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ALBERTA OIL SANDS ENVIRONMENTAL RESEARCH PROGRAM

LONGITUDINAL STUDY OF PERSONAL ADJUSTMENT AND SOCIAL CONDITIONS IN THE FORT MCMURRAY AREA HS 30.1

AUGUST, 1978

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1. TIME-USE DIARIES

1.1 INTRODUCTION

The time-use diary is a data collection instrument intended to furnish a detailed account of daily individual activities by type, sequence, duration and location. Its purpose is to provide a comprehensive picture of how people spend their time. Experience has shown that the time-use diary is a valid instrument for data collection and analysis. Related research in Europe (Szalai, 1965), Britain (BBC,1965) and the U.S. (Robinson and Converse, 1966; Chapin and Hightower, 1966) has shed considerable light on how people spend their leisure and work time on a daily basis. Moreover, it has been used to supplement and enrich information obtained through interviews and surveys.

The information to be obtained from the diaries will not be representative, but indicative - the purpose being to identify patterns and change, not to show how prevalent these patterns are among the general population.

The major variables of concern to us in studying time-use will be discovering activity differences,

1) between weekdays and weekend days,
2) between major periods of the day,
3) between the four seasons of the year,
4) longitudinally, over a two-year period,
5) among different kinds of people.

We expect to correlate activities with indicators of job and community satisfaction as well as personal adjustment. We expect to document through time-use diaries whether the workers of a resource community are indeed caught in the treadmill of hard work, with little energy for recreation (Van Dyke, 1977), or whether there are indeed evidences of time spent socializing and "goofing off". We will find out how the young housewife spends her day, and where she does her shopping. We will ascertain how much weekend activity is spent in the resource community and how much in the city. If our respondents can keep track of their different activities on the job, we will learn much about their work tasks, and the diversity or monotony of the work day.

Having described our major purpose of finding the indicators which identify activity patterns, we proceed to outline our methodological approaches.

2. IMPLEMENTATION

2.1 SAMPLE

The Time-Use Diary will be self-administered by all respondents in the survey. Respondents will be asked to complete the Diary on a specified day of a given week. We will stratify a sample of all weekdays and weekend days among respondents.

This is a departure from our position earlier in the Working Papers, when we suggested drawing a sample of 200 from the households surveyed. We now see the collection of information about time-use to be an important indicator of social behaviour patterns, and the Diary a means of finding out activity differences among the entire sample of our study.

Respondents who are sampled at Phase 2, Autumn 1978, will again be asked to fill out the Time-Use Diary at subsequent phases over the year, to obtain time-use information at each of the four seasons of the year.

Other researchers have found a high refusal and attrition rate when time-use diaries are requested for many days. In an attempt to increase the response rate and promptness in completing the diary on the requested date, each respondent will be paid an honoraria of $5.00 upon completion of each Time-Use Diary.

Completed diaries will be picked-up within the following week, at which time related questions or problems can be discussed and the $5.00 fee will be paid. In the event that the respondent is unable to complete the diary on the specified day/date (for example: no time, forgot, something unexpected happened), he/she will be asked to fill in the diary on the same day of the following week. If a second attempt is also unsuccessful, the interviewer will not pursue the matter further.

At later survey times, there will be no substitutions for respondents who drop out at the second, third and fourth administrations. It is clear then, that attrition will occur.

Other researchers have shown that the diary method is inappropriate for studying the activities of the native population (Burton, 1971); consequently we anticipate a very high refusal rate among native respondents. We expect to compensate for this by other measures: see our Background Paper: Indians and Metis.

2.2 STUDY DESIGN

The Diary will contain twenty-four one-hour time blocks, commencing at midnight of the specified day. This format is a compromise between a non-structured diary and those containing half or quarter-hour blocks. We argue that one-hour time blocks will help respondents to note activities which are usually carried out at the same time each day. However, respondents will be asked to record all activities which last between 5 and 10 minutes. Activities of such duration should be easy to recall when the respondent is filling out the Diary. Further detail has been shown to reduce the response rate (Burton, 1971).

Information entered in the diary will include the type of activity, the time it began and ended, where it took place, and with whom the activity occurred. (Figure 1) Each respondent will be provided with a comprehensive list of possible activities in an attempt to indicate that not only "major" events should be recorded. Respondents will be encouraged to describe activities in their own words, and to make their notations periodically throughout the selected day. It will be the interviewer's responsibility when collecting the completed diaries to obtain whatever further information is needed if the diary is incomplete.

3. SCHEDULE

Experience suggests that daily variations affect activity patterns. In particular, a comparison between work days (or week days) and non-work days (or weekends) indicates major differences among daily activities and time allocation. Climatic variations have also been shown to affect activity patterns. Recreational activities are different during the summer than in the winter, and in most cases, more leisure time is spent indoors during winter months.

To account for these daily and seasonal differences, four diaries will be self-administered by each respondent: one for each season (Spring, Summer, Fall, Winter); and on different days (two for work days and two for non-work days).

This method will ensure that each day of the week is more or less equally represented for each season. More importantly, it will facilitate an assessment of changes in activity patterns over the course of about one year.

Because respondents will also be providing Base Demographic data, and Extended information about lifestyles, preferences and feelings, it is not now considered necessary to attach a questionnaire at the last three administrations to ask for lifestyle changes which might have occured since the previous Diary was completed.

FIGURE 1. Sample of Completed Diary

TIME PERIOD	ACTIVITY	TIME BEGUN	TIME ENDED	WITH WHOM
8:00 a.m.	Breakfast	8:00	8:25	Family
	Clean-up	8:25	8:45	Spouse
	Read Paper and Coffee	8:45		Alone
9:00 a.m.			9:10	
	Wash-up	9:10	9:20	Alone
	Drive to work	9:20	9:25	Alone
	Work: Checking Cash register	9:25	9:30	Co-workers
	Selling Hardware Items	9:30	9:40	Co-workers
10:00 a.m.	Unpacking boxes of goods	9:40	10:45	Alone
	Coffee Break	10:45	11:00	Co-workers
	Selling hardware Items	11:00	12:00	Alone

Figure 2. SAMPLE OF RESPONDENTS' ACTIVITIES GUIDE

TIME-USE: KINDS OF ACTIVITIES YOU MAY DO DURING THE DAY

(but please use your own words to describe what you are doing)

TRAVEL:	All the trips you make, both at home and at work.
WORK:	Actual work; work breaks; delays or sitting around at work; work meetings or instruction periods; meals at work; overtime; work brought home.
HOUSEWORK:	Preparing meals and snacks; doing dishes; arranging and straightening things; laundry and mending; cleaning house (inside and outside); care of yard and animals; repairs.
CHILD CARE:	Baby care; dressing; helping with homework, reading to, playing with; supervising; medical care.
SHOPPING:	Groceries, clothes, appliances, or home furnishings, repair shops, other services (for example: barber, hairdresser, doctor, post office).
PERSONAL LIFE:	Eating meals and snacks; dressing; care of health or appearance; helping neighbors or friends; sleep or naps.
EDUCATION:	Attending classes or lectures; training and correspondence courses; homework; reading for the job.
ORGANIZATIONS:	Club meetings or activity; volunteer work; going to church services; other church work.
GOING OUT:	Visiting(or dinner with) friends, neighbours or relatives; parties, dances, nightclubs or bars; sports events and fairs; concerts, movies, plays, or museums.
ACTIVE LEISURE:	Sports or exercise; playing cards or other games ; pleasure trips and walking; hobbies, knitting, painting, or playing music.
PASSIVE LEISURE:	Conversations; radio, TV, records; reading books, magazines or newspapers; writing letters; planning, thinking or relaxing; telephone calls and conversations.

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ALBERTA OIL SANDS ENVIRONMENTAL RESEARCH PROGRAM

LONGITUDINAL STUDY OF PERSONAL ADJUSTMENT AND SOCIAL CONDITIONS IN THE FORT MCMURRAY AREA HS 30.1

PHASE 1: FINAL REPORT

BACKGROUND PAPER:

TIME-USE DIARIES

APPENDIX 1:

SELECTED SEGMENTS OF CODING MANUAL

THOMAS L. BURTON

AUGUST, 1978

CODING MANUAL

for

THE ALBERTA OIL SANDS REGION
STUDY OF TIME USE

Thomas L. Burton

INTRODUCTION TO THE CODING MANUAL

We have abstracted from Prof. Burton's Coding Manual for the Time-Use Diary only those segments which pertain to the variety of respondent activities.

However, it may be pertinent to include at least the preliminary categories to the Coding Manual, and any instructions to the coder which reveal the specificity of the Time-Use computerization.

IDENTIFICATION DATA: RESPONDENT

IDENTIFICATION DATA: DAY OF THE WEEK

IDENTIFICATION DATA: HOUR OF THE DAY

In this section, Prof. Burton explains that each hour of the day will be represented by a single computer card, and thus there will be 24 cards per diary. He has instructed the coder to categorize Midnight to 00:59 a.m. as 01 in columns 5 and 6; up to 11:00 to 11:59 p.m. as 24 in those columns.

"Example: The hour 09:00 to 09:59 a.m. will be coded as:

1 in column 5
0 in column 6"

OVERLAP CODE

Lengthy activities have been accounted for, as: "With the exception of the first hour of the diary, a recorded activity (or set of activities) can overlap from one hour (card) to the next... Space is available in each section for recording one primary activity, up to one concurrent activity, the location of the activity, its duration, and the company with whom it is carried out."

LIST OF ACTIVITY CODES

We have provided Prof. Burton's complete Activity Codes, without either the numerical coding or the column numbers.

NO INFORMATION

No Information

- No Information Generally
- No Information, but Activity at Home
- No Information, but Activity away from Home

HOME AND PERSONAL

Homemaking

- Housework (Unspecified)
- Washing/Laundering/Ironing
- Mending/Sewing
- Preparing and Serving Food
- Washing and/or Drying Dishes
- Vacuuming/Dusting/Polishing
- Laying/Lighting/Cleaning Fire
- Bedmaking

Home Maintenance and Repairs

- Maintenance, Repairs (Unspecified)
- Wallpapering/Decorating
- Painting
- Building Work
- Carpentry Work
- Plumbing Work
- Electrical Work
- Gardening
- Odd Jobs

Child Care

- Child Care (Unspecified)
- Feeding
- Bathing/Washing
- Dressing/Changing

Child Care continued...

- Putting to Bed
- Reading to Child
- Playing with Child

Eating at Home

- Eating (Unspecified)
- Morning Tea/Coffee/Drink
- Breakfast
- Mid-morning Tea/Coffee/Drink/Elevnses
- Lunch/Midday Dinner
- Afternoon Tea
- Evening Dinner/Supper
- Snack
- Other (e.g. Drinks)

Personal Hygiene at Home

- Personal Hygiene (Unspecified)
- Washing
- Taking a Bath/Shower
- Shaving
- Putting on Make-up
- Washing Hair
- Getting Dressed
- Preparing for Bed
- Preparing to Go Out

Leisure and Social at Home

- Leisure/Social (Unspecified)
- Entertaining Visitors
- Reading
- Listening to Radio/Records/Tapes
- Watching TV
- Watching Slides/Home Movies
- Talking on the Telephone Socially

Leisure and Social at Home continued ...

- Crafts/Hobbies (e.g. Weaving, Photography, etcetera)
- Games (e.g. Cards, Chess, etcetera)
- Resting/Relaxing/Dozing

Home and Personal (Miscellaneous)

- At Home (Unspecified)
- Care of Pets/Animals
- Home Accounts
- Letter Writing
- School and College Homework
- Other Activities at Home

Sleep

- Asleep/In Bed

WORK, EMPLOYMENT, OCCUPATION

Work at Place of Employment

- Regular Work
- Overtime Work
- Special Assignment Work
- Meal/Rest Break

Travel To and From Work

- Travel (Unspecified)
- Travel on Foot
- Travel by Bicycle
- Travel by Motorcycle
- Travel by Automobile
- Travel by Bus
- Travel by Boat/Barge
- Travel by Aircraft
- Travel by Other Means

Work at Home

- Regular Work Done Regularly at Home
- Special Work Done at Home
- Business Correspondence
- Other

EDUCATION

At School

- School (Unspecified)
- Lessons/Classes
- Plays/Concerts/Rehearsals
- Recreation/Break
- School Sport
- Examinations
- Independent Study Period
- Special Event
- Field Trip
- Other

At College and University

- College/University (Unspecified)
- Classes/Lectures
- Independent Study
- Special Event
- Field Trip
- Examinations
- Other

Evening Classes and Work Release Classes

- Evening Classes
- Work Release Classes
- Other

Education-Related Travel

- Travel (Unspecified)
- Travel on Foot
- Travel by Bicycle
- Travel by Motorcycle
- Travel by Automobile
- Travel by Bus
- Travel by Boat/Barge
- Travel by Aircraft
- Travel by Other Means

SOCIAL, CULTURAL AND ENTERTAINMENT

Clubs

- Club (Unspecified)
- Sport Club
- Youth Club
- Community Centre/Club
- Church Club
- Work-Based Social Club
- Other Social Club
- Special Interest Club (e.g. Ethnic Club)
- Other Type of Club

Cultural Facilities and Events

- Cultural Facility/Event (Unspecified)
- Museum/Exhibition
- Art Gallery/Exhibition
- Auditorium/Concert Hall/Concert
- Library/Exhibition
- Theatre/Play
- Other Cultural Facility/Event

Watching Sports Events

- Watching Sports Eveht (Unspecified)
- Watching Baseball/Softball
- Watching Basketball
- Watching Football
- Watching Hockey
- Watching Swimming
- Watching Track and Field
- Watching Other Sports Events

Entertainment

- Entertainment (Unspecified)
- Discotheque
- Cabaret/Nightclub
- Movies
- Bingo
- Pub Lounge/Entertainment
- Parties
- Other

Eating Out

- Eating Out (Unspecified)
- Breakfast
- Lunch/Midday Dinner
- Evening Dinner/Supper
- Snacks
- Going Out for Drinks
- Other

Social, Cultural, Entertainment Travel

- Travel (Unspecified)
- Travel on Foot
- Travel by Bicycle
- Travel by Motorcycle
- Travel by Automobile

Social, Cultural, Entertainment Travel continued ...

- Travel by Bus
- Travel by Boat/Barge
- Travel by Aircraft
- Travel by Other Means

Miscellaneous

- Going Out (Unspecified)
- Visiting Friends/Relatives

RECREATION

Playing Organized Team Sports

- Playing Team Sport (Unspecified)
- Playing Baseball/Softball
- Playing Basketball
- Playing Football
- Playing Hockey
- Playing Volleyball
- Playing Other Team Sports

Participating In Outdoor Non-Team Sports

- Tennis (Indoor or Outdoor)
- Golf
- Archery
- Motor Racing/Motorcycle Racing
- Outdoor Bowls
- Flying/Gliding/Sky Diving/Hang Gliding
- Bicycling
- Alpine/Downhill Skiing
- Cross Country Skiing

Participating In Indoor Non-Team Sports

- Squash/Badminton/Racquetball/Handball
- Bowling
- Boxing/Wrestling
- Judo/Karate/Martial Arts
- Gymnastics
- Keep Fit/Exercises/Jogging
- Skating (Indoor or Outdoor)
- Fencing
- Table Tennis/Ping Pong

Participating In Water-Based Sports/Activities

- Motor Boating
- Water Skiing
- Swimming (Indoor or Outdoor)
- Scuba Diving/Skindiving
- Canoeing/Kayaking/Rowing
- Sailing

Participating In Outdoor Non-Urban Activities

- Tent Camping
- Trailer/Motor Home/Pick-Up Camping
- Hiking/Backpacking/Walking
- Hunting
- Fishing
- Nature Study/Birdwatching/Outdoor Photography
- Driving for Pleasure/Sightseeing
- Picnicking
- Visiting Historic Parks/Sites
- Trail Riding/Horse Riding
- Trail Biking
- Snow Shoeing
- Snomobiling
- Mountain Climbing
- Dog Sledding

Recreation-Related Travel

- Travel (Unspecified)
- Travel on Foot
- Travel by Bicycle
- Travel by Motorcycle
- Travel by Automobile
- Travel by Bus
- Travel by Boat/Barge
- Travel by Aircraft
- Travel by Other Means

SERVICE ACTIVITIES

Commercial and Business Services

- Shopping
- Visit to Laundromat/Dry Cleaners
- Visit to Post Office/Post Box
- Visit to Service Station
- Visit to Hairdresser/Barber
- Visit to Doctor/Dentist
- Visit to Lawyer/Accountant/Etc.
- Visit to Church/Religious Service
- Visit to Municipal Offices
- Other Commercial/Business Service Activities

Service Related Travel

- Service Travel (Unspecified)
- Travel on Foot
- Travel by Bicycle
- Travel by Motorcycle
- Travel by Automobile
- Travel by Bus
- Travel by Boat/Barge
- Travel by Aircraft
- Travel by Other Means

MISCELLANEOUS

Miscellaneous Activities

- Filling in the Diary
- Miscellaneous

LIST OF LOCATION CODES

All locations are organized into two-digit codes. The first digit indicates the areal location of the activity; the second indicates the type of establishment/site, by ownership, of the activity. The areal code is to be entered in the first of the location columns (i.e. 15, 26,37, 48, 59 and 70). The type of establishment/site code is to be entered in the second of the location columns (i.e. 16, 27, 38, 49, 60 and 71).

Areal Code

Area Not Specified	0
Lower Townsite	1
Waterways	2
Beacon Hill	3
Gregoire Mobile Home Park	4
Thickwood Heights	5
Abasand Heights	6
Syncrude/GCOS Plants	7
Elsewhere in the Region	8
Outside of the Region	9

Establishment Code

Respondent's Home/Residence	0
Other Person's Home/Residence	1
Public Building/Park Site (Municipal)	2
Public Building/Park/Site (Provincial)	3
Public Building/Park/Site (Federal)	4
Commercially Owned Building/ Park/Site	5
Privately (i.e. Club) Owned Building/Park/Site	6
School/College Site	7
Church/Religious Organization Site	8
Other Ownership	9

LIST OF COMPANY CODES

The Company Codes consist of a single digit number, as follows:

Information Not Given	0
Alone	1
With Spouse	2
With Spouse and Child(ren)	3
With Child(ren)	4
With Parents and/or Brothers and/or Sisters	5
With Other Relatives	6
With Friends	7
With Workmates/Collegues	8
With a Crowd/Others	9

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LONGITUDINAL STUDY OF PERSONAL ADJUSTMENT AND SOCIAL CONDITIONS IN THE FORT MCMURRAY AREA HS 30.1

PHASE 1: FINAL REPORT

BACKGROUND PAPER:

QUALITY OF WORKING LIFE: JOB SATISFACTION

AUGUST, 1978

QUALITY OF WORKING LIFE: JOB SATISFACTION

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1. INTRODUCTION

The needs-press model is designed to allow the expansion of any particular press dimension. This can be achieved by adding on one or more instruments designed to investigate that dimension in more detail. The findings generated through these instruments can be integrated into the central needs-press results to maintain conceptual, methodological and instrumental coherence.

We propose to provide for such an expansion with respect to job satisfaction.

To set the scene, the words of Louis E. Davis (1971):

> People see technology as being capable of providing for material needs without any real effort on anybody's part. Whether this is an accurate or inaccurate perception is, perhaps, irrelevant... People will not let themselves be used. They want other things out of the work situation than the material reward. They want to see some relationship between their own work and the social life that goes on around them and to see some desirable future for themselves in a continuing relationship with the organization...
> In short, many people in the United States are newly concerned about the quality of working life, about alienation from work, about job satisfaction, about personal freedom and initiative, and about the dignity of the individual in the work place. These questions are now arising because the relationship between work and the satisfaction of material needs is becoming more tenuous. (p. 437)

2. MAJOR ISSUES AND HYPOTHESES

2.1 JOB SATISFACTION AS A MAJOR RESEARCH COMPONENT

Our reasons for proposing job satisfaction as a major topic for detailed examination arise out of the consistent findings of the literature. Innumerable studies of various kinds, using different approaches, have found that job satisfaction is one of the prime concerns of persons of working age, male and female.

For example, Flanagan (1978) carried out a study involving the empirical definition of quality of life. About 3,000 persons were sampled across the United States through 35 sampling centres with respect to critical incitents in their lives. In addition, a sample of 1,200 persons was included from another study carried out in 1960.

The results are conclusive. Job satisfaction: "work in a job or at home that is interesting, rewarding, worthwhile" was ranked as very important by more than 90% of the men and 85% of the women ages 30 and 50 years old. None of the other 15 qualify of life components had this degree of weighting--except by women for having and raising children (92%).

The literature is also clear that job satisfaction is closely related to other dimensions of quality of life (Kornhauser, 1965; Meissner, 1971; Portigal, 1973);e.g. community satisfaction, mental health, family and marital satisfaction. Even if Dubin (1956) argued that job satisfaction is not a central concern in a worker's life, the experience of the past twenty years have so changed the attitudes, aspirations and expectations of many members of the industrial labour force that today the quality of working life has become very important (Davis, 1971, pp 437-7). Based on preliminary reports by the Economic Council of Canada (Portigal, 1973) for the time being we have no convincing evidence that Canadian workers differ from

Americans as regards the dimensions of quality of life.

2.2 CONCEPTUAL APPROACHES TO JOB SATISFACTION

Traditionally many of the conceptual approaches to job satisfaction have been predicated on the assumption of a direct relationship between man-machine. In other words, job satisfaction is conceived as an intrinsic result of the relationship between the individual and the machine technology he or she deals with (Davis, 1972). More recent research has taken a socio-ecological view of job satisfaction. In this approach, an effort is made to see the individual worker as a rounded person and place him or her within the broader social context of work and life: in other words, a needs-press approach (White, 1972). By 1977, Salanich and Pfeffer (1977) note that, "It is fair to state that a need-satisfaction model has been the theoretical framework almost universally applied to understand job satisfaction..."

A number of instruments have been developed which attempt to measure both the individual and his cognition of the contextual or work-press dimensions as meeting or not meeting his or her needs (Portigal, 1973).

There seems to be agreement as to what broad contextual or press dimensions should be considered. These include autonomy, group cohesiveness, type of job, task attributes, forms of supervision, pay and promotion (Turner and Laurence, 1965; Zurcher, Meadow and Zurcher, 1965; Hackler and Lawler, 1971; Kirsh, 1972; Shepard, 1973; Brief and Alday, 1975).

Among the problems with much of the research on job satisfaction is the failure or difficulty in measuring the job itself: nature of the tasks performed, job boundaries, system variations and access of information---job content variables (Davis, 1971, p 161).

Our concern with these and similar dimensions is that they are intrinsic to the work place and job, and do not take into account the extrinsic press which may affect job satisfaction. The literature suggests that intrinsic press dimensions have a strong explanatory power with respect to variations in job satisfaction (London, 1975; Schneider and Snyder, 1975; Weaver, 1977; Kazulak, 1978). We hypothesize that the extrinsic press will provide a significant degree of additional explanatory power.

There has also been some discussion as to which provides the greater explanatory power: needs or press. We do not expect to resolve that debate, but we do expect to throw some additional light on the relative importance of intrinsic and extrinsic press in job satisfaction.

The literature with respect to job satisfaction in booming resource towns is not extensive (Lucas, 1971). Consequently, we have also drawn from local experience and conditions for hypotheses which seem policy-relevant. These hypotheses focus on the high population turnover which seems to be a major source of stress -- functional, organizational, and emotional -- in the community. We have been informed by local officials in Fort McMurray that during construction periods up to 30% of the population left the community in any given year. Consequently, the growth of the town was even more phenomenal than the population figures demonstrate, since the population increase also had to incorporate such a high replacement rate.

Growth thus includes not only new faces--and all that implies--but also the loss of old ones. There is, for example, substantial anecdotal evidence, (Van Dyke, 1978) that Bechtel's move from Fort McMurray caused not only stress to those remaining because of the loss of friends and new gaps in the social fabric, but also stress and strains to private companies, volunteer organizations, community groups and some government services which lost the services of a large number of qualified women, wives of Bechtel staff. Bechtel's move was unavoidable.

Generally speaking, however, we postulate that any measures which can be undertaken to reduce population turnover and to increase the length of stay or current residents, will in turn reduce stresses and strains in the community. We are therefore looking at job satisfaction and community satisfaction as mutually supportive.

This is a critical stage in designing information for policy analysis. It involves, among other things, developing a more precise definition for each study community of the relationship between needs and satisfaction, between job satisfaction and community satisfaction, and between satisfaction and length of residence in the community. From this information one can begin to draw conclusions as to what components of the situation are amenable to intervention, to what ends, and which sectors--public and/or private--might better carry out these interventions.

2.3 QUESTION 1: Is job satisfaction closely associated with community satisfaction?

This question is derived from the literature discussed earlier. We expect to find a statistically significant correlation between job satisfaction and community satisfaction across the sample population. We are, however, particularly interested in examining specific dimensions of that relationship which have particular policy relevance. The following questions represent, therefore, attempts to focus in on specific dimensions and target populations in which the statistical relationship is not as strong, or is particularly strong.

2.4 QUESTION 2: Do factors extrinsic to job and work place explain a greater degree of variance in job satisfaction among certain target populations than do intrinsic factors?

2.5 QUESTION 3: Do some population sub-groups exhibit high job satisfaction along with low community satisfaction?

These two questions are based on a considerable amount of anecdotal evidence (e.g. Van Dyke, 1977) to the effect that new resource towns are not places in which to sink roots. This evidence seems to hold particularly true for several potential target populations:

- -- those not born in the community
- -- those who have lived in the community less than two years, and of this group, especially young, single adults
- -- parents with educational aspirations for their children.

Low community satisfaction can be predicted among those families transferred to Fort McMurray during the worst shortages in housing accommodation. For those workers in small businesses unable to compete with high wages and an inflated cost of living, both low job satisfaction and low community satisfaction should be evident.

Working conditions have a definite effect on job satisfaction, and in fact, Van Dyke (1977) has pointed out pertinent ingredients in Fort McMurray working life. Long hours can be demanded of workers in resource communities, and excessive overtime can have negative consequences in health and personal problems. Pressures from performing dangerous, exacting or precise tasks can also result in strain on the worker and his family. Van Dyke points out that a busy resource town presents opportunities for women to be useful members of the labour force, accepted as colleagues on their jobs. Van Dyke reports expressions of dissatisfaction with minimal work which yields high wages--- some workers feel guilty about being paid well for trivial or slipshod production.

3. POLICY IMPLICATIONS

In examining these research questions we intend to define more precisely those dimensions of job and community, as they relate to intended and actual commitment to the study community. From these findings, we expect to develop policy-relevant conclusions with respect to both the public and private sector. The conclusions will relate to such matters as:

-- the extent to which job satisfaction and community satisfaction are associated, for specific population sub-groups, and along individual dimensions of job satisfaction and community satisfaction.

-- the extent to which extrinsic factors are associated with job satisfaction for population sub-groups.

-- which population sub-groups are likely to be amenable to a more long-term residence in the study community by alterations in factors intrinsic to the workplace and job.

-- which population sub-groups are likely to be amenable to a more long-term attachment to their workplace by alterations in factors extrinsic to the workplace, i.e. in the community.

-- in which aspects or dimensions of job satisfaction is government action potentially appropriate with respect to community satisfaction and population turnover.

-- in which aspects of job satisfaction might private sector action be appropriate with respect to community satisfaction and turnover.

-- which dimensions of job satisfaction and the workplace are influential with respect to community satisfaction and turnover, but are not amenable to alteration by planned action.

- the effects industrial and community maturation have upon job satisfaction vis-a-vis community satisfaction and turnover.

4. INSTRUMENTS

4.1 INSTITUTIONAL INFORMATION SYSTEM

The conventional data sources are not likely to provide direct or indirect measures of job satisfaction in the study communities. Major employers in the various communities will likely keep records which can be aggregated into time series data regarding job turnover, strikes, Friday/Monday absenteeism, days lost through strikes and so forth. Unfortunately, this type of data will not be kept in any consistent or useful form by small employers.

Consequently, a two-level data collection process will be used. Where it is appropriate, data will be collected from the major employers (e.g. Syncrude and GCOS in Fort McMurray). The data will provide a useful supplement in the details obtained through the household survey.

Conversely, we expect the responses of employees of the major employers to the core instruments will put a good deal of flesh on the bones of the companies' statistics.

This approach, however, will not apply to the majority of employees, i.e. those who do not work for the major companies. Therefore, as the second level, we propose to include some items pertaining to job satisfaction in the Local Business Survey. In that survey we intend to collect information from employers with respect to such basic job information as:

- numbers of employees per establishment
- occupations
- number of hours worked in the previous week (or other unit) by each employee
- days lost through absenteeism, illness, strikes
- job turnover
- wages/salaries

4.2 HOUSEHOLD SURVEY

All of the instruments have some bearing on work experiences, quality of working life, and the relationship with various dimensions of community satisfaction.

The Base Demographic Sheet will generate useful information on the respondent, including his or her work history and occupation. The demographic information, together with complementary items in the Extended Interview, will provide a useful portrait of the life style/lifestyle of the respondent. This is an important component which is not always covered adequately (Davis and Taylor, 1972).

The Activities Index contains 30 established scales of personality, many of which relate directly or indirectly to attitudes and needs with respect to work. The Activities Index was designed to apply to general conditions rather than specifically to work, therefore it avoids some of the methodological problems associated with work-oriented needs instruments, such as consistency effects and priming effects (Salanich and Pfeffer, 1977). Some personality scales pertaining to work include: 1) Abasement-Assurance; 2) Achievement; 3) Adaptability-Defensiveness; 4) Affiliation; 9) Deference-Restiveness; 15) Fantasied Achievement; 23) Play-work; 24) Practicalness-Impracticalness.

The Community Index sets out dimensions dealing with broad, overarching dimensions of the community. Some of these pertain directly to work, and others to various dimensions of work within a broader social context. For example achievement-oriented items refer to the community as a place where people who want to can make a career, where employers will hire women for formerly male jobs. Other personality and job-related dimensions tap deference and respect for authority, tolerance and gregariousness.

These responses, in conjunction with those from the Activities Index, will provide us with a profile with the respondent's personality needs, and those which are not. This profile also incorporates other dimensions of community satisfaction. This enables us to look at aspects of job satisfaction within the broader context of community satisfaction. In addition, of course, the Time-Use Diaries will provide supplementary information on behaviours.

The AI-CI profile is, of necessity, a broad brush one. Because of the importance of the work dimension we reviewed the literature to select compatible instruments of a more detailed nature. Our Working Notes of April 10, and of May 12, summarize the various concepts, methodological instruments we considered. In addition we reviewed possibilities with experts in the field.

Several constraints had to be kept in mind:

1) The instruments had to be well tested and demonstrably reliable and accepted as of high quality.
2) The instrument had to be comprehensive, at least to the point of dealing with acknowledged major dimensions of job satisfaciton.
3) The instrument had to be economical and efficient, and not require a lengthy response time.
4) The instrument had to be applicable to a broad range of work situations: small and large, simple and complex.

We selected the Job Description Index as the most suitable. It is a short, modified adjective checklist which seeks to measure job satisfaction on five dimensions:

- work
- pay
- opportunities for promotion
- co-workers
- supervision

The JDI is regarded as one of the best instruments of its kind: Vroom (1964), for example, described it as "without doubt the most carefully constructed measure of job satisfaction in existence today". The scales have also been tested for internal validity, reliability and acquiescence and response, and scored well (Smith, Kendrel and Hulin, 1969).

The JDI has been used in Canada and the United States with such diverse subjects as native employees, French Canadian and New York managers (Kazulak, 1978) so that relative comparisons can be made on certain demographic variables.

Each of the five dimensions of the JDI is compatible with the dimensions of the AI-CI; e.g. opportunities for promotion--Achievement; co-workers--Affiliation.

Another advantage is that each of the five dimensions of the JDI is itself amenable to expansion and more detailed analysis by adding on additional instruments. This expansion would be useful if it were considered necessary to carry out such a detailed examination of a large, complex organization as a basis for decision making for example an oil company.

Our assumption was that such a detailed analysis would be useful to major organizations in a resource town as a basis for decision-making to improve job satisfaction and thereby diminish job turnover. This, in turn, would help diminish population turnover in the community, diminish the sources of instability and enhance the quality of life.

We agreed upon a series of measures developed at Harvard University (Lawler, 1973). This package had been used extensively in resource company settings as well as in more conventional organizational settings, including Alberta Housing Corporation, with effective results. The two packages of instruments together contain over 60 scales (see Appendix). TABLE 1 on Page 13, describes concisely the "fit" of our various instruments.

FIGURE 1 RELATION OF INSTRUMENTS

Individual aspirations (needs)	Objective conditions	Perceptions of objective conditions (press)	Satisfaction (Individual dimensions)
Activities Index Extended Interview	Secondary data: records Time-Use Diary Base Demographic Sheet Extended Interview	Community Index JDI Extended Interview	Extended Interview AI-CI-JDI

Satisfaction

The instruments were discussed with representatives of Syncrude and GCOS. Our intent was to have them carry out a statistically representative sample of their work force on sites which would allow us to deal with the important job content variables referred to by Davis and noted, as job interdependence and supervisor delegation.

The representatives from both companies stated that the information to be derived from these scales would be valuable with respect to employee turnover. Unfortunately for our purposes, both Syncrude and GCOS are so heavily involved in meeting production deadlines and in their own evaluation and organization development programs that it would be inappropriate for them to introduce a different survey at this time.

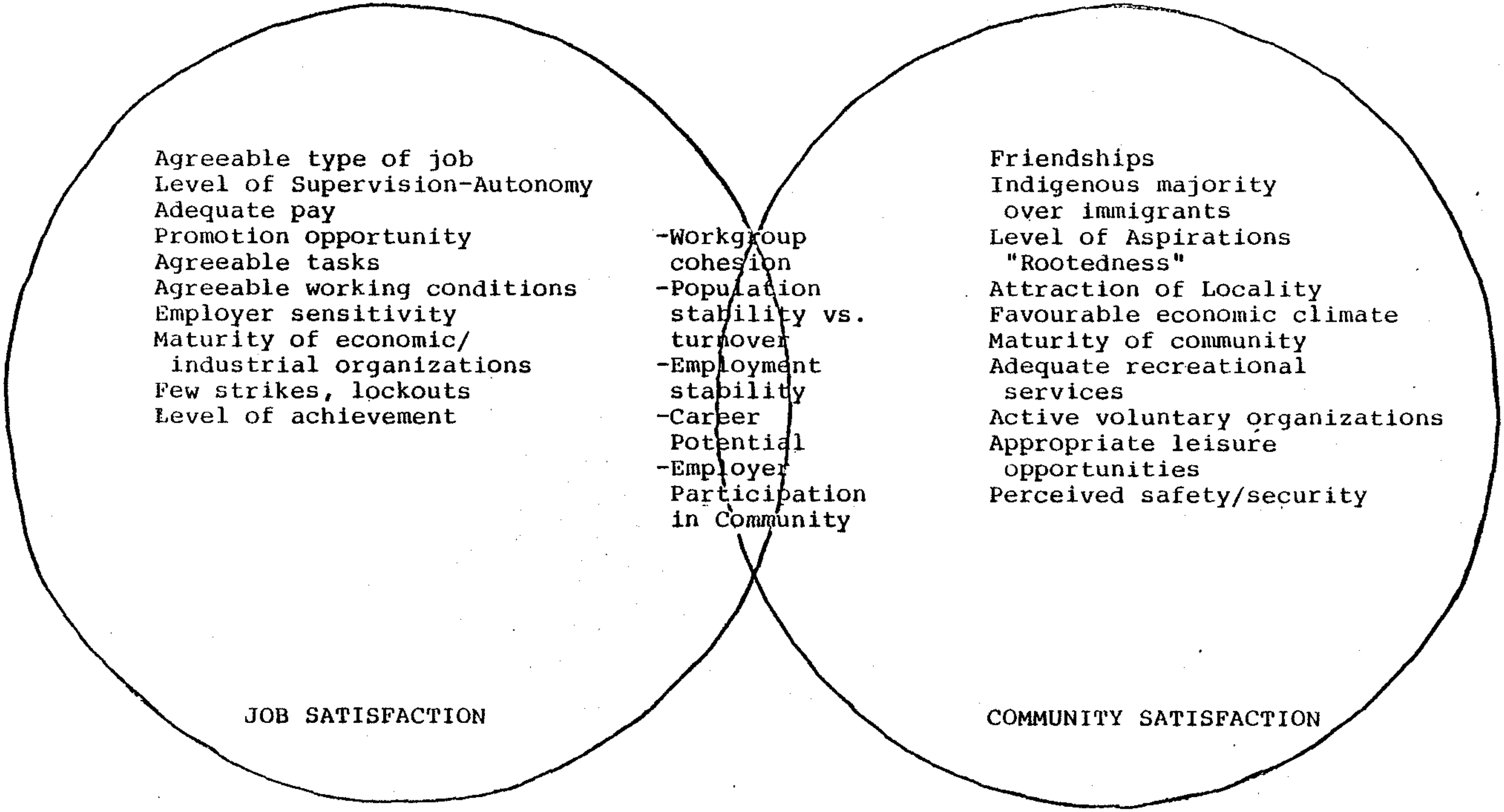
4.3 EMPLOYER INTERVIEWS

Recent research has pointed to the importance of interviewing employers with respect to such matters as employee productivity (Katzell, 1975; Leveto, 1973; London, 1975; Orpen, 1976) and behaviour (Wild and Hill, 1970; Nicholson, Brown and Chadwick-Jones, 1976). We have given the matter some considerable thought. Originally (Working Notes: April 10), we proposed carrying out such interviews. We have now decided against recommending them.

One reason is that it would divert a significant amount of study resources to a research component that seems of limited policy-relevance. We are also concerned, in a broad community study of this kind, about the implications of asking employers to evaluate our individual respondents. Additionally, measuring job satisfaction and community satisfaction seems to require employee participation, more than additional questions for employers.

The major employers do carry out performance ratings of their employees; it may be possible with the cooperation of the companies to relate the performance

FIGURE 2 POSTULATED RELATIONSHIP BETWEEN JOB SATISFACTION AND COMMUNITY SATISFACTION


Agreeable type of job
Level of Supervision-Autonomy
Adequate pay
Promotion opportunity
Agreeable tasks
Agreeable working conditions
Employer sensitivity
Maturity of economic/ industrial organizations
Few strikes, lockouts
Level of achievement
-Workgroup cohesion
-Population stability vs. turnover
-Employment stability
-Career Potential
-Employer Participation in Community
Friendships
Indigenous majority over immigrants
Level of Aspirations
"Rootedness"
Attraction of Locality
Favourable economic climate
Maturity of community
Adequate recreational services
Active voluntary organizations
Appropriate leisure opportunities
Perceived safety/security
JOB SATISFACTION
COMMUNITY SATISFACTION

ratings of individual respondents with our data on the various dimensions of job satisfaction and community satisfaction. This would provide a basis for relating our findings to work place behaviour. We expect the data to be particularly insightful and possess considerable explanatory power with respect to the relationships between the various dimensions of job satisfaction and job behaviour, and the various dimensions of community satisfaction.

With respect to the smaller employers, we do not expect this approach to be feasible. Few of them would likely carry out scientifically-based performance evaluations of employees. We intend, therefore, to tackle this problem in two ways:

1) Local Business Survey. In addition to other data asked, business respondents will be asked to identify the number of days lost in the previous week through strikes, absenteeism, layoffs, sickness and vacations. The number of staff who had left during that time and reasons for leaving. This will help provide a more complete data base for review of employment conditions in the study community.
2) Time-Use Diaries. At each measurement, all respondents will be asked to note time off work during the measurement period. This will provide a useful measure of the relationship between actual behaviour and job and community satisfaction.

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ALBERTA OIL SANDS ENVIRONMENTAL RESEARCH PROGRAM

LONGITUDINAL STUDY OF PERSONAL ADJUSTMENT AND SOCIAL CONDITIONS IN THE FORT MCMURRAY AREA HS 30.1

PHASE 1: FINAL REPORT

BACKGROUND PAPER:

QUALITY OF WORKING LIFE: JOB SATISFACTION

APPENDIX 1:

JOB DESCRIPTION INDEX

AUGUST, 1978

THE JOB DESCRIPTION INDEX

QUESTIONNAIRE ITEMS

We would now like to explore your views about certain parts of your job.

Question 1. Think of your present work. What is it like most of the time? In the blank beside each word given below, write

Y for "Yes" if it describes your work.
N for "No" if it does NOT describe it.
? if you cannot decide.

WORK ON PRESENT JOB

_____ Fascinating
_____ Routine
_____ Satisfying
_____ Boring
_____ Good
_____ Creative
_____ Respected
_____ Hot
_____ Pleasant
_____ Useful
_____ Tiresome
_____ Healthful
_____ Challenging
_____ On your feet
_____ Frustrating
_____ Simple
_____ Endless
_____ Gives sense of accomplishment

Questions 2. Think of the opportunities for promotion that you have now. How well does each of the following words describe these? In the blank beside each word put

y for "Yes" if it describes your opportunities for promotion.

N for "No" if it does NOT describe them.

? if you cannot decide.

OPPORTUNITIES FOR PROMOTION

____ Good opportunity for advancement

____ Opportunity somewhat limited

____ Promotion on ability

____ Dead-end job

____ Good chance for promotion

____ Unfair promotion policy

____ Infrequent promotions

____ Regular promotions

____ Fairly good chance for promotion

Question 3. Think of the pay you get now. How well does each of the following words describe your present pay? In the blank beside *each* word put

Y if it describes your pay.
N if it does NOT describe your pay.
? if you cannot decide.

PRESENT PAY

____ Income adequate for normal expenses
____ Satisfactory profit sharing
____ Barely live on income
____ Bad
____ Income provides luxuries
____ Insecure
____ Less than I deserve
____ Highly paid
____ Underpaid

Question 4. Think of the majority of the people that you work with now or the people you meet in connection with your work. How well does each of the following words describe these people? In the blank beside each word below put

Y if it describes the people you work with.
N if it does NOT describe them.
? if you cannot decide.

PEOPLE ON YOUR PRESENT JOB

____ Stimulating
____ Boring
____ Slow
____ Ambitious
____ Stupid
____ Responsible
____ Fast
____ Intelligent
____ Easy to make enemies

____ Talk too much
____ Smart
____ Lazy
____ Unpleasant
____ No privacy
____ Active
____ Narrow interests
____ Loyal
____ Hard to meet

Question 5. Think of the kind of supervision that you get on your job. How well does each of the following words describe this supervision? In the blank beside each word below put

Y if it describes the supervision you get on your job.

N if it does NOT describe it.

? if you cannot decide.

SUPERVISION ON PRESENT JOB

____ Asks my advice
____ Hard to please
____ Impolite
____ Praises good work
____ Tactful
____ Influential
____ Up-to-date
____ Doesn't supervise enough
____ Quick-tempered
____ Tells me where I stand
____ Annoying
____ Stubborn
____ Knows job well
____ Bad
____ Intelligent
____ Leaves me on my own
____ Lazy
____ Around when needed

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ALBERTA OIL SANDS ENVIRONMENTAL RESEARCH PROGRAM

LONGITUDINAL STUDY OF PERSONAL ADJUSTMENT AND SOCIAL CONDITIONS IN THE FORT MCMURRAY AREA HS 30.1

PHASE 1: FINAL REPORT

BACKGROUND PAPER:

QUALITY OF WORKING LIFE: JOB SATISFACTION

APPENDIX 2:

SCALES

AUGUST, 1978

P.S. ROSS & PARTNERS SCALES - HARVARD

Participation
Use of Talents
Supportive Relationships
Freedom & Influence
Communication (Organization)
* - Supportiveness (Organization)
Organizational Pride
Organizational Thrust
Efficiency
Supportiveness (Department)
Communication (Department)

1 & 3 - Heirarchy

P.S. ROSS & PARTNERS SCALES - HARVARD

Participation
Use of Talents
Supportive Relationships
Freedom & Influence
Communication (Organization)
* - Supportiveness (Organization)
Organizational Pride
Organizational Thrust
Efficiency
Supportiveness (Department)
Communication (Department)

1 & 3 - Heirarchy

MICHIGAN SCALES

MODULE SCALES

GENERAL ATTITUDES	Job Satisfaction
	Turnover Intention
	Internal Work Motivation
	Organizational Involvement
JOB FACETS	Externally Mediated Intrinsic Reward Contingency
	Extrinsic Reward Contingency
	Importance - Social Rewards
	Importance - Intrinsic Rewards
	Importance - Influence Rewards
	Importance - Extrinsic Rewards
	Satisfaction - Social Rewards
	Satisfaction - Intrinsic Rewards
	Satisfaction - Influence Rewards
	Satisfaction - Extrinsic Rewards
TASK AND ROLE CHARACTERISTICS	Challenge
	Meaning
	Role Conflict
	Role Clarity
	Role Overload
	Freedom
	Variety
	Task Feedback
	Task Completeness
	Task Impact
	Job Required Skill
	Training Adequacy
	Pace Control
WORK GROUP FUNCTIONING	Group Homogeneity
	Group Cohesiveness
	Group Goal Clarity
	Open Group Process
	Group Fragmentation

MICHIGAN SCALES

	Supervisor Production Orientation
	Supervisor Control of Work
	Supervisor Goal Setting
	Supervisor Problem Solving
	Subordinate Relations
	Supervisor Bias
	Supervisor Considerations
SUPERVISOR	Supervisor Participation
BEHAVIOUR	Supervisor Decision Centralization
	Supervisor Interpersonal Competence
	Supervisor Evaluation
	Supervisor Support
	Supervisor Delegation
	Supervisor Punish Poor Performance
	Supervisor Rewards Good Performance
	Supervisor Favouritism
* TASK AND	Work Quantity/Quality
	Hard Work Results
	Job Interdependence
	Actual - Work Control
	Actual - Work Interdependence
	Actual - Personnel Decisions
	Should - Work Control
	Should - Work Interdependence
	Should - Personnel Decisions
	Decision - Clarity
	Distrust - Organization
	Changes are Good
	Depression
	Decision Influence
	Not Open to Change

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ALBERTA OIL SANDS ENVIRONMENTAL RESEARCH PROGRAM

LONGITUDINAL STUDY OF PERSONAL ADJUSTMENT
AND SOCIAL CONDITIONS IN
THE FORT MCMURRAY AREA HS 30.1

PHASE 1: FINAL REPORT

BACKGROUND PAPER:

SOCIAL DEVIANCE

AUGUST, 1978

SOCIAL DEVIANCE

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1. INTRODUCTION

Deviant behaviour in resource communities, as elsewhere, is a major cause of concern. There is a widespread belief that deviant behaviour in at least some resource towns is more common than elsewhere (Larson, 1977). This aspect of resource town life touches the concerns of a number of organizations, agencies and departments at both the municipal and provincial level. It is also closely tied to the underlying and central issue, for many people (Flanagan, 1978), of public safety and order.

Originally, we had intended to examine the question of socially deviant behaviour on the basis of the secondary data generated through the institutional information system. That data, however, suffers from a number of weaknesses which are set out in Appendix 1. Specifically with respect to deviant behaviour, many crimes are not reported, particularly those occurring within a family; arrest and conviction rates are subject to a number of intervening variables; the records themselves are not always consistently maintained; and so on through the difficulties discussed by McVey (1976), Johnson (no date) and others.

Accordingly, we have incorporated into the core instruments of the household interviews a number of measures pertaining to deviancy.

We have not attempted to deal with the conceptual issues surrounding the definition of deviancy (Rock, 1973). Instead, consistent with the Terms of Reference of this study requests of various departments, we intend to concentrate on gathering base data with respect to deviant behaviour. Within this general approach, there are two basic types of deviant behaviour data which are appropriate for this study:

1. those activities set out in statutes and bylaws as illegal;
2. those activities which, while not necessarily illegal, can be regarded as deviant in the

sense that they indicate problems, for example excessive drinking.

Within this very broad range of activities it will be necessary to focus in the first instance on the more serious aspects of deviancy. With regard to the first category, the evidence from Larson, Van Dyke (1977) and others is that acts of violence against persons and property are a major concern in resource communities. In this category we would include acts against oneself, such as attempted suicide, and acts which are potentially dangerous to oneself or to others such as driving while under the influence of alcohol or drugs. It may be that white collar crimes such as fraud and embezzlement, are common in the study communities. But, there is no evidence in the resource town literature that they are of serious concern to local residents or even the local businessmen. Similarly, none of the departments have asked us to look into the matter. Consequently, we do not see this dimension of deviant behaviour as one of high priority.

The second category presents some difficulties at the theoretical level. One could argue that, strictly speaking, this category is heavily value-laden; for example, that social norms and values are involved in the definition of what is excessive or deviant in the use of drugs or alcohol, or in defining marital breakdown as 'bad' rather than 'good'. One can also argue that these kinds of behaviour are not so much deviant as indicative of underlying problems at the personal or family level.

In fact, from a theoretical perspective one could also argue that illegal activities falling into the first category are themselves only symptomatic of underlying personal, family and related problems. Schott (1976), for example, cites evidence linking certain categories of vandalism to problems involving, among other factors, personality, family relationships and adjustment to school.

We intend to address these and related issues in our analysis of the data in Phase 2. At that time we will look more closely at such dimensions as personal pathology, family circumstances and subculture norms with respect to deviant behaviour. For the purposes of this background paper, however, we do not think it would be useful to enter into a discussion of definitions and distinctions at this level of detail. Accordingly, the following discussion addresses the issues of deviance at a general level.

2. MAJOR ISSUES AND QUESTIONS

With respect to the literature on deviant behaviour in resource communities, we find contradictory conclusions. Van Dyke (1977) quotes informants to the effect that crime such as assault, and attempted suicide, alcohol and drug abuse, and mental illness are more common, even intensified, by life in resource towns. Riffel (1975) concludes that crime is no more common in resource towns than elsewhere. Most researchers, however, agree that life in isolated, northern resource towns creates or increases psychological problems. Here again, however, it is not clear whether these problems are of greater severity or more common in these communities than in more conventional communities or in conventional communities undergoing "boom town" conditions. This is a question we propose to examine more closely during Phase 2.

In order for us to address these and related questions usefully, it is important to establish some basic parameters at the outset. First, it is important to recognize that deviant behaviour is not a unified phenomenon. Obviously, there are different types of deviant behaviour which do not go hand in hand with each other, which are related to different sets of conditions and variables, and which alter over time. One of the objectives of the longitudinal study is to identify and distinguish among these behaviours and track changes over time.

Secondly, it is important to establish a balanced perspective. One of the concerns of our Fort McMurray informants was that by investigating in detail deviant behaviour we would, by implication, label the community as a bad place to live. Their argument is that deviant behaviour in Fort McMurray has a high visibility because it makes good news copy and that, in fact, following Riffel's conclusion, crime in the community is no worse than elsewhere.

They are also concerned that this kind of labelling not only attracts to the town persons given to deviant behaviour and looking for congenial surroundings, but also encourages deviant behaviour amongst the local residents. This line of reasoning is not dissimilar to the labelling theory of Sutherland and Cressey (1970).

It is also not unreasonable to argue that deviancy in conventional communities is more widespread than the public acknowledges; that labelling can hurt a community; and that, if all factors are taken into account, Fort McMurray and other resource towns are not more "deviant" than other more conventional communities.

There is no doubt that deviant behaviour, even of the illegal type, is widespread. An early study, by Wallerstein and Wyle (1947), found that 91% of a sample of New York adults, male and female, admitted to having committed one or more crimes since the age of 16; significantly, almost two-thirds of the men had committed crimes which ranked as felonies rather than simple misdemeanours. Similarly, as we note below, a number of studies demonstrate that deviant behaviour tends to be more characteristic of some population sub-groups than of others, and that if the analysis controls for relevant demographic and socio-economic variables it turns out that the majority of the population is normally law-abiding. We propose in Phase 2 to examine other and our own research in this regard.

Also, an interesting suggestion has been made to us by staff at Alberta Social Services and Community Health. They put to us the possibility that it is misleading to establish deviancy rates on the basis of official population figures for a resource community during stages of rapid growth. In the case of Fort McMurray, for example, there has been an annual population turnover of perhaps 30% in recent years. Consequently, although the official population figures might be 21,000 persons in a given year; in fact, the town housed 27,000 people in that year: that is to say, 7,000 left during the year and were replaced by 7,000 new people. Following this line of reasoning, the rate of deviant activity should be calculated using 27,000 as a base figure, not 21,000. We will investigate this suggestion using length of residence data from our respondents.

Another consideration derives from what Riffel has called, stages and characteristics of resource town development. Extrapolating from his brief synopsis, and from the anecdotal and other evidence from resource towns, one can argue that rates of certain kinds of deviance, particularly criminal, are associated with particular stages of development. We intend to test this assumption in more detail examining the historical data from the study communities and by comparing findings from Phases 2 and 3 in the Fort McMurray and Cold Lake studies. Currently, both study areas are in a state of comparative stability. Phase 3 in both studies is proposed for their respective construction periods. The differences, if any, between the two periods in each community, and between the study areas themselves, should prove instructive.

These and other considerations have to be kept in mind in analyzing the data in Phase 2, so as to sustain some degree of perspective with regard to types and rates of deviant behaviour, and their significance.

The following outlines the major research questions we propose to examine during Phase 2. We have not attempted to describe all the related questions.

2.1 QUESTION 1

The first question, as we noted at the outset, is to identify the types of behaviour occurring in the study communities, and their rates of occurrence. This is the first and essential step. We propose to collect this data from two different sources. The first includes secondary sources. We recognize the problems associated with these data sources. Nonetheless, collecting the relevant data from the various sources and putting them together under one cover on a time series basis will represent an improvement over the current situation.

The second source of data will be the personal interviews conducted in Phases 2 and 3. We discuss the issues associated with data collection below under Instruments.

2.2 QUESTION 2

Who is committing deviant actions? We intend to identify rates of deviant behaviour by various sub-groups. Some possible sub-groups suggest themselves immediately as deserving examination.

For example, there is ample documentation that a substantial proportion of crimes of force against persons and property is carried out by young, single adult males (e.g. Mann, 1971), precisely the demographic profile of a typical worker required during construction periods in a resource town. A variation of this is the association noted (Porterfield, 1952) between a deviance involving force and socio-economic status. Since resource towns, particularly during the construction phase, require skills associated in some measure with less than average socio-economic status, it is not unreasonable to assume that this would, in turn, be associated with deviant behaviour involving force.

We also intend to pursue other avenues beyond social and demographic characteristics. We intend to examine the profiles of self-reporting deviant actors to determine if personality profiles or typologies can be established. The literature does not lead one to the conclusion that criminal typologies can be established solely on the basis of personality characteristics. We may find, however, significant correlations among clusters of variables, including personality dimensions, with respect to deviant behaviour. This is suggested by Schott, for example, with respect to certain categories of school vandals.

Another sub-group which merits special examination are the recent arrivals. Larson's compact review of the literature on mobility and stress raises a number of important points. First, it has long been acknowledged that moving, along with death, marriage and marital breakdown are among the most important events in the life of an individual and family. The reasons for moving, expectations of the new community, the age of the husband and wife, or single person, relations to kin and friends, are all important variables. Women appear to suffer isolation stress more frequently than do the men - and a visit by the wife to the community before actually moving there seems to have a positive effect in reducing the stress of the move and the problems of adjustment.

The literature suggests that children are the most vulnerable of all. One researcher quoted by Larsen argues that, "for the child, a change in residence is analagous to a change in parent". Also, the attitude of the parents towards the move and their adjustment to the new community and satisfaction with it are strong influences on the child's own adjustment and attitudes. Our background paper on education goes into this subject in some detail. The only point we would make here is that the problems of adjustment for the child can be considerable and results in a great deal of negative and destructive "acting out". Schott discusses this with respect to school vandalism. We would note in this regard that vandalism is a problem in Fort McMurray (as well as in most urban areas in Alberta).

Assuming a possible relationship among mobility, child adjustment problems to the community and school, and deviant behaviour the problem begins to assume an enormous potential. Data from one Fort McMurray public school for the academic year 1977-78 shows that only 17% of the children at the school in that year had been in school in Alberta the previous year; 83% had been in another province or another country the year before. The implications of this statistic are profound. We intend to gather comparable data for all schools within the study communities and control community on an historical basis to obtain a better perspective on the situation, and to relate this data to school records with respect to absenteeism, truancy and related problems. We also intend to examine the data from our school age respondents very closely in this regard.

In general, among the other variables we intend to examine with respect to self-reported deviant actors, are those pertaining to housing satisfaction and over-crowding, prior urban/rural status, job satisfaction, needs-press dissonance along various dimensions, school adjustment and behaviour, marital satisfaction and family well-being, expectations prior to entrance to the community, alcohol and drug abuse. The literature suggests that these, and others, are associated with deviant behaviour, psychological stress and mental illness. It will be necessary to define more closely which variables are to be examined in this context; this we intend to do once we have examined the first data run and can determine, in a preliminary way, which avenues seem potentially most fruitful.

2.3 QUESTION 3

Are there characteristics of the study communities which encourage deviant behaviour of various kinds? We have already noted that Van Dyke's (1977) informants believed that crime, suicide, mental illness, alcohol and drug abuse are intensified by life in a resource town.

It is important to note that these interviews were carried out during an extended period of construction, rapid growth and transition in the community. Consequently, the responses are consistent with the long held theory which associates levels of social organization in a community with various types of deviant behaviour (Durkheim, 1938; Biderman, 1963; Michelson, 1970). Very briefly, the theory is that as an established community moves into a period of rapid growth the level of social organization is reduced and weakened: the old order changes, the centre cannot hold (Park, 1951; Mills, 1956). The traditional social order and values of the community - stable, rural, familial - are attacked and over time replaced by a more dynamic, complex, impersonal urbanism. During this period of transition there is a vacuum in the social order which provides latitude, even encouragement, for the acting out of stress, aggression, hostility. The traditional centres of authority are replaced or revamped.

Milgram's concept (1970) of stimulus overload is a variation which may yield fruitful results. Rural migrants to an urban setting; or urban residents in a rapidly changing setting, may suffer from stimulus overload. Too much is happening; there are too many strange faces, too many new faces, no room to walk, too much noise, too many changes; the accustomed networks, civilties, habits no longer apply or lose their power to sustain, comfort, and protect.

Urbanization has itself been seen as a powerful causative factor in deviance and crime. Population density was examined by Nettler (1974) among other variables in explaining crime. He points out that official under-reporting may be more prevalent in rural areas (murders called hunting accidents) but also that international studies show that some urban areas have higher crime rates than large cities (the rural region near Jerusalem comprised of immigrants has the highest rate of delinquency in Israel; Shoham, 1966).

We anticipate that Nettler's conclusion also applies to delinquency generally, that:

> the effect of population density upon crime rates is not direct. Again, as with the impact of the economy or of occupation upon criminality, those ways of life called 'cultural' seem to intercede between the environment, including its human density and its wealth, and the behaviours to be explained . (Nettler, 1974).

We intend to examine possible associations in the study communities between social organization and deviant behaviour. Some of the secondary data will provide a useful backdrop to this examination: population growth, traffic counts, housing prices, and so on. More importantly, we intend to examine the findings of self-reported deviants with respect to their cognition of social organization. We will also look at other target populations for the purposes of comparison

All of the proposed instruments contain items dealing with various dimensions of perceived social organization: pace of life, changes in the community, rate of change, relocation of friends and family, differences between study community and respondent's former community, availability of public places, stressful conditions, access to necessary information, and others.

We expect to find various population sub-groups will have different perceptions of the level of social organization in their community. We also expect that these differences will, in some cases, be associated with variations in perceptions of individual and family well-being, and with differences in behaviour.

We expect comparisons between Phases 2 and 3 will provide considerable information with respect to social organization. We will, for example, be able to determine who has left the community between the two phases and assess the significance of this in terms of social organization: for example, if the people leaving were predominantly or significantly made up of professionals, managers, persons active in the community organizations and volunteer groups, then this would suggest, as an objective condition, some significant gaps in the fabric of social organization of those left behind. It will be important, therefore, in Phase 3 to assess (assuming this transition does occur) whether respondents report perceiving these gaps or inadequacies in social organization.

Alternatively, we may find that respondents in these key population groups remain in the community. This would suggest that Fort McMurray had reached a stage of maturity where development and growth occur on a relatively stable population base. This in turn carries important implications for strengthening social organization in the community.

There are a number of questions related to those we have noted; however, the above discussion should be sufficient to set out the thrust of the issues we intend to address at the outset as high priority.

3. POLICY IMPLICATIONS

There are a number of major policy implications imbedded in the questions discussed in the previous section. We cannot deal with them all in this paper and we cannot presume to know what information will be pertinent to all the various policy and program bodies. The following, therefore, is intended to outline what appear to us to be some of the possible major implications.

First of all, of course, we expect the data generated from the personal interviews to provide a more complete picture of the actual rates of various deviant behaviours in the study communities, and - where the data justify it - to single out those population sub-groups in which certain types of deviant behaviour tend to be most common. This has broad and important connotations for focussing in on specific target populations. We also expect to be able to identify in a more precise way than usual some of the factors associated with the various types of deviant behaviour.

A particular category of deviance which interests us encompasses violent and destructive actions within the family, especially spouse and child abuse. These are thought to be seriously unreported everywhere. Craig Taylor, (Bryant and Wells, 1973) cites a national survey to identify known cases of child abuse. The researchers extrapolated this data to estimate a range of child abuse from about 13 to 21 incidents per thousand population. Assuming this estimated range is reasonably reliable, this would mean the situation in our study communities is much more serious than the number of incidents reported to Preventive Social Services suggests. Officials of Social Services and Community Health have expressed to us their concern that the high turnover in resource communities, together with social isolation and other factors, has reduced the number and effectiveness of the "neighbourhood watchers" or "street watchers" customarily found in relatively stable communities, implying the loss of an important source of social control.

This phenomenon has been graphically described by Jane Jacobs in her examination of the life and death of American cities. We intend to generate information with regard to both the incidence of these forms of abuse and to link these, through our data and relevant literature, to both personal and environmental conditions. We expect that some of the extrinsic factors will be amenable to various types of modification, either through direct intervention - e.g. overcrowding - or less directly, perhaps using approaches based on a community development/organization model (Ross, 1955).

Looking more generally at the questions dealing with social organization and deviant behaviour: to the extent that our data supports relationships between types of deviant behaviour, various dimensions of social organization and other variables pertaining, perhaps, to housing, work, length of residence, isolation, it will be possible to focus on specific relationships and their components and to address them on a target basis: wife and child abuse, attempted suicide, cabin fever and associated behaviour.

Where social organization dimensions are strongly related to forms of deviance, it is likely, in our opinion, that corrective policies based at least in part on the community development/organization model will have a significant opportunity for effective implementation. The reasons are that this model is directed towards strengthening and healing the fabric of social organization and control; and by its nature can alleviate a number of conditions usually associated with deviant behaviour such as isolation, alienation, inadequate networks, inappropriate outlets for hostility and aggression.

Schott, for example, found that school vandalism was most frequent among schools judged to have a "poor" or "fair" climate, and least frequent among schools judged to have "good" climate. The precise definition of the terms is less important than the significance they have regarding the importance of the community development/organization model as a policy instrument for the alleviation of conditions associated with deviant behaviour. One of the most favourable characteristics of the community development/organization model is, of course, that it generates a synergy and impetus of its own, is locally based, responsible to local conditions, and, in important ways, independent of the requirement for government intervention.

The more precise delineation of types of deviant behaviour by various socio-demographic, personality, situational and other variables should prove fruitful for policy analysis.

To the extent that various types of deviant behaviour can be associated with definable target populations then it is possible to formulate policy responses to questions such as the following:

- To what extent is it feasible, and desirable, to attempt to contain, control or modify the behaviour of such sub-groups? The best known approach, or course, is to keep the construction labour force in construction camps away from town. This reduces the opportunity for deviance-prone young male adults to act out in the midst of and disturb the more stable and certainly the more vulnerable sectors of the population. To make conditions more acceptable in the camps, the companies in some cases allow men to bring their wives with them, and hire women for the work force and allow them to live in the camps. The presence of women seems to have a strongly moderating effect upon the willingness of young men to act out and disturb the rest of the population. Camps, however, do not prevent men from coming to town, they can be afforded only by the large companies, they involve only people working for the large resource companies, and they are justified only during construction periods. They do, however, provide a model for encouraging the clustering of certain types of sub populations.

- Other policies directed toward human engineering design can involve urban planning and design, and architectural design. The concepts of defensible space and street watching are not inappropriate. We expect the data from our respondents to be useful in this respect.
- Where direct measures to control, modify or reinforce appropriate behaviour are not feasible, to what extent is it possible to avert, diminish or modify the impacts of this behaviour upon the general population or, at a minimum, the vulnerable sectors of the population? In dealing with this question it is important to discriminate carefully amongst the various types of deviance, and keep in mind the characteristics of those carrying out the deviant behaviour and the likely victims. At the very simplest level, we expect a proportion of our respondents to tell us that there is not an adequate network of family-oriented entertainment in Fort McMurray; in effect, that an alternative leisure network needs to be developed in which people can enjoy themselves without encountering behaviour they find disturbing. Objectively speaking, in Fort McMurray the actual scale of this network is likely more than adequate for the size of the population;

however, because of the peculiar layout of the town, it is likely perceived as insufficient. This is an example of how a town plan can have profound and lasting effects upon the social organization and quality of life in a community.

With respect to serious forms of deviant behaviour, depending upon the types of behaviour and the characteristics of the victims, a wide range of policy choices can be involved. Our data will provide a basis upon which to assess the need for alternative places, places of protection, places for care and therapy, places of incarcaration, related to the effects of or symptoms of deviant behaviour.

- Where direct measures are not possible or appropriate to affect the perpetrator of deviant actions or to protect the potential victim, what indirect measures might be effective and appropriate? This is a variation on the community development/organization model discussed above.

The questions raised with respect to deviant behaviour in resource communities and their policy implications are relevant not only to these communities. We expect the data generated from the respondents and the conclusions/hypotheses drawn from them to have broad applicability in a wide range of community settings.

4. INFORMATION SOURCES

4.1 INSTITUTIONAL INFORMATION SYSTEM

We propose to use existing information sources for the development of time series tables with respect to various forms of deviant behaviour. Even given the difficulties associated with this data, putting it under one cover will - despite its weaknesses - represent a substantial improvement over the existing situation.

The data categories are set out in Appendix 1. Major sources will include among others:

- Statistics Canada with respect to statutory offences.
- Municipality, with respect to offences to municipal bylaws.
- Social Services and Community Health with respect to demands for services related to deviant behaviour.
- AADAC with respect to demands for services related to deviant behaviour.
- Boards of Education with respect to incidences of deviant behaviour.

4.2 HOUSEHOLD SURVEY INSTRUMENTS

The instruments will use both a direct self-reporting approach and indirect measures to identify the types and incidences of problem behaviour.

4.2.1 Direct Self-reporting

The key instrument will be the Extended Interview, complemented by the core instruments and the time use diaries.

The Extended Interview contains a number of items pertaining to deviant behaviour - both illegal and problem indicative. Respondents will be asked to report on deviant behaviour with respect to victim and actor to the extent possible, as follows:

- Direct knowledge of acts affecting persons outside the household.
    - Victim x type of act x incidence
    - Actor
- Acts committed against respondent or household members.
    - Victim x type of act x incidence
    - Actor
- Acts committed by respondent or household members.
    - Victim x type of act x incidence
    - Actor

Questions pertaining to actions by people in the respondent's household are ranked in some order of sensitivity. The more sensitive are self-administered in a separate questionnaire which can be sealed by the respondent. Because these items may evoke requests for assistance, the sealed questionnaire will contain the names of community resource staff to contact, and/or an invitation for further personal contact with senior studies research associates. These names are available on a card enclosed with the questionnaire.

The results from the Extended Interview will generate the following data:

a) types and incidences of deviance in the community as reported by respondents (with mechanisms to diminish overlapping) together with descriptions (incomplete) of victims and actors.

b) types and incidences of deviant action inflicted on individual household members.

c) types and incidences of deviant actions carried out by household members.

The data from these three sets can be aggregated in individual sets to provide statistically reliable descriptions of deviance in the community.

The data from b) and c) will be analyzed separately together with the subjects responses to the core instruments. This will generate data on the following:

- profiles (demographic/attitudinal) of victims by type and incidence.
- profiles (demographic/attitudinal) of deviant subjects by type and incidence.

Through the Extended Interview, respondents will report on their activities and those of members of their household. These persons will have also completed the core instruments. We thus have a detailed picture of the deviant with respect to demographic characteristics, personality characteristics, perceptions of the community, perceptions of the work environment plus the dimensions included in the Extended Interview itself. In addition, through time use diaries, we also have data on the subject's actual behaviour. We do not expect the data to set out in the diaries those activities which are obviously anti-social or illegal; experience suggests, however, that nonetheless, useful information will be included.

4.2.2 Indirect Reporting

The Activities Index of the self-identified deviant respondents will be examined to determine if they contain any unusual characteristics which would justify establishing typologies or profiles. This discriminate analysis will be carried out at the item level.

As we noted earlier, we do not expect to identify supposed "criminal" or "deviant" personalities. It is possible, however, that within the AI itself, we may find certain types of self-reported deviant behaviour related to a pattern of responses on one or more individual items.

We also expect to find that an examination of the needs-press congruence/dissonance for self-reported deviants will turn up significant patterns. Where we find substantial dissonance between an individual deviant's needs and perception of press, we can assume stress. If that pattern repeats itself across respondents who have committed similar types of deviant behaviour we can postulate some relationship between that dissonance and the behaviour itself.

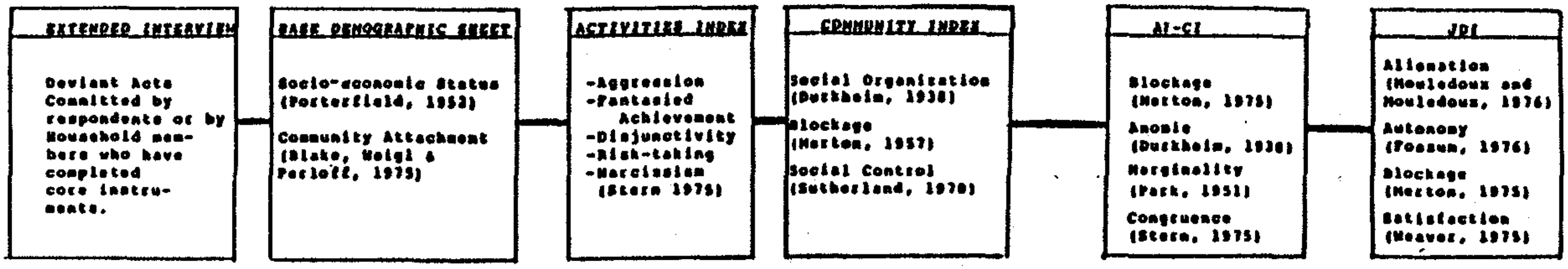
The same connections would be sought with respect to work-related conditions through the Job Description Index, through social and demographic characteristics identified in the Base Demographic Sheet and through the testing of children.

From these various analyses of direct and indirect reporting, carried out with regard to statistical significance, it will likely be possible to extrapolate to the general population a more detailed and precise description of types of deviant behaviour by population characteristics. This data should also enhance our predictive capability for other resource communities, and conventional communities, keeping in mind those conditions singular to each setting. In particular, we can develop a greater understanding of the dynamics of life in a resource community, especially those conditions and pressures which influence, encourage or discourage specific types of deviant activity by specific population groups against specific population groups.

FIGURE I

4.2.3 Deviance Personal Profile

Illustration of Instrument Relations and Dimensions


EXTENDED INTERVIEW
Deviant Acts Committed by respondents or by Household members who have completed core instruments.
BASE DEMOGRAPHIC SHEET
Socio-economic Status (Porterfield, 1952)
Community Attachment (Blake, Weigl & Perloff, 1975)
ACTIVITIES INDEX
-Aggression
-Fantasied Achievement
-Disjunctivity
-Risk-taking
-Narcissism
(Stern 1975)
COMMUNITY INDEX
Social Organization (Durkheim, 1938)
Blockage (Merton, 1957)
Social Control (Sutherland, 1970)
AI-CI
Blockage (Merton, 1975)
Anomie (Durkheim, 1938)
Marginality (Park, 1951)
Congruence (Stern, 1975)
JDI
Alienation (Mouledoux and Mouledoux, 1976)
Autonomy (Fossum, 1976)
Blockage (Merton, 1975)
Satisfaction (Weaver, 1975)

5. OPTION

We expect there will be some under-reporting by respondents of deviant acts they have committed or have had committed against them; in particular with respect to wife and child abuse.

A more accurate account of these and similar sensitive activities could be obtained through an on-going interview process, perhaps lasting several weeks, with one or more members of the household. A random sample of 99 would be drawn from the main household sample to yield a precision level of 5%.

One of the substantial side benefits of such an interview process would be to generate considerable detailed information with respect to family dynamics.

The process would require interviewers who are qualified to deal with sensitive subjects. We would propose that respondents be paid for their time. This optional interview process could be carried out as an extension of the proposed Phase 2 interviews; or carried out as a supplemental study once the data from Phase 2 had been analyzed. The latter might be preferable..

Earl Berger Limited

ALBERTA OIL SANDS ENVIRONMENTAL RESEARCH PROGRAM

LONGITUDINAL STUDY OF PERSONAL ADJUSTMENT AND SOCIAL CONDITIONS IN THE FORT MCMURRAY AREA HS 30.1

PHASE 1: FINAL REPORT

BACKGROUND PAPER

CHILDREN AND EDUCATION

DR. A. G. SCOTT
A. G. SCOTT AND ASSOCIATES

AUGUST, 1978

BACKGROUND PAPER: CHILDREN AND EDUCATION

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1. INTRODUCTION

The overall purpose of this component of the longitudinal study is to identify and assess selected educational achievement and behavioural characteristics and to monitor changes in these characteristics as the study communities grow through various transition stages. To this end, selected major issues and questions have been identified for which the data will provide reliable input to the policy-making process for the study areas as well as the province as a whole. This data will be obtained by the application of selected instruments and through the analysis of already existing data such as attendance records, vandalism rates, dropout rates, and achievement rates where available.

We are treating children as a population sub-group deserving special attention for several reasons. One reason is clearly the child's vulnerability; the long term costs of negative or harmful events in the child's life can be high both to the child, and later adult, and to society as a whole. Also, children, typically, represent a substantial proportion of the population in a growing resource community; in Fort McMurray, for example, the 1977 Municipal Census shows about a third of the population under the age of 15. By far the greatest proportion of school-age children appear to be newcomers: while we do not have complete figures for schools, data from one public elementary school in Fort McMurray shows that in the 1977-78 school year, more than 80% of the children had lived in another province or country the year before. This figure has enormous implications in terms of school planning, counselling and curricular requirements, child and family adaptation as well as child and family stress and well-being. Education is also a key consideration in a family's assessment of its satisfaction with a community (Flanagan, 1978; Blake, Weigl and Perloff, 1975).

The following discussion deals with the child from several major perspectives:

- the appropriateness of the fit between the child and school setting: and the consequences in terms of the child's well-being, achievement and behaviour and of school planning and programs.
- the child's school achievement and behaviour as indicators of the child's well-being.
- the child's school achievement and behaviour as indicators of family well-being (including the effects of absentee working parents upon the child).
- relocation and its effects upon the children.
- satisfaction within the school.

2. MAJOR ISSUES AND QUESTIONS

2.1 COMMUNITY CONTEXT

Barker and Associates (1978) in describing their extensive eco-psychological studies of a midwestern state, focus, as we propose to, upon the interrelationships between habitat, environment, and human behaviour. They claim that people do not live in poverty nor affluence, in middle or upper classes, but in "behaviour settings" which they note are such places as the home, church, work place, recreational setting or schools etc. Behaviour, for Barker et al (1978) "...is influenced by three classes of variables: their physical properties, the number and character of their human components, and their programs". (P.288).

With respect to our study, children are the critical components in the school setting and therefore their behavioural, academic and non-academic performances take on a significance as a portion of the total resource community mosaic.

Barker, et al speak specifically to the situation in the resource community under study when they address themselves to what they identify as the issue of greatest social importance,

> "...the changing balance from scarcity or adequacy to redundancy of human components for behaviour settings...in the days of the western frontiers, people were at a premium to operate the established settings. People were valued in a nation of many undermanned behaviour settings, and the characteristic syndrome of behaviour on the frontier was in close accord with the derivations from theory of undermanning: business, hard work, versatility, self-confidence, self-esteem, responsibility, low standards, mutual support. Now the United States and many other societies are confronted with the problem of how to cope with redundant people. At the level of behaviour settings and their interior relations with their human components, the answer is clear: keep the number of people and the number of behaviour settings in balance so that all available people are needed for behaviour setting operation. This requires reducing the number of people or creating more behaviour settings with fewer inhabitants per setting." (P.289).

In this sense, the schools have enlarged to cope with the rapidly expanding population and the inhabitants (school children) of the school behavioural settings have increased per setting (school) in the Fort McMurray area. We will address this aspect of impact and what effects do enlarged settings with concomitant increases in pupils-setting ratio have upon achievement and behavioural patterns? Gump (Barker, 1978) addressed this issue in part and found that there were significant differences between students attending large schools and small schools concluding that the old saying "the bigger the better!" is of dubious worth. Students in larger schools were found to participate in a few more out-of-class activities than do students in smaller schools, but the smaller school attendees participated in more different kinds of settings. More importantly, small school attendees participated in double the number of school related activities as did students of larger schools. It appears that the chance to be needed and to gain an active role in the school activity comes more often to the average small-school students. In this respect, we also must distinguish between school size and class size. These are important considerations in terms of a child's adjustment to new surroundings and as a mechanism which can compensate for the consequences of the move to a new community.

Perhaps more importantly the finding of a greater sense of "responsibility" (twice as much) being reported by small school students is critical and can cause one to speculate about the installation of civic responsibility in our students and it's overall effect upon the community at large. The significantly higher dropout rate from the larger schools may be related to the non-participative alienation associated with the largeness of the setting. The early dropout phenomenon also reported may amount to exporting the problems and expenses from the school setting to other institutions such as the courts, jails or counselling centres, etc. Accordingly, it will be of importance to study the significance of the enlarging schools as it relates to changes in dropout rates and vandalism in the community.

One of the possible relationships we intend to examine in this regard, using secondary data, is among rates of delinquency, vandalism and associated actions, incidence of dropouts and truancy, and school/class size. A retrospective analysis may generate useful findings for policy purposes.

Therefore, the educational system can be viewed as a critical component of any new community development. Parents traditionally expect that their communities will provide good schools for their children. Community planners (Woods Gordon, _et al_, 1977) have used and continue to use schools to provide a focus for community, cultural and recreational activities which are regarded as also serving to reinforce a particular community's identity. _We will examine these aspects of parental aspirations._

Burby and Donnelly (1977) in their extensive study of the provision of schools and educational opportunity in suburban developments in the United States focussed upon: a) an examination of the capacity of school districts to cope with large scale community development, b) evaluating the outcomes of school development processes in new communities, c) aspects of the contribution of public schools to the residents' decisions to move to new communities and to the satisfaction with the new community as a place to live, and d) methods of increasing the effectiveness of school developing processes. Significant variables modifying the particular family's decision to move were: family income, parental education, number of children, race (black or white). The availability and characteristics of schools were less important considerations for all types of households. Schools were also ranked second behind environmental problems in the frequency that they were mentioned as a major community problem or issue (18% of total population studied mentioned some aspect of schools as a major problem).

It is the assumed right of all children to an education which leads to, 1) self-realization, 2) competent abilities in human relationships, 3) economic efficiency and 4) civic responsibility. Children with learning disabilities become frustrated and develop negative attitudes to the learning situation, which may ultimately produce an undesirable acting out against the community in general, early school dropout and resultant diminished support of a community.

2.2 FAMILY PRESSURES

Children's behaviour in general, and their concomitant school achievement in particular, frequently serve as an indication of how well their respective nuclear families are coping with stress. Since a significant portion of the population of any community is made of school children, we will study the effects of the northern community upon the children directly, and also the childrens' achievement and behavioural characteristics as they may reflect the extent to which a particular family is satisfied and integrated into the community.

It has also been thought frequently that children clinically represent the barometer of family life. Mandler and Watson (1966) describe an interruptive view of anxiety which seems applicable to the situation under study. They state that the interruption of an organized behavioural sequence, for example by moving to a new community, will evoke anxiety when no alternative behaviours are available. The individual then perceives a loss of control over the environment leading to feelings of anxiety and associated maladaptive behaviour patterns. Wolff (1973) and Koppitz (1971) in separate publications describe the social environment, cultural deprivation, frequent hospitalization, family disruption taking the form of divorce, death or absence of one parent, serious mental or physical illness, or intense parental conflict, abusive or alcoholism-associated behaviours as being characteristic behaviour patterns associated with the families of children under stress and children with associated learning disabilities. Koppitz also identifies early neglect, deprivation and foster home placement as being significantly related to learning disabilities. She used the Wide Range Achievement Test as a pre post-test measure to determine the extent to which achievement in school tasks was disrupted by various individual and familial patterns.

We will, through the Extended Interviews, enquire into familial factors related to stress and experience. Through a portion of the questions to be asked during the Extended Interview we will enquire into parental satisfaction with the educational system and attempt to develop a profile descriptive of parental interaction with that system. Parents will be asked to describe their educational expectations and educational perceptions specifically as they relate to their eldest child. This eldest child, who frequently has had the most varied educational experience due to his position in the family, is the one who most frequently reflects the familial attitude towards education, also reacts most to the stress events within the family (for example caused by moving and adaptation to the new location) and reflects familial attitudes to this stress. We will gather reliable data on school achievement and behaviour problems for the population of eldest children in the Extended Interview sample. They will form a particular subset of the educational component sample to be described below.

2.3 PRESSURES ON CHILDREN

Just as adults react and respond to environmental stress in their work setting, it is believed that children similarly exhibit the effects of stress associated with moving to and/or living in a developing resource community in their working setting, the school classroom. We expect that children migrating to the study areas from other provinces and countries will experience difficulties in adjusting to curriculum changes as well as to the impact of environmental differences. The finding of high levels of adjustment could be interpreted as indicating the existence of effective education and adjustment programming, just as high levels of newly exhibited stress-related maladjustment can be seen as reflecting the lack of appropriate programs. There is no doubt that the children come to Fort McMurray from widely discrepant curricular backgrounds in other provinces and countries. We intend to examine the effects upon the children and the system of such widely divergent backgrounds.

Ekstrand (1977) in reviewing the research on migration, minority groups, and cultural differences as they relate to children, suggests that while an adult with a well established behavioural pattern may feel safe and secure in a new situation when he can maintain contact with the same type of person he has for many years, this may not be the same for children. He hypothesizes that the greater the discrepancy between behavioural patterns existent in the new community as compared to the former community, the more numerous and greater the conflicts for the children.

Assimilation and acculturation processes are reciprocal and continuous in nature affecting both the local inhabitants as well as the immigrants. The long-term residents need to adjust to a rapidly changing pace of life, increased competitiveness, and a surging economy, while the newcomers have to cope with the suspiciousness and rejection often afforded intruders. Both parties will feel the stress of this process. The newcomers have had to experience the stress of leaving their former habitat. Kantor (1965) found that families who move are more likely to have behaviour problems manifested in their children before moving.

With respect to early construction in the Cold Lake Region, resource development will bring newcomers to the region, most of whom will leave after a short stay, thus creating the potential for increased disturbance in the migrant children. These "at risk" children will also have an influential effect upon the need for further support services.

The work pattern of the father, if it takes the expected form of long hours and shift work, may also have an impact upon the educational achievement and emotional stability of the children if Shinns' (1978) review of 54 studies on father absence and childrens' cognitive development can be accepted. Lambert and Hart (1976) also report that parents' interest in their childrens' school achievement is an important variable related significantly to academic success of the children. Biller (1974) similarly found that fathers who worked long hours and were home infrequently and fathers who viewed themselves as failures or who were insecure had underachieving sons. It is hypothesized that the factors of parental interest and father's work hours will be significant variables in the Oil Sands region development process as they relate to the educational attainment and behavioural difficulties of children in the community. Inasmuch as families are concerned about their children's educational progress, one can speculate that an intricate circle of absentee fathers due to extended shift work, will serve to have an effect upon the children's school attainment which, in turn, will also cause stress to the parents who will be dissatisfied with the educational system.

The evidence suggests that financial hardship, high levels of anxiety, and stress coupled with low levels of parent-child interrelations are important causes of poor educational performance among children. The experience of our senior associate and reports to him by health personnel knowledgeable about the area, suggest that there appears to be a high incidence of educational and health problems in the area.

Parental satisfaction with the provision of education for their children is a significant variable in their overall level of satisfaction with the community in which they live. A pattern of long-term residency will emerge only when people are sufficiently satisfied that their family's long-term needs are being met; offspring education is one key variable in the cluster associated with the decision to remain resident at a particular location.

Educational achievement by their children in what many parents regard as the basics: reading, spelling, and arithmetic, leads to feelings of satisfaction and support from the community. When parents are satisfied with the level of basic education their children receive, and their children are not experiencing behavioural difficulties, the parents can focus more of their energies on solving other problems associated with living in a resource community and can begin to work to develop that community.

2.4 TEENAGERS

It is assumed that the availability of well paying jobs requiring little in the way of expertise, particularly during construction phases, will have an effect upon the school dropout rate for the teenage population. Early school departure has an immediate effect upon the families and individuals concerned, and far-reaching effects upon the educational community which may subsequently need to engage in a retraining program; or, given that the individual involved is only employed during a "boom" phase, unemployment and or social assistance payments may ultimately be required.

Closely related to early school departure is the entire issue of vocational goals and level of counselling available to students. (Spady, 1967). It will be important to determine if there are significant differences between students planning post secondary education and those planning early entry into the work force because of the obvious immediate financial returns. For example, what proportion of students are planning long-term educationally oriented carreers?

What effects do rapidly increased demands for service have upon the education community in general and upon the consumer inhabitants of that community in particular?

Is the lack of permanency of structure a significant variable in the educational process particularly when the facilities that the children experienced in a previously attended school may have been very different in scope, scale and quality? The issue of the nature of school facilities in resource communities can be regarded as critical to the satisfaction of the total family unit (or to single persons for that matter, if the school facility takes on after-hour duties as a community centre).

If one can assume that increased stress in a resource community may serve to increase the incidence of family disruption and breakdown, then it is also reasonable to assume that the children involved will reflect this phenomenon through their socio-psychological behaviour and academic achievement pattern. Given that this may be the case, not only will greater family counselling support be required but also greater specific services, both of a remedial and preventive nature, for the children involved.

2.5 SUMMARY

The above issues and questions are representative rather than inclusive. Arising from them are many more specific questions which will be addressed through inspection and analysis of the data obtained in Phase 2 and Phase 3 as well as through followup and supplementary studies which can be identified once the main process commences.

Examples of specific questions to be answered by data analysis of future phases follow, but again are not to be regarded as exhaustive or all-inclusive but simply representative.

Are there identifiable relationships between;

a) parent educational level and childrens' achievement level,

b) parental expectations and childrens' achievement level,

c) number of relocations within the resource community and achievement level,

e) number of relocations prior to moving to resource community and achievement level,

f) number of relocations in the resource community and frequency or nature of behavioural difficulties,

g) number of relocations prior to coming to the resource community and the incidence or nature of behavioural problems,

h) time in the resource community and frequency or nature of behaviour problems,

i) grade level and degree of achievement difficulties,

j) grade level and incidence or nature of behavioural problems,

k) incidence of school reported behaviour problems and family well-being,

l) relationships between school dropout rates and achievement levels,

m) between school dropout rates and incidence or nature of behaviour problems,

n) job satisfaction of parents and school achievement of their children,

o) job satisfaction of parents and school reported incidence of behavioural problems, or,

p) various dimensions identified on the Activity and Community Indexes as reflecting family involvement in the community as related to educational achievement.

Consideration of these issues and questions will produce findings relevant to the development of policies concerning the development of resource community environments which will facilitate community satisfaction and reduce stresses leading to maladaptive attitudes and behaviour. Official departmental policy concerning the location, nature and size of schools; the provision of specialized curricula, remedial and counselling services and/or preventive and adaptive processes to reduce stress, truancy, early dropout, vandalism, and other forms of social deviance may ultimately be at least partially shaped by the findings of this study.

Perhaps of even greater significance, we regard the study as the opportunity for the community to demonstrate whatever coping strategies it may have developed in order that other resource communities of the future will benefit from this experience. One lesson of this study, as it relates to policy development, may well be that we must rely upon the cumulative documented experience, by facilitative leadership, of the residents of the community to have opportunities for effective input into a participative management process considered necessary for successful long-term development of resource communities.

Data generated by this study with respect to children, education and behaviour will help make the development of policy a viable process both from the point of view of resident and government bodies. An illustrative example might relate to the provincial policy of returning mentally ill and retarded children to their communities rather than having them resident in distant institutions. The critical question relating to such a policy must focus upon the extent to which the resource community is prepared with the necessary facilities and personnel to care for, educate, and treat those persons requiring those services at a level similar to what they would have obtained in other Alberta communities. For those families affected, this will be an important variable in community satisfaction.

It will be important to determine the extent to which services for the handicapped exist within the community will be hindered if the resources are meagre. We may therefore have a composite situation whereby the provincial authorities in moving towards a decentralization of the provision of services by insisting that the handicapped remain in their communities which will bring about an apparent increase in the demand for service at the local level. Interacting with this increased demand by virtue of a policy change, we may find a further exaggerating effect in the resource community due to a different stress pattern of families being unable to care for the disabled at home. This is a common phenomenon in communities affected by de-institutionalization. In the case of the study areas the stresses associated with the problem may be aggravated by the families' own adjustment problems. It will be necessary to tease out the extent to which the incidence of "problems" in the resource community is a reflection of a change in government policy as compared to an increase associated with resource community development stress.

3. INSTRUMENTS

This project plans to use the existing secondary data base where possible, developing it as necessary, and supplementing it with information obtained from instruments specifically selected to provide the greatest amount of relevant information possible so as to address the largest number of issues concerning the development of resource communities. To this end a number of instruments have been chosen to be supplemented by direct extended interview material obtained from the household survey and, as it relates to this section, directly from the children assessed.

3.1 INTRODUCTION

It is the intent of these researchers to make use of the Wide Range Achievement Test (Jastak, 1976), available school data, and the Walker Problem Behaviour Identification Checklist (Walker, 1970).

3.1.1 Achievement Testing

We reviewed the possibility of using a "criterion reference measure" (Proger and Mann, 1973) methodology which assesses individual achievement over time using a repeated measure design, but we found this too cumbersome in its detail for our purpose. In criterion reference measurements an absolute level of mastery desirable for the child to achieve on a specified body of tasks is established and the specific set of instructional strategies or objectives are designed to teach the children what the tests measure. It is educationally diagnostic in nature and designed to provide feedback as to the success level of a particular teaching strategy. Proger and Mann point out that it is not useful to build such a system unless the entire school organization uses it, since the idea is to obtain comparability of data throughout the school system by having all children take the same test items for a given specific behavioural objective.

The criterion reference measurement tests therefore seem worthwhile but focus upon different purposes than norm reference tests which serve to compare a child's overall performance to other presumably similar children. Norm reference devices are of use in the initial evaluation of a child's problem and serve to determine how deviant he is from the "normal". They are frequently used at the year's start for screening and for global pre-post-test assessments.

3.2 THE WIDE RANGE ACHIEVEMENT TEST

The Wide Range Achievement Test (WRAT) has undergone four revisions in its forty years of use and has been researched continuously on many thousands of persons from preschool to advanced old age. In the 1976 edition new norms and validation data are provided along with technical improvements over the administration of the previous editions. The WRAT is a convenient tool for the study of basic school subjects of reading, word recognition and pronunciation, written spelling, and arithmetic computation. It has apparently satisfied an important need as its use has become widespread in both the United States and Canada. The WRAT consists of three subtests in spelling, reading and arithmetic which are divided into two levels. Level 1, is designed for use with children between the ages of 5 years and 0 months and 11 years 11 months. Level 2 is intended for use with persons from 12 years and 0 months into adulthood. The three subtests at both levels are reading: recognizing and naming letters and pronouncing words out of context; spelling: copying marks resembling letters, writing the name and writing single words to dictation; and arithmetic: counting, reading number symbols, solving oral problems, and performing written computations.

The Wide Range Achievement Test has been used extensively in a great many studies and is recommended by Sattler (1974) as the achievement test which should be included in the battery of tests for the assessment of children with learning disabilities and/or minimal brain dysfunction.

Meier (1971) in an extensive study of 3,000 children in eight Rocky Mountain States discovered 15% of the children displayed some specific learning disorder. The Wide Range Achievement Test was used as the achievement test in this major study of second grade children. They found that over all 20% of the learning disabled children had social behavioural histories that revealed family irregularities (divorce, stepchildren and emotional stability). They also discovered that of the learning disabled children referred for psychological assessment: 20% were found to be hyperactive, irritable, withdrawn, self-depreciating and aggressive; 40% exhibited general behaviour problems and 65% were referred to as emotional or high-strung in nature as compared with virtually none of these characteristics being noted in non-learning-disabled controls. It concluded that there was a demonstrated relationship between family stress and learning disabilities in children, thereby supporting one of the premises of the current study which is to relate the achievement and behavioural activities of children to the incidence of stress and environmental dissatisfaction or satisfaction in the northern communities.

Malley (1975) in a study designed to measure reading skills among others used the Wide Range Achievement Test in a factor analysis study comparing norm referenced measurements and criterion referenced measures. The results indicated that the reading section of the Wide Range Achievement Test was a significant (greater than .05 level) discriminator between subjects enrolled in a remediation program and those not enrolled. Similarly, the WRAT was significantly (.794) correlated with teacher rating scales and total reading scores (.756). They concluded that from a teacher's point of view the study implied that the higher the score the child obtained, the better his overall reading ability and that the teacher could feel safe in administering any of the tests surveyed (including the WRAT) as an overall indicator of reading ability.

Smith and McManis (1977) in studying the concurrent validity of the Peabody Individual Achievement Test and the WRAT noted that the Wide Range Achievement Test was the most widely used individually administered academic achievement test currently available. The WRAT has been used frequently as a criterion measure in determining concurrent validity with new measures (Sitlington, 1970; Soeth, 1972; Bray and Estes, 1975). Although the WRAT is generally considered to be an individually administered wide range screening instrument, the spelling and arithmetic subtests may be group administered, as will be done in this study. It is further important to note that Bray and Estes found that the wide range reading grade correlated .90 with teacher ratings, spelling grade .85 and arithmetic grade .75. Many other authors have used the Wide Range Achievement Test as a criterion test for assessing concurrent validity as well as the test of choice in assessing achievement in a variety of populations ranging from severely disabled readers to culturally disadvantaged children, mentally retarded children and adults as well as with children of all ages and grade levels (Ferinden and Jacobson, 1970; Hunter and Johnson, 1971; Adler, 1973; Camp, 1973; Black, 1974; Koppitz, 1975).

Although there are many different tests of reading achievement in use, we desire a multilevel test of spelling and arithmetic as well as reading which is relatively quick and easy to administer. We therefore, have chosen the Wide Range Achievement Test.

3.3 BEHAVIOURAL ASSESSMENT

Analysis of referral patterns of children for psycho-educational evaluation and treatment both internally within a school and to out-of-school health care agencies reveal that teachers are a significant source of referral. The teacher's key position in the identification of high risk children makes the capability of the teacher's recognition of pupil problems a variable of primary importance.

Nelson (1971) found that teacher's ratings of pupil behaviour correlated highly with classroom observations. Further support for teacher recognition of high risk behaviour may be found in the reports of Brian and McCready (1973), Bowen (1969), Cohen (1963). Farr and Roelbe (1971), and Keogh, Tchir and Windeguth-Behn (1974) who in their study of teachers' perceptions of educationally high risk children concluded that on the basis of considerable empirical evidence it was reasonable to believe that teachers can recognize behaviours indicative of high risk and those children who are not adjusting to the academic or social environment of the school. Colligan (1977) found that using the Mykelbust Pupil Rating Scale in the kindergarten population that the teacher could identify children at risk for learning disabilities. A frequency sampling technique was also studied by Magliocca, Rinaldi, Crew and Kunzelmann (1977) as a device to assist teachers in the early identification of handicapped children and was found to be a viable method.

3.3.1 The Walker Problem Behaviour Checklist

Bolstad and Johnson (1977) studied the relationship between teachers' assessment of students and the students' actual behaviour in the classroom, using the Walker Problem Behaviour identification Checklist. The test re-test reliability of .86 on the least-well-behaved group was determined on this checklist over a four-week time period.

They concluded that teachers' perceptions of students were corroborated by independent behavioural observations, and that the Walker Problem Behaviour Identification Checklist was a reliable measure.

The Walker Problem Behaviour Identification Checklist (1970) was designed for use in the elementary grades and is standardized on grades 4, 5 and 6. It is composed of observable operational statements about classroom behaviour which were furnished by a representative sample of elementary school teachers. The author designed it on the basis that the classroom teacher is in a unique position to identify children with behaviour problems since more time is spent in actual observation of the child by the classroom teacher than by any other school personnel. The checklist consists of items which describe behaviours that interfere or actively compete with successful academic performance. It is suggested that the ratings take place after a two-month observation period in order that the teacher may be familiar with the children. It is thought that an observation period such as this increases the reliability and validity of the teacher's ratings and also reduces the probability that high magnitude yet low frequency behaviour such as stealing, temper tantrums, fighting, be missed by the rater.

It is recognized that the norms available are standardized on the basis of grades 4, 5 and 6 children; however, we propose that the checklist be administered across the entire sample and that extended norms be developed for our population, (just as this test was standardized by converting the raw data into a Z-score distribution so as to normalize it and then establish separation points within the distribution for determining disturbed or non-disturbed subjects). It is proposed that a one standard deviation above the mean will be established as a point in the distribution for separating the deviant and non-deviant subjects as was done in the standardization of the checklist. (For the purposes of the grade 4, 5 and 6 students, used to standardize this checklist, contrasted group validity was found to be reasonably claimed since behaviourally disturbed subjects received significantly higher scores than non-behaviourally disturbed subjects, and the difference between the means of the experimental control groups were significant beyond the .001 level of confidence. Similarly, criterion validity was demonstrated using bi-serial correlations in which a predictive efficiency index of .33 provides the measure of the checklist predictive value indicating utility in the prediction of behaviour disturbance in populations of elementary school shildren. Factorial validity and item validity are also well within acceptable range.)

3.4 ANALYSIS

The gathering of educational data will focus pon three separate processes: 1) extended interviews and basic demographic data responses which will supply the educational level of attainment of the adult participants and where appropriate, their perceptions concerning the adequacy of the educational system as related to their eldest offspring attending the local school system, 2) locally available statistics as they relate to such variables as student dropout rates, percentage kindergarten attendance, student transfers, changing student-teacher ratios, teacher's educational levels, number of special classes, grade levels on available standardized testing, adult educational attendance with concomitant completion and dropout rates, school vandalism, etc., 3) achievement and behavioural assessment of a selected sample of school children.

The data collected from the adult participants in the extended interviews will permit statements to be made about such critical variables as: family size and school achievement of offspring; and parental educational level and school achievement of offsprings which may relate to expectancy levels and the degree of satisfaction with the community. Relationships between length of stay in the community, achievement, and behavioural difficulties will also be determined. The existence of family stress, levels of employment satisfaction, and the degree of environmental integration will also be reviewed as they may be significant factors relating to the behaviour, academic and social, being exhibited by the school populace. (Recent research has indicated significant relationships between single parents and school achievement as well as father absences from the home and the level of school achievement of their children.)

Relationships between the inhabitants' perceptions or educational expectations and the locally available statistics may provide significant socio-educational indicators for future development. For example, has an increase in vandalism and/or delinquency been perceived to occur as the schools became swollen with the migrant population, and is this reflected in student/teacher ratios, drop-out rates or decreased levels of academic achievement, perceptions of school climate?

Some very specific information concerning the educational system will be gathered from the students selected to make up the sample which will undergo achievement testing and behavioural rating. When they are being seen individually for the reading assessment they will also be asked a series of questions which will make up a structured interview.

3.4.1 Achievement-Behavioural Focus

This portion of the education component has as its purpose the aim to monitor educational achievement of the children and the behaviour they exhibit over time. Through a mini-interview at the time of the reading (word naming) portion of the assessment, the children will also be given the opportunity of describing their experiences and opinions about matters important to them focussing upon the quality of life in Fort McMurray as compared to previous places of residence where applicable. Those children who regard themselves as long-term residents, i.e. those who have been born and raised entirely in Fort McMurray, will be asked to comment upon changes that they have experienced in Fort MrMurray.

The data obtained in this manner will be related to the satisfaction levels noted in the Extended Interview and the general household survey as well as to the factors which emerge from the "needs-press" portion of the study where applicable.

4. PROCEDURES

During September and October 1978 the principal investigator will meet with the local educational authorities to review the existing data and to begin to compile it in such a manner as to make it congruent with the overall study questions. Also, at this time, in conjunction with the school authorities, two classrooms, one from the public school system and one from the separate school system will be randomly selected for participation in this aspect of the study. The school principals and teachers thereby involved will be trained in the test administration.

The importance and impact of the study has already been discussed with the Board Staff in Fort McMurray during Phase 1 and has their support. Ther personnel required for administering the reading portions of the Wide Range Achievement Test and interviewing the children, as well as compiling the data, will also be selected and trained in order to be ready to commence the assessment process during the last two weeks of November.

The school authorities of course, will be offered our data for their records upon completion of the study.

4.1 SAMPLE SELECTION

4.1.1 Fort McMurray

Five classes in each chool system will be selected randomly, yielding approximately 50 children (two classrooms) in each of the grades 1, 3, 6, 9 and 11 for an estimated total of 250 students to be assessed using the Wide Range Achievement Test. The teachers selected will also be requested to rate each child on the Walker Problem Behaviour Identification Checklist. This initial assessment will occur during the last two weeks of November to the first two weeks of December, to be followed-up one year later. Thus, the same two classes of children will be seen in grades 2, 4, 7, 10 and 12. We recognize that some of the children will have to be seen on an individual basis on followup since it is unlikely that they will remain as intact classes.

Procedurally, as soon as the participating classrooms have been identified the classlists will be compared with the master list to determine the extent of overlap. In order to assure maximum comparability of data the households not already selected in the master sample will be contacted and their cooperation requested in completing the other aspects of the study. If they refuse to cooperate no effort will be made at obtaining replacements.

4.1.2 Control Community

If Peace River is chosen to act as a control community then a similar process may be used to collect relevant data. Depending upon the level of detail desired by the client this portion of the study may or may not include the actual assessment and interviewing of children as this is a very costly process. If children are to be seen, then an identical process to that proposed for Fort McMurray will be used with a reduction in numbers to half the size so as to reduce overall costs.

4.1.3 Cold Lake Region

The discussion of educational implications associated with development in Fort McMurray has equal applicability to the proposed developments in the Cold Lake region. However, the rural-agricultural nature of the Cold Lake area combined with the factors of several quite separate communities as well as larger Native and Metis settlements serve to complicate the situation. It is speculated that the impact upon this area will be multi-faceted due to the many separate and distinct communities and their own idiosyncratic properties.

It is, therefore relevant that an educational component be included in the Cold Lake impact study. The increased complexity of the population may demand a somewhat different approach to sampling. Ideally, the same procedure could be followed in each community as will be conducted in Fort McMurray by sampling one classroom at each selected grade level. Minimally, it is proposed that a pilot study occur using a selected grade 6 sample since the probability of educational achievement problems and behavioural effects should be maximal at this age level.

Using the same procedure as with the Fort McMurray study the cooperation of the local educational authorities will be obtained in order that a random selection of grade 6 classrooms can be effected. A stratified representation will be attempted by selecting a classroom from each of the following locations: a) Cold Lake/Medley, b) Grande Centre, c) Bonnyville, d) an Indian Reservation school, e) Metis Colony settlement school, f) one hamlet school.

Estimating 25 students per classroom, one arrives at a sample size of 150 students. The same procedures of assessment and followup will be carried out as indicated above in the Fort McMurray study. Ideally, it would be best if the identical method of randomly selecting classes covering the same grades could be performed in both areas, however the cost of doing such an extensive study in the widespread communities of the Cold Lake region may be prohibitive. It may be possible however, in collaboration with local school district authorities, to select one school in one of the larger communities such as Bonnyville or Grande Centre to perform the identical process as is suggested for Fort McMurray.

Earl Berger Limited

DRAFT

ALBERTA OIL SANDS ENVIRONMENTAL RESEARCH PROGRAM

LONGITUDINAL STUDY OF PERSONAL ADJUSTMENT AND SOCIAL CONDITIONS IN THE FORT MCMURRAY AREA HS 30.1

PHASE 1: FINAL REPORT

BACKGROUND PAPER:

CHILDREN AND EDUCATION

APPENDIX 1:

WIDE RANGE ACHIEVEMENT TEST

AUGUST, 1978

1978 EDITION

WIDE RANGE ACHIEVEMENT TEST

By J. F. Jastak, S. W. Bijou, S. R. Jastak

Name .... Sex: M. F.

School .... Grade ......

Referred by ....

Date .... Examiner ....

Birthday .... Chron. Age ....

Scores:	RAW	GRADE	% ILE	STAND.
Reading	......	......	......	......
Spelling	......	......	......	......
Arithmetic	......	......	......	......

PAGE 1: SPELLING I & II

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Name ____________________

1. ____________________
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40. ____________________
41. ____________________
42. ____________________
43. ____________________
44. ____________________
45. ____________________
46. ____________________

FOR INDIVIDUAL AND GROUP COMPARISONS USE ONLY STANDARD SCORES ON PAGES 16 TO 42 OF MANUAL.

LEVEL I

Raw Scores

Test	Cumul. Score
Copying	
1 point per mark	1 to 18
Name	
1 letter	19
2 letters	20
Spelling	
1 point per word	21 to 65

Grade Norms

Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade
1	N.5	12	Kg.4	23	1.5	34	3.0	45	5.7	56	10.3
2	N.8	13	Kg.5	24	1.6	35	3.2	46	6.0	57	10.9
3	Pk.1	14	Kg.6	25	1.7	36	3.5	47	6.3	58	11.5
4	Pk.2	15	Kg.7	26	1.8	37	3.7	48	6.5	59	12.2
5	Pk.3	16	Kg.8	27	2.0	38	3.9	49	6.8	60	13.0
6	Pk.5	17	Kg.9	28	2.2	39	4.2	50	7.2	61	13.8
7	Pk.7	18	Gr.1.0	29	2.3	40	4.5	51	7.7	62	14.5
8	Pk.9	19	1.1	30	2.5	41	4.7	52	8.2	63	15.2
9	Kg.1	20	1.2	31	2.6	42	5.0	53	8.7	64	15.9
10	Kg.2	21	1.3	32	2.7	43	5.3	54	9.2	65	16.7
11	Kg.3	22	1.4	33	2.9	44	5.5	55	9.7		

LEVEL II

Raw Scores

Test	Cumul. Score
Copying	
4-9	1
10-17	2
18	3
Name	
1 letter	4
2 letters	5
Spelling	
1 point per word	6 to 51

Grade Norms

Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade
0	Kg.2	11	4.0	21	6.7	31	9.0	41	12.4
1	Kg.6	12	4.3	22	6.8	32	9.3	42	12.8
2	Gr.1.0	13	4.6	23	7.0	33	9.6	43	13.2
3	1.3	14	4.9	24	7.2	34	9.9	44	13.6
4	1.6	15	5.2	25	7.4	35	10.2	45	14.0
5	1.9	16	5.5	26	7.6	36	10.5	46	14.4
6	2.2	17	5.8	27	7.8	37	10.8	47	15.0
7	2.6	18	6.1	28	8.1	38	11.2	48	15.7
8	3.0	19	6.3	29	8.4	39	11.6	49	16.4
9	3.3	20	6.5	30	8.7	40	12.0	50	17.2
10	3.7							51	18.0

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ARITHMETIC, LEVEL I

ORAL PART

● ● ● ● ● ● ● ● ● ● ● ● ● ● ● 8

Tᔭ LT 9 ϛ Ɛ 3 Fingers. 8 fingers. 9 or 6? 42 or 28? 17

3 pennies, spend 1 ?________ ; 3 + 4 apples?________; 9 marbles, lose 3?________ 20

WRITTEN PART

1 + 1 = ____

4 − 1 = ____

$\begin{array}{r} 6 \\ +2 \\ \hline \end{array}$ $\begin{array}{r} 5 \\ -3 \\ \hline \end{array}$ $\begin{array}{r} 32 \\ 24 \\ +40 \\ \hline \end{array}$ 4 × 2 = ____ $\begin{array}{r} 23 \\ \times 3 \\ \hline \end{array}$ $\begin{array}{r} 29 \\ -18 \\ \hline \end{array}$ $\begin{array}{r} 75 \\ +8 \\ \hline \end{array}$ 29

$\begin{array}{r} 452 \\ 137 \\ +245 \\ \hline \end{array}$ 6 + 2 = ____ $\begin{array}{r} \$62.04 \\ -5.30 \\ \hline \end{array}$ $1\frac{1}{2}$ hr. = ____min. $6\overline{)966}$

$\frac{1}{3}+\frac{1}{3}=$ ____ 35

$\frac{15}{5}=$ ____ $\frac{7}{8}-\frac{3}{8}=$ ____ $\begin{array}{r} 823 \\ \times 96 \\ \hline \end{array}$ $\begin{array}{r} 4\frac{5}{8} \\ 3\frac{1}{3} \\ +2\frac{1}{2} \\ \hline \end{array}$ $\frac{2}{5}$ of 35 = ____

$\frac{1}{2}$ yd. = ____in. $1\frac{3}{4}=\frac{\quad}{4}$ 42

$27\overline{)384}$ $\frac{3}{4}$ yr. = ____mo. Multiply: $\begin{array}{r} 7.96 \\ 30.8 \\ \hline \end{array}$

$\frac{2}{3}=\frac{\quad}{12}$ $\begin{array}{r} 5 \\ -1\frac{1}{3} \\ \hline \end{array}$ $2\frac{1}{3}$ doz. = ____ 48

Which is more?

$\frac{7}{8}$ or $\frac{12}{13}$ Ans. ____

Find the average of

24, 18, 21, 26, 17

Ans. ______

Write as a percent

$\frac{3}{4}=$ ____%

$4\frac{1}{2}\times 3\frac{1}{3}=$ ____ 52

$\frac{3}{16}+\frac{3}{4}=$ ____ $\frac{5}{8}\times\frac{2}{4}\times\frac{1}{2}=$ ____

Write as decimal:

$\frac{3}{5}=$ ____ 20% of 120 = ____ 56

$6^2=$ ____ $8.2\overline{)62.703}$

Change to familiar numerals:

M C X L II = ____

$(-5)(+9)=$ ____ 60

Find interest on

\$300 at $4\frac{1}{2}$% for 7 mo.

Ans. ________

Solve:

$y+(9-8y)=65$

$y=$ ________

Find square root: $\sqrt{334.89}$ 63

ARITHMETIC—LEVEL I: FOR INDIVIDUAL AND GROUP COMPARISONS USE ONLY STANDARD SCORES ON PAGES 16 TO 29 OF MANUAL.

Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade
1	N.5	6	Pk.6	11	Kg.4	16	Gr.1.0	21	1.9	26	2.8	31	4.2	36	5.3	41	6.3	46	7.6	51	10.7	56	14.2
2	N.8	7	Pk.8	12	Kg.5	17	1.2	22	2.1	27	3.0	32	4.5	37	5.5	42	6.5	47	8.2	52	11.4	57	14.9
3	Pk.1	8	Kg.1	13	Kg.6	18	1.4	23	2.2	28	3.2	33	4.7	38	5.7	43	6.7	48	8.8	53	12.1	58	15.6
4	Pk.2	9	Kg.2	14	Kg.7	19	1.6	24	2.4	29	3.6	34	5.0	39	5.9	44	7.0	49	9.4	54	12.8	59	16.3
5	Pk.4	10	Kg.3	15	Kg.9	20	1.8	25	2.6	30	3.9	35	5.2	40	6.1	45	7.2	50	10.0	55	13.5		

ARITHMETIC, LEVEL II

ORAL PART

1. Counts 1-5 2. Counts 6-15 3. Reads 3 4. Reads 5 5. Reads 6
6. Reads 17 7. Reads 41 8. Pennies 3-1 9. Apples 3 + 4 10. Marbles 9-3 10

WRITTEN PART

$$\begin{array}{r}43\\ +\ 6\\ \hline\end{array}\qquad \begin{array}{r}94\\ -\ 64\\ \hline\end{array}\qquad \begin{array}{r}\$4.95\\ \times\ 3\\ \hline\end{array}\qquad \begin{array}{r}726\\ -\ 349\\ \hline\end{array}$$

$2\frac{1}{2} + 1\frac{1}{2} =$ ______

$\frac{1}{6}$ of 30 = ______

$$\begin{array}{r}229\\ 5048\\ 63\\ +\ 1381\\ \hline\end{array}$$

17

$9\overline{)4527}$

$1\frac{1}{3}$ ft. = ______ in.

$2 -$ ______ $= \frac{1}{4}$

Add:

$$\begin{array}{r}6\frac{1}{4}\\ 1\frac{3}{8}\\ 4\frac{1}{2}\\ \hline\end{array}$$

$$\begin{array}{r}809\\ \times\ 47\\ \hline\end{array}$$

Write as percent:

.42 = ______%

23

Subtract:

$$\begin{array}{r}10\frac{1}{4}\\ 7\frac{2}{3}\\ \hline\end{array}$$

Multiply:

$$\begin{array}{r}6.23\\ 12.7\\ \hline\end{array}$$

Find average:

34, 16, 45, 39, 27

Ans. ______

Write as decimal:

$52\frac{1}{2}\ \% =$ ______

Write as percent:

$\frac{3}{8} =$ ______%

$2.9\overline{)308.85}$

29

Add:

$$\begin{array}{rr}3 \text{ ft.} & 6 \text{ in.}\\ 5 \text{ ft.} & 5 \text{ in.}\\ 8 \text{ ft.} & 11 \text{ in.}\\ \hline\end{array}$$

$M + 2 = 5$

$M =$ ______

$2x = 3$

$x =$ ______

$6 \times 3\frac{7}{8} =$ ______

15% of 175 = ______

Write as common fraction in lowest terms: .075 = ______

The complement of an angle of 30° = ______

36

$4^3 =$ ______

$.25 + 1\frac{1}{5} =$ ______

If $a = 7$, $b = 3$,

$a^2 + 3b =$ ______

$\frac{1}{4}$% of 60 = ______

66 sq. ft. = ______ sq. yd.

Solve:

$\frac{7 - (6 + 8)}{2} =$ ______

Add:

$$\begin{array}{r}-x - y - 23\\ x - y + 22\\ \hline\end{array}$$

43

Factor:

$r^2 + 25 - 10r$

Ans. ______

$\frac{r^2 - 5r - 6}{r + 1}$

Ans. ______

Change to familiar numerals: M D C X C I = ______

Find interest on $1,200 at 6% for 70 days. Ans. ______

$3p - q = 10$

$2p - q = 7$

$p =$ ______

$q =$ ______

$\sqrt{2ax} = 6$

$x =$ ______

$\frac{7}{17} = \frac{6}{x}$

$x =$ ______

51

Find square root:

$\sqrt{67081}$

$\log_{10}\left(\frac{1}{100}\right)$

Ans. ______

$\log_5 5\sqrt{5}$

Ans. ______

Reduce:

$\frac{k^2 + k}{k^2} \cdot \frac{3k - 3}{k^2 - 1}$

Ans. ______

Find root:

$2x^2 - 36x = 162$

Ans. ______

56

ARITHMETIC—LEVEL II: FOR INDIVIDUAL AND GROUP COMPARISONS USE ONLY STANDARD SCORES ON PAGES 30 TO 42 OF MANUAL.

Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade
0	N.9	4	Kg.2	8	Gr.1.0	12	2.9	16	4.9	20	6.3	24	7.1	28	8.5	32	10.8	36	12.8	40	14.9	45	17.7
1	Pk.2	5	Kg.4	9	1.5	13	3.4	17	5.3	21	6.5	25	7.4	29	9.0	33	11.3	37	13.3	41	15.4	46	18.3
2	Pk.5	6	Kg.6	10	1.9	14	3.9	18	5.7	22	6.7	26	7.7	30	9.5	34	11.8	38	13.8	42	15.9	47	18.9
3	Pk.9	7	Kg.8	11	2.3	15	4.4	19	6.1	23	6.9	27	8.0	31	10.1	35	12.3	39	14.4	43	16.5	48	19.5
																				44	17.1	49	20.0

READING
LEVEL II

Two letters in name (2) A B O S E R T H P I U Z Q (13) 15

milk city in tree animal himself between chin split form 25

grunt stretch theory contagious grieve toughen aboard triumph 33

contemporary escape eliminate tranquillity conspiracy image ethics 40

deny rancid humiliate bibliography unanimous predatory alcove 47

scald mosaic municipal decisive contemptuous deteriorate stratagem 54

benign desolate protuberance prevalence regime irascible peculiarity 61

pugilist enigmatic predilection covetousness soliloquize longevity abysmal 68

ingratiating oligarchy coercion vehemence sepulcher emaciated evanescence 75

centrifugal subtlety beatify succinct regicidal schism ebullience 82

misogyny beneficent desuetude egregious heinous internecine synecdoche 89

FOR INDIVIDUAL AND GROUP COMPARISONS USE ONLY STANDARD SCORES ON PAGES 16 TO 42 OF MANUAL.

LEVEL I—GRADE NORMS

Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade
1	N.5	16-17	Kg.6	36-37	1.9	53	3.3	66	5.3	79	8.1	92	12.9
2	N.8	18	Kg.7	38	2.0	54	3.5	67	5.5	80	8.4	93	13.3
3	Pk.1	19-20	Kg.8	39-40	2.1	55	3.6	68	5.7	81	8.7	94	13.7
4	Pk.2	21	Kg.9	41	2.2	56	3.8	69	5.9	82	9.0	95	14.1
5	Pk.4	22	Gr.1.0	42-43	2.3	57	3.9	70	6.1	83	9.3	96	14.5
6	Pk.5	23	1.1	44	2.4	58	4.1	71	6.3	84	9.7	97	14.9
7	Pk.7	24-25	1.2	45-46	2.5	59	4.2	72	6.5	85	10.1	98	15.4
8	Pk.9	26-27	1.3	47	2.6	60	4.4	73	6.7	86	10.5	99	15.8
9	Kg.1	28-29	1.4	48	2.7	61	4.5	74	6.8	87	10.9	100	16.2
10-11	Kg.2	30-31	1.5	49	2.8	62	4.7	75	7.0	88	11.3		
12	Kg.3	32-33	1.6	50	2.9	63	4.8	76	7.2	89	11.7		
13-14	Kg.4	34	1.7	51	3.0	64	5.0	77	7.5	90	12.1		
15	Kg.5	35	1.8	52	3.1	65	5.1	78	7.8	91	12.5		

LEVEL II—GRADE NORMS

Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade	Score	Grade
0	Pk.5	16	1.3	29	4.4	42	6.8	55	9.3	68	13.0	81	16.8
1	Pk.8	17	1.5	30	4.6	43	6.9	56	9.6	69	13.2	82	17.1
2	Kg.1	18	1.7	31	4.8	44	7.1	57	9.9	70	13.5	83	17.4
3-4	Kg.2	19	1.8	32	5.0	45	7.3	58	10.2	71	13.8	84	17.7
5-6	Kg.3	20	2.0	33	5.2	46	7.5	59	10.5	72	14.1	85	18.0
7	Kg.4	21	2.2	34	5.4	47	7.7	60	10.8	73	14.4	86	18.3
8	Kg.5	22	2.4	35	5.6	48	7.9	61	11.3	74	14.7	87	18.6
9	Kg.6	23	2.6	36	5.8	49	8.1	62	11.6	75	15.0	88	19.0
10-11	Kg.7	24	2.8	37	6.0	50	8.3	63	11.9	76	15.3	89	19.5
12	Kg.8	25	3.2	38	6.2	51	8.5	64	12.2	77	15.6		
13	Kg.9	26	3.5	39	6.3	52	8.7	65	12.4	78	15.9		
14	Gr.1.0	27	3.9	40	6.5	53	8.9	66	12.6	79	16.2		
15	1.1	28	4.2	41	6.6	54	9.1	67	12.8	80	16.5		

LEVEL I

cat see red to big work book eat was him how 36

then open letter jar deep even spell awake block size 46

weather should lip finger tray felt stalk cliff lame struck 56

approve plot huge quality sour imply humidity urge 64

bulk exhaust abuse collapse glutton clarify 70

recession threshold horizon residence participate quarantine 76

luxurious rescinded emphasis aeronautic intrigue repugnant 82

putative endeavor heresy discretionary persevere anomaly 88

rudimentary miscreant usurp novice audacious mitosis 94

seismograph spurious idiosyncrasy itinerary pseudonym aborigines 100

A R Z H I Q S E B O 10

Two letters in name (2) A B O S E R T H P I U Z Q 25

LEVEL I—SPELLING LIST AND PRONUNCIATION GUIDE

1. go	Children *go* to school	gō
2. cat	The *cat* has fur	kăt
3. in	We are *in* the room	ĭn
4. boy	The *boy* plays ball	boi
5. and	Bill *and* Bob play together	ănd
6. will	They *will* wait for you	wĭl
7. make	She can *make* a dress	māk
8. him	They saw *him* in town	hĭm
9. say	*Say* it slowly	sā
10. cut	Mother will *cut* the cake	kŭt
11. cook	We *cook* our own dinner	kŏok
12. light	The *light* is bright	līt
13. must	We *must* do our work	mŭst
14. dress	The *dress* fits well	drĕs
15. reach	He couldn't *reach* the ball	rēch
16. order	The captain's *order* was obeyed	ôr' dĕr
17. watch	My *watch* is fast	wôch
18. enter	*Enter* this way	ĕn' tĕr
19. grown	Potatoes are *grown* in the field	grōn
20. nature	The study of *nature* is interesting	nā' chĕr
21. explain	*Explain* how it happened	eks plān'
22. edge	He sat on the *edge* of the chair	ĕj
23. kitchen	Our *kitchen* is small	kĭch' ĕn
24. surprise	He may *surprise* you	sĕr prīz'
25. result	The *result* of your work is good	rē zŭlt'
26. advice	My *advice* was forgotten	ăd vīs'
27. purchase	We did not *purchase* the car	pĕr' chĭs
28. brief	I received a *brief* note	brēf
29. success	*Success* makes people happy	sŭk sĕs'
30. reasonable	His request was *reasonable* and just	rē z'n ă b'l
31. imaginary	He told us an *imaginary* story	ĭ măj' ĭ nĕr ĭ
32. occupy	We *occupy* a small apartment	ŏk' ū pī
33. character	Her fine *character* was praised	kăr' ăk tĕr
34. society	Every *society* has rules	sō sī' ĕ tĭ
35. official	An *official* invitation came today	ō fĭsh' ăl
36. recognize	He did not *recognize* me	rĕk' ŏg nīz
37. familiar	We are *familiar* with the news	fă mĭl' yĕr
38. commission	The *commission* reported to the mayor	kŏ mĭsh' ŭn
39. beneficial	Good food is *beneficial* to health	bĕn ĕ fĭsh' ăl
40. appropriation	Congress made an *appropriation* for schools	ă prō prĭ ā' shŭn
41. enthusiasm	People showed *enthusiasm* for the hero	ĕn thū' zĭ ăz'm
42. criticize or criticise	It is easy to *criticize* others	krĭt' ĭ sīz
43. prejudice	*Prejudice* is harmful to people	prĕj' ōō dĭs
44. belligerent	The soldier was *belligerent* and brave	bĕ lĭj' ĕr ĕnt
45. occurrence	War is a tragic *occurrence*	ŏ kĕr' ĕns

LEVEL II—SPELLING LIST AND PRONUNCIATION GUIDE

1. cat	The *cat* has fur	kăt
2. run	Bob can *run* fast	rŭn
3. arm	His *arm* hurt	ärm
4. train	The *train* was crowded	trān
5. shout	If you *shout*, he'll hear you	shout
6. correct	Put down the *correct* answer	kŏ rĕkt'
7. circle	The *circle* is a round drawing	sĕr' kl̆
8. heaven	*Heaven* surrounds the earth	hĕv' ĕn
9. educate	Parents *educate* their children	ĕd' ū kāt
10. material	The *material* was expensive	mă tēr' ĭ ăl
11. ruin	The house was in *ruin* after the fire	rōō' ĭn
12. fashion	The dress is now in *fashion*	făsh' ŭn
13. believe	I *believe* you are right	bē lēv'
14. suggestion	My *suggestion* was followed	sŭg jĕs' chŭn
15. equipment	The office got new *equipment*	ē kwĭp' mĕnt
16. majority	The *majority* voted for the bill	mă jŏr' ĭ tĭ
17. institute	The art *institute* held an exhibit	ĭn' stĭ tūt
18. literature	Some *literature* is worth reading	lĭt' ĕr ă tūr
19. reverence	Old people are treated with *reverence*	rĕv' ĕr ĕns
20. museum	The art *museum* held an exhibit	mū zē' ŭm
21. precious	Health is *precious*	prĕsh' ŭs
22. illogical	His thinking was *illogical*	ĭl lŏj' ĭ kăl
23. decision	Your *decision* was accepted by all	dē sĭzh' ŭn
24. quantity	He ate a large *quantity* of food	kwŏn' tĭ tĭ
25. executive	The governor is a state *executive*	ĕg zĕk' ū tĭv
26. necessity	Food is a *necessity* of life	nĕ sĕs' ĭ tĭ
27. opportunity	He had no *opportunity* for success	ŏp ŏr tū' nĭ tĭ
28. anxiety	Floods create *anxiety* among people	ăng zī' ĕ tĭ
29. conscience	His *conscience* was clear	kŏn' shĕns
30. physician	Our family *physician* examined me	fĭ zĭsh' ăn
31. courteous	Let's be *courteous* to everybody	kĕr' tē ŭs
32. possession	He took *possession* of the house	pŏ zĕsh' ŭn
33. lucidity	We think best in moment of *lucidity*	lū sĭd' ĭ tĭ
34. exaggerate	Don't *exaggerate* your accomplishments	ĕg zăg' ĕr āt
35. privilege	It was a *privilege* to meet the astronaut	prĭv' ĭ lĭj
36. loquacious	He was *loquacious* during the interview	lō kwā' shŭs
37. medieval	*Medieval* times were long ago	mē dĭ ē' văl
38. effeminate	He is an *effeminate* person	ĕ fĕm' ĭ nĭt
39. resilient	Steel is more *resilient* than lead	rē zĭl' ĭ ĕnt
40. sovereignty	The country kept its *sovereignty*	sŏv' ĕr ĭn tĭ
41. assiduous	*Assiduous* effort gets results	ă sĭd' ū ŭs
42. irresistible	His idea was *irresistible*	ĭr rē zĭs' tĭ bl̆
43. acquiesce	To *acquiesce* is to comply with a demand	ăk wĭ ĕs'
44. charlatan	A *charlatan* is a pretender	shär' lă tăn
45. pusillanimous	A *pusillanimous* person is weak in spirit	pū sĭ lăn' ĭ mŭs
46. iridescence	*Iridescence* is a play of colors	ĭr ĭ dĕs' ĕns

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ALBERTA OIL SANDS ENVIRONMENTAL RESEARCH PROGRAM

LONGITUDINAL STUDY OF PERSONAL ADJUSTMENT AND SOCIAL CONDITIONS IN THE FORT MCMURRAY AREA HS 30.1

PHASE 1: FINAL REPORT

BACKGROUND PAPER:

CHILDREN AND EDUCATION

APPENDIX 2:

WALKER PROBLEM BEHAVIOUR CHECKLIST

AUGUST, 1978

Walker Problem Behavior Identification Checklist

by Hill M. Walker, Ph.D.

Published by

WPS
WESTERN PSYCHOLOGICAL SERVICES
PUBLISHERS AND DISTRIBUTORS
12031 WILSHIRE BOULEVARD
LOS ANGELES, CALIFORNIA 90025
A DIVISION OF MANSON WESTERN CORPORATION

Name: **School:**

Address: **Grade:**

Age: **Sex:** M F **Date:** **Classroom:**

Rated By: **Position of Rater:**

INSTRUCTIONS

Please read each statement carefully and respond by circling the number to the right of the statement if you have observed that behavioral item in the child's response pattern during the last two month period. If you have not observed the behavior described in the statement during this period, do not circle any numbers (in other words, make no marks whatsoever if the statement describes behavior which is NOT present).

Examples:

	Scales 1	2	3	4	5
1. Has temper tantrums	②				
2. Has no friends			4		
3. Refers to himself as dumb, stupid, or incapable				3	
4. Must have approval for tasks attempted or completed.			①		

Statements 1 and 4 are considered to be present while statements 2 and 3 are considered to be absent. Therefore, only the numbers to the right of items 1 and 4 are circled, and the numbers to the right of 2 and 3 are NOT circled.

Profile Analysis Chart (PAC)

T Score	Scale 1 Acting-Out	Scale 2 Withdrawal	Scale 3 Distractibility	Scale 4 Disturbed Peer Relations	Scale 5 Immaturity	Total Score	T Score
100					10		100
	26						
	25			11			
95	24				9		95
	23						
				10	8		
90	22						90
	21	14				50	
				9		49	
	20					48	
					7	47	
85		13				46	85
	19			8		45	
						44	
	18		13			43	
						42	
80	17	12				41	80
		11			6	40	
	16		12	7		39	
						38	
	15	10				37	
75			11		5	36	75
	14			6		35	
						34	
	13	9	10			33	
						32	
70	12	8				31	70
			9	5	4	30	
	11					29	
						28	
	10	7	8			27	
65						26	65
	9					25	
		6	7	4	3	24	
						23	
	8					22	
60		5	6	3		21	60
	7					20	
			5		2	19	
	6	4				18	
				2		17	
55	5		4			16	55
		3				15	
			3			14	
	4					13	
	3				1	12	
50		2		1		11	50
	2		2			10	
		1				9	
	1					8	
				0	0	7	
45	0		1			6	45
						5	
		0				4	
						3	
			0			2	
40						1	40

	SCALE				
	1	2	3	4	5
1. Complains about others' unfairness and/or discrimination towards him.	3				
2. Is listless and continually tired.					2
3. Does not conform to limits on his own without control from others.			1		
4. Becomes hysterical, upset or angry when things do not go his way.	3				
5. Comments that no one understands him.				1	
6. Perfectionistic: Meticulous about having everything exactly right.			2		
7. Will destroy or take apart something he has made rather than show it or ask to have it displayed.				3	
8. Other children act as if he were taboo or tainted.					4
9. Has difficulty concentrating for any length of time.			1		
10. Is overactive, restless, and/or continually shifting body positions.			2		
11. Apologizes repeatedly for himself and/or his behavior.					2
12. Distorts the truth by making statements contrary to fact.	1				
13. Underachieving: Performs below his demonstrated ability level.			1		
14. Disturbs other children: teasing, provoking fights, interrupting others.			2		
15. Tries to avoid calling attention to himself.		1			
16. Makes distrustful or suspicious remarks about actions of others toward him.	2				
17. Reacts to stressful situations or changes in routine with general body aches, head or stomach aches, nausea.					3
18. Argues and must have the last word in verbal exchanges.	1				
19. Approaches new tasks and situations with an "I can't do it" response.			1		
20. Has nervous tics: muscle-twitching, eye-blinking, nail-biting, hand-wringing.					3
21. Habitually rejects the school experience through actions or comments.	1				
22. Has enuresis. (Wets bed.)					1
23. Utters nonsense syllables and/or babbles to himself.				4	
24. Continually seeks attention.			1		
25. Comments that nobody likes him.				2	
26. Repeats one idea, thought, or activity over and over.				4	
27. Has temper tantrums.	2				
28. Refers to himself as dumb, stupid, or incapable.				3	
29. Does not engage in group activities.		2			
30. When teased or irritated by other children, takes out his frustration(s) on another inappropriate person or thing.	2				
31. Has rapid mood shifts: depressed one moment, manic the next.	4				
32. Does not obey until threatened with punishment.	1				
33. Complains of nightmares, bad dreams.					1
34. Expresses concern about being lonely, unhappy.				3	
35. Openly strikes back with angry behavior to teasing of other children.	3				
36. Expresses concern about something terrible or horrible happening to him.					1
37. Has no friends.		4			
38. Must have approval for tasks attempted or completed.	1				
39. Displays physical aggression toward objects or persons.	1				
40. Is hypercritical of himself.				1	
41. Does not complete tasks attempted.			1		
42. Doesn't protest when others hurt, tease, or criticize him.		3			
43. Shuns or avoids heterosexual activities.				3	
44. Steals things from other children.					1
45. Does not initiate relationships with other children.		4			
46. Reacts with defiance to instructions or commands.	1				
47. Weeps or cries without provocation.					1
48. Stutters, stammers, or blocks on saying words.				1	
49. Easily distracted away from the task at hand by ordinary classroom stimuli, i.e. minor movements of others, noises, etc.			1		
50. Frequently stares blankly into space and is unaware of his surroundings when doing so.			1		

☐ + ☐ + ☐ + ☐ + ☐ = ☐

Scale 1 Score, Scale 2 Score, Scale 3 Score, Scale 4 Score, Scale 5 Score, Total Score

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ALBERTA OIL SANDS ENVIRONMENTAL RESEARCH PROGRAM

LONGITUDINAL STUDY OF PERSONAL ADJUSTMENT AND SOCIAL CONDITIONS IN THE FORT MCMURRAY AREA HS 30.1

PHASE 1: FINAL REPORT

BACKGROUND PAPER:

INDIANS AND METIS: APPROACHES TO RESEARCH

AUGUST, 1978

INDIANS AND METIS: APPROACHES TO RESEARCH

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APPENDIX 1

INDIANS AND METIS: APPROACHES TO RESEARCH

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1. INTRODUCTION

1.1 SCOPE AND OBJECTIVES

In the accompanying Report, and in other Background Papers we have discussed various aspects of native life in resource areas from a number of perspectives such as income, employment, participation in the local economy, social organization along dimensions comparable to those for the non-native sector of the population. We also set out the methodologies, measures, instruments and procedures we propose to use with respect to the study of resource communities.

Our Terms of Reference apply equally to the native as well as to the non-native sectors of the local populations. Because, however, of the special cultural and other characteristics of the native communities, it is necessary for us to review our overall approach in the context of these characteristics.

The Indian and Metis peoples form a significant proportion of the population in both study areas. In Fort McMurray it is thought that Indians may constitute about seven percent of the local population (see Background Paper: Sample Design). We have been unable to locate any sources which estimate the current size of the Metis population. It is also thought that there may be unusually high in-migration/out-migration rates among the native peoples in Fort McMurray, and that this may create some sampling problems over the long term.

Our Terms of Reference do not include the native communities around Fort McMurray. These are the object of a separate study which is concentrating on native employment.

Preliminary discussions have taken place with the consultants responsible for the Native Employment Study to provide for adequate comparability of survey data across key dimensions in the event that their study involves surveying the local population.

In the Cold Lake Region, our study area includes the Indian communities of Cold Lake (Reserves, 149, 149A, 149B; estimated population 1,000 on and off Reserves), and Kehewin (estimated population 600 on and off Reserve); and the Metis settlements of Elizabeth (estimated population 250), and Fishing Lake (estimated population 325). Details of these communities are included in the accompanying Report.

The purpose of this Background Paper is to examine the appropriateness of our methodologies, measures, instruments and procedures with respect to the native communities. We then set out guidelines for an approach to the native communities which meets the requirements of our Terms of Reference.

We have several objectives in this respect:

1. The methodologies, measures, instruments and procedures must be acceptable to the native communities as relevant for their purposes.
2. The methodologies, measures and instruments used in the native communities must be sound, reliable and produce information useful for the purposes of the study.
3. The dimensions measured in the native communities must be comparable to some reasonable extent to those measured in the non-native population, so that general as well as specific, conclusions may be drawn relevant to policy and program review.

1.2 PROCEDURES

As part of the preparation of this Background Paper a special review of the literature was commissioned (Walsh and Hobart, 1978). This review encompassed all available material in Canada and the United States, with particular attention given to work published after 1960.

In addition, a selected review was carried out of literature pertaining to Blacks and to ethnic groups and deemed potentially relevant. Much of the discussion in this Background Paper is drawn from that review.

In addition, we consulted with representatives and key people in the Indian and Metis communities to review with them the most appropriate ways of proceeding. We have incorporated their views into this paper.

The emphasis in this Background Paper is upon methodological issues involved in the study of native communities and peoples. We do not discuss the substance of or findings in the appropriate places in the accompanying report and Background Papers.

2. CROSS-CULTURAL RESEARCH

2.1 PROBLEMS

2.1.1 Conceptual

The difficulties involved in designing and carrying out research across different cultural groups has always plagued social scientists. The problem is to develop categories of description and explanation which are valid for all the differing cultures or subcultures to be examined.

Berry (1976b), for example, has described the difficulties in comparing behaviours cross-culturally. He stresses the importance of developing categories of behaviour description that are valid for all the cultural groups involved in the study. This validity depends upon the demonstrated functional equivalence of the behaviour in the several cultures.

The same holds true for attitudinal and psychological testing (Harding, 1970; Klein, 1971; Hayes, 1974). For example, if we take the personality dimension, 'need to achieve' (n ACH) in our Activities Index, we find it explicitly defined in terms of the non-native North American culture (see our Background Paper, 'Needs-Press Model', Appendix 1), both conceptually and in terms of behaviour. Although the Activities Index was used with Papagos Indians in the United States and found to produce reliable data (Williams and Stern, 1957), this does not mean it would be valid for Cree and Chipewayan Indians, or Metis.

To be culturally appropriate, a particular dimension must be assessed by means of a medium familiar to members of that culture. This places limitations upon the usefulness of a particular type of instrument developed for use in one culture in the context of another culture.

The review of research approaches by Walsh and Hobart found the conceptualization of terms to be at a fairly low level of development. Basic concepts, with a few exceptions, were poorly defined, if at all, and frequently employed inconsistently.

It also appears that operational definitions have frequently been defined according to whatever measures were available. In other words, the operational definition suited the measure rather than the other way around.

Because of the vagueness in the definition of concepts, and in operational definitions, it is difficult to assess the validity and reliability of much of the results of research into native life. We will discuss this aspect in more detail in the subsequent sections of this Background Paper.

Walsh and Hobart raise a conceptual distinction which is useful for our purposes. They point to a common distinction in the literature between "emic" and "etic" approaches.

Emic studies attempt to view behaviour in the cultural context within which it occurs. For example the behaviour of Indians would be studied within the context of and relative to behaviour in Indian society, rather than in the context of non-native behaviour.

Etic studies, on the other hand, are concerned with comparisons of behaviour on a cross-cultural basis for the purpose of establishing cross-cultural generalizations.

In emic studies, it is essential to use measurement instruments firmly rooted in the culture to be studied. In etic studies instruments need not necessarily be culturally modified. The reason is that the purpose of the etic study is to investigate cultural similarities and variations on a particular construct.

Where, as in the case of our study, the goals are twofold - to study changing attitudes and behaviours of a particular cultural group, and to note these in the context of another cultural (non-native) group - a combination of both emic and etic studies is suggested.

An additional point should be made here. It would be a mistake to proceed to a research design on the assumption that natives constitute a relatively homogenous cultural group. Rather, native culture has to be viewed as a continuum with a high degree of urbanization and acculturation at one and, and a high degree of traditionalism at the other end. One must also consider the likelihood of differing cultural artifacts within the Indian and the Metis groups.

With so many of the natives living lives bound closely to traditional attitudes, values and behaviours, one has to proceed cautiously in the design of measurements and instruments. What may be appropriate for the acculturated native might not be sufficiently appropriate for the traditional native.

For example, one of the major concerns of the native leadership in the Cold Lake Region is to enhance the ability of their peoples to obtain some reasonable share of the benefits expected to flow from the construction and operation of the proposed oil plant. To provide the leadership with useful information it will be necessary:

1. to collect data regarding native values, attitudes and behaviour regarding the non-native work environment (emic) and,
2. native values, attitudes and behaviours with respect to standard quality of working life dimensions (etic), and to compare these data with those from non-native workers in order to draw comparisons and come to conclusions with respect to policies and programs.

In order to do this effectively, it is necessary to establish clear goals and purposes, identify the constructs (emic and etic) to be measured and establish the appropriate instruments.

Larson (1977, pp.91-2) has drawn up a list of cultural differences between persons in the native culture and those in the non-native culture. The list is not intended to stereotype persons within each culture, or to be complete in detail or in scope, but simply to illustrate the range of differences between the two cultures. No account is taken of intra-cultural differences among Indians, Metis and Inuit, and/or of variations along the continuum of acculturation. The list does, however, serve to set out some of the cultural differences which have to be bridged in an effective cross-cultural study, and in that respect is helpful.

NATIVE CULTURE	NON-NATIVE CULTURE
constraint in relations with others tending toward emotional isolation	relatively forward in relations with others tending toward aggressiveness
fear of aggression from others	little fear of aggression
repression of own hostile impulses	pride in expressing hostilities
free agent mentality in the sense of self-determination and self-sufficiency	similar mentality except combined with a drive to please others to the extent of conformity
avoids or withdraws from sources of anxiety	tries to cope with or high anxiety
goals are group oriented	goals are individual oriented
past-present oriented	future oriented
nature is seen as part himself and supernatural	nature is seen as something to conquer
nonverbal	verbal
opposed to staring	direct eye contact
loose, short handshake	firm aggressive handshake
non-possession oriented	private property conscious
pragmatic, patient	right way, impatient

NATIVE CULTURE continued	NON-NATIVE CULTURE continued	
acts only after seeing how to do it	trial and error, experimental	
communal, collective	individual	(p.92)

Larson goes on to say that, the contrast between the self-determination of natives and non-natives is of particular importance. The most explicit understanding of this difference is with respect to agreements. Larson quotes Bowles (1975) that when natives make agreements:

> It is accepted that the present interest may take precedence over the original arrangement and that a person has the right to judge which should claim his attention. This may extend to formal agreements such as rental payments, loan repayments, or credit installments. To be rigidly bound by agreements and promises is antithetical to maintenance of control over one's own actions and affairs. (p.92)

In summary, the definition of a research design for the native communities in the study areas presents problems unique to the cultures of these communities. One cannot assume that well-accepted and useful measures and instruments in the non-native community will be reliable in the native cultures. It may be necessary to revise the non-native measures and instruments in order to make them suitable for use in the native culture; or it may be necessary to discard some of them and construct new ones.

At the same time, it is necessary to use common measures and instruments for both cultures so that the necessary comparisons can be made.

This suggests that, at the conceptual level, one must proceed with great care and specificity.

2.1.2 Operational and Procedural

These problems arise mainly where the researcher is carrying out personal interviews, and they arise out of the requirements and character of this type of research.

To be considered reliable, data gained from personal interviews must meet several criteria.

1. The questions must be clearly worded so that it is understandable.
2. The question must be framed so that all who answer it have the same understanding of its meaning.
3. The question must sit squarely on the construct to be measured.
4. The question must be worded to allow a range of answers, each of which sits squarely on the construct to be measured.
5. The question, and the ambience in which the question is asked, must not suggest, or in any way influence the respondent to believe, that one answer is more socially desirable or acceptable than another.
6. The question must not contain explicit or implicit values which would tend to distort the respondent's answer.
7. The respondent must answer the question.

These are the conventional requirements of survey research. In the best of circumstances they are not always easy to meet. When one is working in a cross-cultural situation, the requirements can take on ominous proportions.

It should be noted that these requirements do not apply solely to research based on personal interviews. Recast in a somewhat different form, they are similarly applicable to participant observation and the examination of secondary data (see below).

Most of the readers of this paper are already familiar with the operational and procedural problems associated with aspects of cross-cultural survey research. Therefore, we will only note them, and comment that some are closely related to each other:

- problems of translation,
- inconsistency in a verbal translation by local translators or interviewers,
- pen and pencil syndrome,
- different attitudes to what are and are not appropriate questions for strangers to ask,
- reluctance to talk to strangers (or to neighbours) about personal matters,
- "desirable" rather than true answers,
- too many other surveys,
- indifference.

One must also consider the matter of entrance into and acceptance by the native community. It is a matter of courtesy, and often necessary, to inform and seek the consent of the local or Band council before commencing field work. The council's consent may be an important factor in generating a satisfactory response rate.

One may also wish to have the council and key community members cooperate in the development of the actual instruments to ensure that they incorporate the cultural values and concerns of the community. The council may insist upon such cooperation.. In any event, all this takes time.

To cope with some of these problems, Berry (1976b) worked with the local people to develop the instruments; and he used a combination of non-native interviewer, non-native and native interviewer in combination, and native interviewer alone. The results were impressive but the cost implications are clear.

2.1.3 Summary

This very brief overview illustrates that the issues involved in cross-cultural research include operational and procedural problems as well as conceptual. These issues and problems are all of a piece in terms of designing and implementing a research program. Furthermore, issues and distinctions associated with cultural relativity and cross-cultural comparisons loom particularly large.

2.2 APPROACHES TO DATA GATHERING

The following describes the major approaches to data gathering. We comment on the advantages and disadvantages of each approach, and set out our conclusions.

2.2.1 Participant Observation

Anthropologists have been using participant observation techniques as a primary data collecting method for many years in the less developed countries. In the past few decades the practice has been applied in North America in the study of designated sub-groups such as juvenile delinquents, and ethnic and other sub-cultures such as Blacks, Puerto Ricans (see our Background Paper, 'The Needs-Press Model').

The focus in this approach is frequently upon processes of cultural adjustment and conditions leading to successful integration into the main society, or leading to social and cultural disintegration.

A number of useful studies have been carried out using participant observation with respect to Indian cultural and psychological adjustment to the broader society (Change, 1965, 1968, 1970; Honigman and Honigman, 1970; Braroe, 1975). Using participant observation, Dosman (1972) presents an insightful analysis of socio-cultural variables underlying the adaptation process. Guillemin (1975) similarly deals with the cultural adjustment of the Mic Mac tribe to urban life; and Brody (1971) deals with the problems of marginality and poverty among Indians on skid row.

Because of the focus on processes, data from participant observation are often superior to quantifiable data obtained from survey questionnaires. The main value of this technique, however, seems to lie in its exploratory capability for the purposes of defining concepts or generating hypotheses, or in supplementing survey data.

The main weakness of participant observation with respect to native studies is the lack of well-grounded conceptualizations. There is also a lack of data on the psychological (i.e. internal) processes of adjustment, as distinct from the cultural processes.

2.2.2 Analysis of Institutional Data

This includes the examination of court, hospital, agency and similar records. For example, a number of studies using mental health clinic and related sources have been carried out with respect to mental health among various native groups (Foulks and Katz, 1968; Bloom, 1970; Kahn and Delk, 1973; Schoenfeld and Miller, 1973). In these studies, according to Walsh and Hobart, the researchers ignore the need to clarify concepts and operational definitions, and instead implicitly adhere to standard psychiatric typologies - typologies based upon characteristics in the non-native culture.

Other researchers have used police, court and agency records to determine rates of arrest, drunkenness, illegitimacy, venereal disease, suicide and homicide, as an approach to the determination of rates of social pathology among native groups (Trimble, 1972; Westermeyer, 1976; Vallee, 1977). Stull (1972) looked at rates of accidental injury as an indicator of stress among modern and traditional individuals. Similarly, Hackenberg (1972) examined several theories suggesting that the stresses associated with urbanization are responsible for disproportionately high rates of accidental injury among Indians.

The major advantage of this approach is that it collects, organizes and makes readily accessible data which is not otherwise easily available. It is usually difficult to collect this kind of data through personal questionnaires and interviews. Also, while this data may not be a reliable measure of personal adjustment, gross incidences of certain types of behaviour can be regarded as reasonably reliable measures of cultural adjustment to the dominant society.

The disadvantages of this approach are well known. They derive from the usual problems associated with reporting and record-keeping procedures. The data encompass only those individuals who come to the attention of the record keepers. The data provide no insight into the processes involved in bringing the individual into the data net. Also, the data take no account of the different views which natives might have of certain behaviours compared to those held by the gate keepers. If the data provide some insight into cultural adjustment, it provides little insight into the processes and extent of personal adjustment and organization.

In summary, although the institutional data are deficient in important respects, and would not be adequate by themselves as suitable measures of key dimensions in native personal, family, social and community life, these data are, nonetheless, valuable as source of information regarding cultural change and behaviour.

There is another, related approach. This combines institutional data with anecdotal or qualitative assessment by the researcher (or, as told to the researcher). For example, McDonald (1975) reported on group psychotherapy with native women, and Metcalfe (1976) reported on the effects of education upon native women, with respect to the effects of urbanization on psychological stress and self-esteem.

The researcher's experience and insight can provide useful material upon which to build. But, like participant observation, there is little attention paid to conceptual definitions. A longitudinal follow-up would be possible using this technique, but the size of the likely sample would severely limit the researcher's ability to extrapolate his conclusions to the members of the culture as a whole.

2.2.3 Questionnaires and Interview Survey Methods

Clearly, if one is to come to grips with the processes of personal and family conditions and adjustment in native, or any, society, one must approach the people directly.

The great advantages of this approach reside in its great flexibility, the range of topics, dimensions and subjects which can be covered, the ability to capture a considerable amount of detailed information and data, the opportunity to design questions to cross-check the reliability of answers, and the ability to establish statistically reliable samples.

The literature based upon this approach is so extensive it would be impossible to attempt to summarize it adequately. As a general rule, the focus is sociological in nature, and deals with a wide range of personal and social dimensions: demographic, housing, employment, occupation, social participation, problems, solutions, aspirations, quality of life and life satisfaction, and social problems. Representative studies of this type have been carried out by Davis (1965), Graves (1967), Hobart (1967), Nagler (1970, 1975), Strimble (1971), MacKinnon and Neufeldt (1974), and French (1976).

The problems associated with this approach are discussed briefly in the sections dealing with conceptual, operational and procedural issues. There are always the problems associated with applying non-native concepts and constructs to native populations, with adequate conceptual and operational definitions, and with procedures. Much depends upon the skill of the interviewers. Because of high rates of in and out-migration, there are also problems in longitudinal sampling.

In general, and with some exceptions, the reliability of the data gained through this method seems related in part to the nature of the topics the questions are intended to cover. The more straightforward the topic, the more likely the response is to be reliable. When the researcher moves into such topics as aspirations, quality of life, personal and social problems, one has to question the reliability of the response.

Topics such as these are difficult to handle in the best of circumstances. In cross-cultural work the difficulties are increased: however well or badly such constructs are understood in white society, it is uncertain they are understood similarly in native cultures or would be addressed by natives in ways which we might expect.

In summary, this approach has great value, despite the problems it presents. If used carefully and with specificity, the resulting data can be very useful.

2.2.4 Psychological Scales and Tests

2.2.4.1 Cross-Cultural Validity

What is missing from the approaches discussed above is some measure of the internal state and processes of the individual, particularly with regard to such key dimensions as self-esteem. Normally, for an urban white person, one would use one of many psychological tests available. A number of efforts have been made to use such tests and scales with native populations. Frequently, however, researchers paid insufficient attention to the reliability and validity of the instruments in a different cultural setting.

A typical example is the attempt by Martin (1969) to study mental illness among Oklahoma natives by using the Cornell Medical Index and Langer scale, then comparing results obtained on natives, whites and blacks of comparable socio-economic status. Subjects were rated and categorized as severly impaired, normal and mildly neurotic. Scores were compared to ratings made by a psychiatric resident and the results showed considerable discrepancies. Walsh and Hobart comment that Martin's study cast doubt upon the validity of both the instruments and psychiatric ratings as measures of mental disorder.

An important study for our purposes is the one carried out by Hoffman (1961) using Jackson's Differential Personality Inventory. He administered the Inventory both to Indian male alcoholics and to non-Indian male alcoholics. His conclusion was that separate forms had to be constructed on standardized measures of psychopathology for specific ethnic groups.

In North American society measurements of self-concept have long been used as indicators of mental well-being and adjustment. The results have proven to be reliable and valid. Accordingly, it has been possible to test large numbers of people in different segments of the mainstream society for the purposes of individual and group analysis and comparison on standardized measures.

A number of researchers have attempted to identify and measure similar self-concepts in native society. McIntyre (1974) used the Acceptance of Self and Others Scale to compare Indian and non-Indian girls. Williams (1976) used the Tennessee Self-Concept Scale on Indian and non-Indian alcoholics and non-alcoholics. Franklyn (1975) examined alienation and achievement among Indians, Metis and non-natives in the Northwest Territories. Clifton (1975) examined the social adjustment of Canadian native students in a northern hostel. Walsh and Hobart comment that most of these and similar efforts do not reflect adequate attention to the cultural biases build into the instruments used or to the applicability of the instruments to people in other cultures.

Self-esteem is one of the more important scales which researchers have attempted to measure on a cross-cultural basis. Bromberg (1974) has attempted to avoid the conceptual barriers and pitfalls of language by using the Goodenough-Mackover Draw-A-Person Test. His argument is that this approach offers a more direct entry into the native's self-image. Spindler (1973) has taken a somewhat similar approach using the Rorschach test to measure the personal effects of cultural change. The resources required for approaches such as these, and their limitations, make them unsuitable for our purposes.

To provide some perspective on the difficulties involved in establishing personality tests and measures which are valid on a cross-cultural basis, we can look at the experience of Lefley (1976). She took self-concept instruments measuring acculturation and self-esteem which had already been selected by cultural informants as the most suitable. She then discussed the instruments with a panel of five bilingual and informed Indians to ensure conceptual equivalence and cultural comparability of items. Only then did she administer the instruments to Sioux adolescents.

Subsequently, however, a validity test was carried out which found that the main instrument - Coopersmith's Self-Esteem Inventory - was not a valid measure of self-esteem for the Sioux adolescents because it did not sufficiently take into consideration their values which differ from those of white Americans.

In summary, it is tempting to apply psychological tests and scales proven in white society to native groups. If, however, one is interested mainly in an emic study - study of persons within a culture in relation to that culture - then the general applicability of those instruments is much in question.

If one wishes to carry out an etic study - a study of persons in one culture in comparison to persons in other cultures-then one has two possible avenues of approach:

1. Select _instruments_ which are valid in the various cultures to which the respondents belong.
2. Select dimensions such as self-concept, self-esteem, personal adjustment to be measured in the different cultural groups, and establish instruments for each cultural group to measure these dimensions in such a way that comparisons between individuals in one cultural group and the others are possible.

For the purposes of our studies it is important to be able to measure both emic and etic processes of adjustment among natives. With respect to etic processes, it appears that psychological tests and scales established in non-native societies will not be suitable for natives. Consequently, _it will be necessary to identify specific dimensions which have a high priority for the purposes of our studies, and to establish instruments for each cultural group which measure those dimensions in ways which are comparable_.

Another option which needs to be discussed would be to abandon the objective of measuring personal adjustment among natives by means of psychological tests and scales. We acknowledge that this may be necessary if the native leadership, particularly in the Cold Lake Region, objects to this type of measurement.

We must, however, emphasize that a sociological perspective - such as that used in personal questionnaires and interviews - will not provide adequate data with respect to personal adjustment over time. The absence of appropriate psychological measures will mean a substantial gap in the explanatory power of the data which can be obtained, and a substantial gap in the explanatory power of the data which are obtained.

We turn now to an examination of psychological tests and scales which are of proven capability in native cultures, and which suggest an approach appropriate to this study.

2.2.5 An Ecological Perspective

In their review of research approaches, Walsh and Hobart concluded that the most appropriate approach with respect to psychological tests and scales was that developed by Berry (1971, 1976a, 1976b, 1977, 1978; Berry *et al*, 1977). His work is the result of a massive research study of Indian tribes in Canada, as well as of extensive field work among indigenous peoples in Aftica.

Berry notes that the assessment of native adaptation to technological and economic change is a special topic for several reasons. Native peoples constitute a distinct cultural group, one which varies internally both with traditional culture (Cree, Chipewyan, Metis, Ojibway, etcetera), and with acculturation.

As a result of his research, Berry has developed a conceptual model and operational definitions carefully formulated on the basis of key dimensions. He employs an ecological-cultural-behavioural model which views human beings, both as individuals and as groups, in a constant process of adapting to their physical and social environments.

According to Berry, as acculturation takes place, one adapts by reducing conflict in the system. Acculturative processes can follow three routes:

1. *Adjustment*, where conflict is reduced by the individual or group shifting to be more like the new environment.
2. *Reaction*, where the individual or group attempts to reduce the conflict with the environment by retaliating against the changes in it.
3. *Withdrawal*, where the individual or group

> reduces conflict with the changing environment by withdrawing from the adaptation process, usually to a more traditional way of life.

In processes of adapting to acculturation, behaviour can take two archetypal forms: shifts and stress.

Shifts represent changes in an existing behaviour or custom as a result of pressure from the larger environment. Stress behaviours represent novel, often disruptive, activities which result from difficulties encountered during adaptation.

As a measure of adaptation, Berry has developed and widely tested an index of acculturative influences as well as of what he calls acculturative stress. There are three components of acculturative influence which are derived from the central features of the acculturative influences:

1. Western education
2. Wage employment
3. Urbanization

Of these three acculturative influences, western education is perhaps the best single measure because the educational process constitutes a deliberate attempt by the larger society to influence the values, attitudes and behaviours of individuals and groups.

In devising the acculturative stress components Berry drew heavily from the background literature on the personal and social difficulties experienced by persons involved in rapid cultural changes through contact with a more powerful culture.

Berry's model could very well be applied to such immigrant peoples as southern Italian housewives attempting to cope with life in Toronto.

Acculturative stress indicates problem behaviours do not always occur; much depends upon how an individual experiences the stress and upon his psychological orientation.

The acculturative stress index is made up also of three components:

1. Psychosomatic stress
2. Feelings of marginality
3. Attitudes towards modes of relating to the larger society.

Psychomatic stress is measured by a checklist of psychomatic symptoms. The checklist is not significantly different, except in wording, from that used by Health and Welfare Canada in the National Health Survey and incorporated in our Extended Questionnaire and Interview (see Background Paper: Extended Questionnaire and Interview). Feelings of marginality are measured by a scale designed by Mann; and attitudes towards modes of relating to the dominant group by a scale developed by Berry (Berry _et al_, 1977). The stress Index can be found in Appendix 1.

The use of this Index would be useful from several perspectives. It would allow regional and national intra-native comparisons to be made: Cree, Chipewayan, Ojibway. It would also serve to provide a basis for the comparison of data from the non-native population. The stress checklist is comparable with that proposed by us. We do not propose a specific marginality scale, but inferences regarding marginality can be drawn from the date from the Activities Index and Community Index and from the Job Description Index. Our instruments do not contain specific items directed at non-native attitudes towards relations with natives; there are however, items which provide respondents the opportunity generally to describe intergroup relations.

We should also note that, in the event that Berry's approach is used, it would be appropriate to review it in detail with the leadership within the native community, to consider revisions or additions appropriate to the Alberta situation.

3. CONCLUSIONS

In this Background Paper we have examined the issues associated with cross-cultural research which would accommodate both native and non-native peoples. We have summarized the problems involved at the level of conceptual and operational definitions and in operations and procedures.

We have examined four major research approaches:

1. Participant Observation
2. Analysis of Institutional Data
3. Questionnaires and Interview Survey Methods
4. Psychological Tests and Scales

We regard each as having its own particular advantages and disadvantages. For the purposes of our particular studies, we consider that participant observation would be useful, but not a high priority. Our major conclusions are:

1. A study of the native peoples and their communities in conditions of change fueled by resource development should incorporate institutional data, questionnaires and interviews, and psychological tests. The weaknesses of each approach can be accommodated and balanced by the advantages and strengths of the other two.
2. The concepts and methodologies used in this study should incorporate both etic and emic approaches, so that intra-cultural and cross-cultural data and conclusions can be drawn for the purposes of policy and program review.
3. The conclusions in this Background Paper should be presented to the Indian communities for their review.

4. This review should incorporate native priorities with respect to the study (in the light of recent developments in the native communities), and the development as appropriate and testing of the various instruments prior to their use.

Earl Berger Limited

DRAFT

ALBERTA OIL SANDS ENVIRONMENTAL RESEARCH PROGRAM

LONGITUDINAL STUDY OF PERSONAL ADJUSTMENT AND SOCIAL CONDITIONS IN THE FORT McMURRAY AREA HS 30.1

PHASE 1: FINAL REPORT

BACKGROUND PAPER:

INDIANS AND METIS: APPROACHES TO RESEARCH

APPENDIX 1:

ILLUSTRATIONS OF PSYCHOLOGICAL SCALES APPROPRIATE FOR USE WITH NATIVE PEOPLES

AUGUST, 1978

1. PSYCHOSOMATIC STRESS CHECKLIST *

Item Number	CM1 Number	
		A: Somatic
1.	7	Do you have pains in the heart or chest?
2.	11	Do you usually belch a lot after eating?
3.	13	Do you constantly suffer from bad constipation?
4.	14	Do your muscles and joints constantly feel stiff?
5.	16	Is your skin very sensitive or tender?
6.	19	Do you suffer badly from frequent severe headaches?
7.	20	Do you often have spells of severe dizziness?
		B: Exhaustion
8.	32	Do you usually get up tired and exhausted in the morning?
		C: Other
9.	35	Do you wear yourself out worrying about your health?
10.	39	Do you usually have great difficulty in falling asleep or staying asleep?
		D: Anxiety
11.	44	Do strange people or places make you afraid?
12.	46	Do you wish you always had someone at your side to advise you?
		E: Depression
13.	47	Do you usually feel unhappy and depressed?
14.	49	Do you often wish you were dead and away from it all?
		D: Anxiety (continued)
15.	50	Does worrying continually get you down?
16.	60	Are you extremely shy or sensitive?

PSYCHOSOMATIC STRESS CHECKLIST (continued)

Item Number	CMI Number	F: Paranoid Irritability
17.	59	Does it make you angry to have anyone tell you what to do?
18.	60	Do people often annoy or irritate you?
		D: Anxiety (continued)
19.	61	Do you often shake or tremble?
20.	65	Do you often break out in a cold sweat?

* SOURCE: From Berry (1976)

2. MARGINALITY SCALE *

1. Successful people do their best to prevent others from being successful too.
2. I feel that nobody really understands me.
3. I am so restless that I cannot sit in a chair for very long.
4. People seem to change from day to day in the way they treat me.
5. Life is a strain on me.
6. I suddenly dislike something that I liked very much before.
7. If others hadn't prevented me, I would be far better off than I am now.
8. I feel that I don't belong anywhere.
9. I wish I could be as happy as others.
10. I let myself go when I am angry.
11. I am more nervous than most people.
12. I feel that I am somehow apart from the people around me.
13. I regret the decisions I have made.
14. The world is a dangerous place full of evil men and women.

*SOURCE: From Berry (1976)

3. ATTITUDES TOWARDS MODES OF GROUP RELATIONS *

Item Number	Sub Scale	
1.	R	The Indians should be completely self-sufficient so they do not need to cooperate with the whites in any way.
2.	I	It is better if an Indian marries with one of his people rather than with a white.
3.	A	Any Indian who is successful should try to forget that he is of Indian descent.
4.	R	It is better for the Indians to stay on their reserves than to come into the city where they encounter difficulties.
5.	R	The Indians should only cooperate with the whites when they have something to gain.
6.	I	Having a National Indians Organization is not really a good idea since it makes the Indians different from other Canadians.
7.	R	There are no aspects of the whites' culture that might be beneficial to the Indians.
8.	A	The Indians should cooperate as little as possible with the whites.
9.	A	The only real way an Indian can become successful is by dissociating himself from other Indians.
10.	A	Any Indians living within the white community should try and behave in the same way as those around him.
11.	I	The Indians should do all they can to ensure the survival of their people.

ATTITUDES TOWARDS MODES OF GROUP RELATIONS (continued)

Item Number	Sub Scale	
12.	A	Although it is alright for Indian parents to maintain their cultural differences within the white community, they should encourage their children to be just like other Canadians.
13.	A	The social activities of the Indians should be restricted to the Indians themselves.
14.	A	If a number of Indians are working on the same job, they should be put in the same section so they are together.
15.	I	Encouraging the Indians to stay as a group is only hindering their acceptance into the community.
16.	I	Most of the Indians living in the city today are not really interested in knowing anything about the life or culture of their ancestors.
17.	R	The Indians should lead their own way of life, independently of the rest of society.
18.	I	So little remains today of the Indian culture that it is not really worth saving.
19.	I	Focusing attention on the Indians' traditional way of life is only preventing them from making any progress in society.
20.	I	The Indians should seek their friends among other Indians.
21.	A	The Indians should act as a separate community in every way within society.
22.	I	Indian children should be encouraged to choose other Indians as their playmates.
23.	A	If an Indian sets up his own business, he should try and employ Indians to work for him.

ATTITUDES TOWARDS MODES OF GROUP RELATIONS (continued)

Item Number	Sub Scale	
24.	R	The fact that Canada has only developed since the arrival of the whites clearly shows that the Indians must follow the example of the whites if they themselves are to make any progress.

* SOURCE: Berry (1976)

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PHASE 1: FINAL REPORT

REPORT:

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