improve the work organizations of these vocational employees. This is particularly important in view of the reported associations of perceived role stress, job dissatisfaction and low decision authority, with unfavourable outcomes. Consequently, the work organizations studied should strive to reduce role stress (conflict and ambiguity) in order to diminish potentially negative conditions. A strategy to accomplish this objective could involve increasing opportunities for job satisfaction and participation, since they were linked with reduced role strain in this study and were connected with positive work outcomes in the research reported in Chapter Two. MacBride (1983b) explained that open communication with management and employee participation in decision making can be effective in
diminishing work stress. Sarata (1974) claimed that efforts to improve communication and employee input can be effective in increasing job satisfaction and staff morale, if the agency-related concerns of front-line workers are taken into account. Furthermore, it can be speculated that better communication mechanisms amongst front-line staff, and between front-line staff and management could be directed toward the clarification of role responsibilities or reduction of incompatible job demands. It has been stated that concentration on information exchange and feedback concerning job roles can result in lowering the levels of role stress (conflict and ambiguity) (Schuler, 1977). Brown (1986) discussed his belief that effective human service agencies must adopt strategies to enable front-line staff, senior management and board members to work more closely together in a co-operative fashion. He claimed that this could be accomplished by more direct communication and contact between these groups. He explained that this strategy would serve to avoid the common problem of rehabilitation planning being conducted without consideration of staff needs. Brown identified that enhanced communication and employee input can lead to personal and service provision gains whereby, employees concerns are better represented and agency program development is more consistent. MacBride (1983b) concluded that
"much can be done to reduce stress in the workplace without necessarily altering the basic nature of work. Greater employee involvement in decision making and improved management relations are obvious examples of areas for potential stress reduction" (p. 6). These types of recommended strategies could be applied to the vocational service organizations included in this study.

According to the results of this investigation of vocational service workers, it appears that internals and externals alike could benefit from the development of organizational strategies aimed at stress reduction. The comparison of the mean responses of internals and externals to role conflict, role ambiguity, job satisfaction (work and supervision), and an examination of the correlations between job satisfaction measures (work and supervision) and participation in decision making did not indicate significant differences between these two groups of subjects. Possible explanations for this outcome can be obtained from looking at Table 3 in Chapter Four which lists the responses of external and internal subjects. The scores of the respondents were predominantly within the 1-5 range inclusively and there was a slight orientation toward the selection of lower responses. This distribution of scores may have accounted for the lack of significant difference between internals and externals in their responses to the
variables studied. It may be speculated that the locus of control personality distinctions of these front-line workers were not large enough to be related to significant differences in scores. Pines et al. (1981) referred to the fact that the nature of certain jobs and their related tasks may attract people with similar personality attributes. Parker and DeCotiis (1983) discussed the theory that people may seek jobs which are congruent with their personality. They proposed that "there may be too little variance among incumbents of certain jobs for individual differences to be a significant predictor of stress reactions for that occupation" (p. 163). Another difficulty in studying personality differences was presented by Karasek (1979). He stated that the work environment itself can lead to the development of common personality characteristics among workers. It was also explained that studies within occupations (intraoccupational) have a lower probability of individual differences than studies which are conducted across occupations (Parker & DeCotiis, 1983). In a particular intraoccupational study, researchers Kimmons and Greenhaus (1976) were unable to verify their prediction that there would be a greater correlation between job characteristics (autonomy and feedback) and job satisfaction for internally scoring managers. They offered the explanation that the external subgroup in their study was
not "external enough to exhibit a different reaction to job content than internals" (p. 819). This same argument can be applied to explain the lack of significant differences between the externals and internals from the vocational service organizations in this study.

In a discussion of studies concerning personal factors and role perceptions, Van Sell et al. (1981) declared that the lack of replication in results "make it difficult to provide a reliable interpretation and prediction of the influence of personal factors" (p. 53). Therefore, it was not unusual to find that internal and external locus of control did not account for significant response differences for the vocational workers in this study.

**Limitations**

This interpretation of the research results in this study is significant, however, some limitations do exist in regard to the study's correlational design. In a description of correlation research, Parsons (1974) stated that "the statistical evidence merely indicates the existence of a correlation, not the reason for it" (p. 704). In addition, this type of research does not allow for inferences to be made regarding whether or not one variable causes changes in the other variable (Sarata, 1974). White and Ruh (1973)
reported that participative management theorists believe that job attitudes influence participation in decision making. This type of information cannot be derived from the present correlation study.

Implications for Future Research

Future research recommendations can be proposed in consideration of the design of this study and the interpretation of the findings. Information was obtained in this investigation which identified the nature of role stress in terms of its relationship to job attitudes and participation in decision making. However, an understanding of how and when role stress affects workers was not obtained from this particular examination. Van Sell et al. (1981) asserted that it is crucial to gain this type of knowledge in addition to the ways in which other factors are related to role stress and ambiguity. House and Rizzo (1972) proposed that studies be conducted which indicate "the direction of the causal arrow" to enrich correlational research information (p. 502). Schuler (1977) believed that exploring the issue of causality of role perceptions would serve to "better reduce the detrimental effects of role conflict and ambiguity" (p. 614). Future research would be required in order to evaluate this aspect of work
stress for the front-line service workers included in this study. Aside from determining what causes role stress, it would be beneficial to discover how role strain affects the quality of the service provided to clients in addition to its effect on individual workers, their job performance and the organization as a whole. This type of knowledge could assist in refining planning initiatives for the prevention and management of unfavourable role-related stress such as job dissatisfaction.

Additional research would also be beneficial in the area of individual differences and their relation to role stress (Beehr & Newman, 1978). In this study, locus of control was selected as the personal attribute for investigation. It was selected due to previous research which found that locus of control (internal and external) was associated with role strain (Vredenburgh & Trinkaus, 1983), job satisfaction (Majumder et al., 1977) and participation in decision making (Knoop, 1981). Although the hypotheses concerning front-line workers' locus of control beliefs were not verified in this study (see Chapter Four), this should not detract from the importance of internal and external locus of control in the continued exploration of occupational stress. It was proposed by Beehr and Newman (1978) that a variety of individual differences in sensitivity to work stress, including locus of control, should
be examined in future research due to the inconsistency in findings regarding personal characteristics. Among the other individual differences which may be investigated, they recommended that researchers examine the need for clarity, coping abilities and Type A personality. Johnson and Stinson (1975) professed a need for future research to focus on the effects of individual differences (moderating effects) on employees' responses to role conflict and ambiguity. These research recommendations can be taken into account in continued studies of occupational stress among front-line vocational service workers for the mentally retarded.

The research suggestions of other investigators are also important and can be incorporated into future studies of vocational service employees. Parker and DeCotiis (1983) emphasized the need for continued research that deals with stress in work organizations. Vredenburgh and Trinkaus (1983) suggested that future research continue to concentrate on the association between variables, "preferably using objective measures of organizational conditions" (p. 94). Beehr and Newman (1978) agreed that objective measurement techniques (i.e., examining physiological stress effects) should be conducted in order to strengthen the findings obtained from self-report techniques. Jackson (1983) believed that research information could be enhanced
by the actual manipulation of conditions within occupational environments. She discovered that when participation opportunities were increased, it took six months before role conflict and ambiguity began to significantly diminish. This raises the issue of the need for longitudinal analysis (Wiener et al., 1981). Longitudinal studies were viewed by Schuler (1980a) as a means of contributing additional knowledge to static research which is conducted at a specific point in time. He advocated for the use of both static and longitudinal designs and stated that "using both analysis will capture the structural and process characteristics" of the stress concept in organizations (p. 211). Finally, it was noted that studies which are intraoccupational should be cautious about generalization of results (Jackson, 1983) and consequently findings should be tested across a variety of occupational groups (Beehr & Newman, 1978). Although the present study was conducted within one particular occupational group and at a particular point in time, it does offer interesting results to frontline vocational workers for the mentally retarded which could be re-examined within different mental retardation facilities, among other groups of mental retardation workers or across different occupations.

It may also be beneficial to examine other aspects of the job stress phenomenon in vocational services for the
mentally retarded. It was indicated by Beehr and Newman (1978) that occupational analysis might include the combination of a variety of worker perceptions such as organizational variables (i.e., evaluation and reward systems), psychological processes (i.e., perception of a stressful situation) and role demands (i.e., role overload). Beehr and Newman proceeded to encourage researchers to examine these types of variables in relation to organizational development procedures in order to improve the quality of work life. It was recommended that strategies to improve work environments should assist in recognizing the needs and attitudes of staff in mental retardation facilities (Sarata, 1974), enhance the quality of working life (Finn, 1982) and help to prevent or diminish occupational stress hazards within the workplace (Levi, 1981). Finn (1982) claimed that unfortunately most occupational stress reduction programs "are designed to make workers adaptable or tolerant to stress, rather than seeking to remove or reduce the stressful features of their jobs" (p. 2). Warshaw (1979) insisted that people in the workplace should strive to enhance organizational effectiveness. He claimed that this should involve an examination of issues related to the organization's span of control and role relationships in the workplace. This verifies the importance of the present study of role-related stress. Warshaw (1979)
believed that research and work improvement strategies should be directed toward the development of "a healthier, more flexible organization, better equipped to deal with its rapidly changing external environment and maintain an internal environment that will be less stressful and that will be more satisfying to all its personnel" (p. 181). In addition it was proposed that the task of reducing and managing occupational stress (MacBride, 1983b) and improving the quality of work life (Johnston, Alexander & Robin, 1978) should be the collaborative responsibility of both the individual workers and their work organizations. This demonstrates that the results obtained from this study of role-related front-line stress are beneficial to both employees and management personnel.

MacBride (1983b) referred to strategies aimed at reducing job stress as occupational stress management techniques. She believed that these approaches should be designed in accordance with the individual work environments and their unique stress sources. In this study the work organizations were investigated as a collective group. Future research could be directed toward examining job stress in individual ARC Industries. This type of research approach would enable the analysis of job stress to be conducted in an indepth manner, in order to investigate the levels and nature of dysfunctional stress for a particular
work setting (MacBride, 1983b). Ondrack and Evans (1981) characterized work situation analysis as unique to specific work organizations and imperative for increasing organizational growth. The findings of the present study of nine vocational service facilities for the mentally retarded provide a starting point for further research and additional studies in organizational evaluation.

Summary and Conclusions

This chapter presented the results of the research findings from this study and discussed their relevance to front-line vocational service workers for mentally retarded adults. The discovery of correlations among measures of role perceptions (conflict and ambiguity), job satisfaction (work and supervision) and participation in decision making reinforced the significance of considering employees' subjective views in the study of occupational stress. The interpretation of the results from this study in combination with previous research findings (see Chapter Two) led to the following practical suggestion. It was recommended that the vocational service organizations under investigation plan strategies (for internals and externals alike) to promote opportunities for satisfaction (work and supervision) and participation in decision making in the
workplace. This suggestion was proposed because of the association of increased satisfaction and participation with reduced role conflict and role ambiguity. The actual approaches for achieving the objective of reduced role strain and acquiring a healthy level of worker satisfaction and participation requires future exploration within the work organizations included in this study. It was emphasized that future research could profit from the exploration of causal relationships between the variables of role conflict, role ambiguity, job satisfaction (work and supervision) and participation in decision making. Furthermore, it was highlighted that longitudinal, objective and outer-occupational research designs, as well as studies in individual work settings could be beneficial in enriching the study of vocational service organizations. Additional research was also recommended in the area of individual differences. These proposed initiatives, in addition to the findings of the present study, were considered contributions to the global area of quality of working life enrichment. The results of this study of front-line employees demonstrated the importance of examining job-related perceptions in the human service occupation.
References


Caplan, R. & Jones, K. (1975). Effects of work load,
role ambiguity and type A personality on anxiety, depression and heart rate. *Journal of Applied Psychology, 60* (6), 713-719.


attitudes and behavior: Analysis beyond a single level of aggregation. In R. J. Burke (Ed.), Current issues in occupational stress: Research and intervention (pp. 53-78). Downsview: York University Faculty of Administrative Studies.


House, R. J. & Rizzo, R. R. (1972). Role conflict and ambiguity as critical variables in a model of
organizational behavior. *Organizational Behavior and Human Performance*, 7, 467-505.


Knoop, R. (1981). Locus of control as moderator between job characteristics and job attitudes. Psychological


Appendix A

Target Sample

Eligible participants in this study were from Adult Rehabilitation Centres (ARC Industries) working in front-line positions with mentally retarded adults. These workers were employed in their present jobs for a minimum of six months.

<table>
<thead>
<tr>
<th>Adult Rehabilitation Centre</th>
<th># of Eligible Front-line Staff</th>
<th>Management Contact Person</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) ARC Industries</td>
<td>11</td>
<td>Mr. Henry Sikkens</td>
</tr>
<tr>
<td>220 Bunting Road</td>
<td></td>
<td></td>
</tr>
<tr>
<td>St. Catharines, Ontario</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L2M 3Y1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2) Greater Niagara ARC</td>
<td>5</td>
<td>Ms. Bernice Mowat</td>
</tr>
<tr>
<td>Industries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Print Shop and</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P.F. Enterprises</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4593 Victoria Avenue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Niagara Falls, Ontario</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L2E 4B5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3) ARC Industries</td>
<td>7</td>
<td>Ms. Darlene Wilkens</td>
</tr>
<tr>
<td>30 East Main</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Welland, Ontario</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L3B 3W3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4) ARC Industries</td>
<td>5</td>
<td>Mr. Gary Laws</td>
</tr>
<tr>
<td>615 Industrial Drive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fort Erie, Ontario</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L2A 5M9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5) ARC Industries Port Colborne</td>
<td>7</td>
<td>Ms. Wilma Kuczma</td>
</tr>
<tr>
<td>23 Amelia Street</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Port Colborne, Ontario</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L3K 2K8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6) ARC Industries</td>
<td>9</td>
<td>Mr. Ron Johnson</td>
</tr>
<tr>
<td>P.O. Box 220</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beamsville, Ontario</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOR 1BO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adult Rehabilitation Centre</td>
<td># of Eligible Front-line Staff</td>
<td>Management Contact Person</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>7) ARC Industries</td>
<td>14</td>
<td>Mr. Larry Pick</td>
</tr>
<tr>
<td>61/83 Wilkes Street</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brantford, Ontario</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N3T 4B9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8) ARC Industries</td>
<td>9</td>
<td>Mr. Harry Mardling and</td>
</tr>
<tr>
<td>8 Royal Road</td>
<td></td>
<td>Ms. Mary Strimas</td>
</tr>
<tr>
<td>Guelph, Ontario</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M1H 1G3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9) ARC Industries</td>
<td>23</td>
<td>Ms. Julia Kinar and</td>
</tr>
<tr>
<td>191 York Blvd.</td>
<td></td>
<td>Mr. Theo Robert</td>
</tr>
<tr>
<td>Hamilton, Ontario</td>
<td>13 at ARC</td>
<td></td>
</tr>
<tr>
<td>L8R 1Y6</td>
<td>10 work at employment training centre</td>
<td></td>
</tr>
</tbody>
</table>
Appendix B

Job-Related Questionnaire Booklet

This survey investigates your perceptions toward a variety of aspects of you and your job. Your responses will be held in strict confidence. Do not put your name anywhere on this questionnaire. Please answer each question or statement frankly and honestly.

ROLE CONFLICT, AMBIGUITY

This concept has to do with the clarity of expectations of the role you fulfill at work. Please indicate to which degree each of the conditions described exists for you.

<table>
<thead>
<tr>
<th>7</th>
<th>6</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very true</td>
<td>True</td>
<td>Sometimes true</td>
<td>True &amp; False</td>
<td>Sometimes false</td>
<td>False</td>
<td>Very false</td>
</tr>
</tbody>
</table>

1. ___ I have clear, planned goals and objectives for my job.
2. ___ I know that I have divided my time properly.
3. ___ I know what my responsibilities are.
4. ___ I know exactly what is expected of me.
5. ___ I feel certain about how much authority I have on the job.
6. ___ I have clear explanations of what has to be done.
7. ___ I have to do things that should be done differently.
8. ___ I receive an assignment without the manpower to complete it.
9. ___ I have to buck a rule or policy in order to carry out an assignment.
10. ___ I work with two or more groups who operate quite differently.
11. ___ I receive incompatible requests from two or more people.
12. ___ I do things that are apt to be accepted by one person but not by others.
13. ___ I receive an assignment without adequate resources to execute it.

14. ___ I work on unnecessary things.

LOCUS OF CONTROL

Of given pairs of statements, please check off the one that comes closer to your opinion.

15. ___ (a) Without the right breaks one cannot be an effective leader.
    ___ (b) Capable people who fail to become leaders have not taken advantage of their opportunities.

16. ___ (a) No matter how hard you try some people just don't like you.
    ___ (b) People who can't get others to like them don't understand how to get along with others.

17. ___ (a) I have often found that what is going to happen will happen.
    ___ (b) Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.

18. ___ (a) In the case of a well-prepared student there is rarely if ever such a thing as an unfair test.
    ___ (b) Many times examination questions tend to be so unrelated to course work that studying is really useless.

19. ___ (a) Becoming a success is a matter of hard work, luck has little or nothing to do with it.
    ___ (b) Getting a good job depends mainly on being in the right place at the right time.

20. ___ (a) When I make plans, I am almost certain that I can make them work.
    ___ (b) It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.

21. ___ (a) In my case getting what I want has little or nothing to do with luck.
    ___ (b) Many times we might just as well decide what to do by flipping a coin.
22. (a) Who gets to be the boss often depends on who is lucky enough to be in the right place first. (b) Getting people to do the right thing depends upon ability, luck has nothing to do with it.

23. (a) Most people don't realize the extent to which their lives are controlled by accidental happenings. (b) There really is no such thing as "luck".

24. (a) It is hard to know whether or not a person really likes you. (b) How many friends you have depends on how nice a person you are.

25. (a) Many times I feel that I have little influence over the things that happen to me. (b) It is impossible for me to believe that chance or luck plays an important role in my life.

26. (a) What happens to me is my own doing. (b) Sometimes I feel that I don't have enough control over the direction my life is taking.

JOB SATISFACTION

This measure differentiates between satisfaction with the work itself and with the supervisor.

<table>
<thead>
<tr>
<th>WORK:</th>
<th>Unexciting</th>
<th>Unpleasant</th>
<th>Unchallenging</th>
<th>Unsatisfying</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Exciting</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>Unpleasant</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>Challenging</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>Satisfying</td>
<td>/</td>
<td>/</td>
<td>/</td>
<td>/</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SUPERVISOR:</th>
<th>Close</th>
<th>Distant</th>
</tr>
</thead>
<tbody>
<tr>
<td>31.</td>
<td>Near</td>
<td>/</td>
</tr>
<tr>
<td>Sincere</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>Unfriendly</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>Qualified</td>
<td>/</td>
<td>/</td>
</tr>
</tbody>
</table>
PARTICIPATION IN DECISION MAKING: OVERALL

The following section deals with four general aspects of decision making.

<table>
<thead>
<tr>
<th>Very Much</th>
<th>Much</th>
<th>Some</th>
<th>Little</th>
<th>Very Little</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

35. In general, how much say or influence do you have on how you perform your job?

36. In general, how much say or influence do you have on what goes on in your unit? (department, school, etc.)

37. In general, how much say or influence do you have on decisions which affect your job?

38. To what extent are you able to decide how to do your job?