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Stress and Coping of Women in a
Single - Industry Community

by

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ABSTRACT

The focus of the present study is on the unique situation faced by women in remote single-industry communities. It is designed to investigate the sources of stress and coping characteristics of this population. A random sample of 300 women were polled in the coal-mining town of Tumbler Ridge, B.C. Three instruments were used to assess levels of stress, coping resources, and individual characteristics which would potentially impact coping styles.

Results of data analysis revealed that the sample demonstrated moderately high stress levels and moderately low coping resources. The greatest sources of stress for subjects were: kids, work or lack of work, money, and time management. The greatest sources of help to subjects were talking, physical activity, and emotional support. However, results indicated that, for the most part, these coping strategies do not tend to be utilized at a level that the literature suggests is necessary in order to have a positive impact on stress reduction. On the whole, while the women in the sample do not appear to be relying on counterproductive strategies to deal with stress (prescription medication, non-prescription medication, alcohol, and smoking), subjects also do not tend to utilize strategies which are documented

to be effective in terms of stress reduction (exercise, nutrition, use of support group, learning a new coping skill, and deep relaxation). Rather, subjects tend to utilize strategies which have no documented support of being effective in terms of stress reduction (reading, TV, and music).

The implication in terms of intervention focuses on skills training. Problem-focused training may target situations relevant to coping for this sample: parenting skills, money management, time management, fitness and lifestyle training, nutritional counselling, and support groups. Emotion-focused training may focus on relaxation, and positive self-talk. Intervention may take the form of workshops, seminars, and individual and group counselling, perhaps within the context of a Women's Resource Centre, which would become a focal point for structured intervention and teaching skills to more effectively deal with stress.

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Chapter 1

Introduction

Stress, and its manifestations, has become increasingly recognized in individual experience and in research of that experience. One area of the literature explores the stress associated with living in isolated, single-industry communities. It is documented that women in these communities face particular challenges. The focus of the present study is on the sources of stress and coping of women in isolated single-industry communities.

Background Information

Single-industry communities. A single-industry community is a town in which one economic activity is dominant and where commuting to a neighboring town for alternate employment is not feasible (Canada Department of Regional Economic Expansion [CDREE], 1977). Over 800 such communities exist in Canada and are home to over 25% of Canada's non-urban population (Canada Employment and Immigration Advisory Council [CEIAC], 1987). Although literature abounds on the communities in general, there is a lack of research as to the psychological well-being of their residents. Of the studies that do exist, most agree that the sources of stress are numerous, and that for many they are overwhelming (Evans & Cooperstock, 1983).

Stress. Many different models and definitions of stress have been proposed throughout the stress literature.

The current and most comprehensive model is a transactional conceptualization. By this definition, stress results from an interaction between the person and the environment. Stress is seen as occurring when individuals perceive, accurately or not, that they do not have the resources to cope with a demand, and that failure to cope presents a cost to the individual (Lazarus & Folkman, 1984; Magnusson, 1982). Coping is defined as how an individual attempts to deal with the demands of a situation. Stress, then, is not the direct result of excessive demands, but rather a result of a perceived imbalance between environmental demands and an individual's personal resources for coping.

The Problem

According to the literature, women resident in isolated single-industry communities often have unique demands built into their lifestyle.

There is evidence to suggest that these women are at particularly high risk of psychosocial disturbance resulting from geographic and social isolation, alcohol-related violence, lack of opportunities for employment or skills upgrading, and a perceived lack of adequate health and social support services (Evans & Cooperstock, 1983, p. 59).

Other common problems include: high rate of drug and alcohol misuse; high rate of wife-battering; lack of nearby relatives and older-generation contacts for help and advice

on child-rearing; shiftwork, which can be disruptive to family life and conducive to non-family oriented activities; and limited and expensive transportation to larger centres. These women also must contend with high mobility which can disrupt friendships and social support networks. Many resident women would not perceive their coping resources to be sufficient to meet these high demands. These women would be at risk for experiencing stress. Negative results may include alcoholism, depression, child-battering, and general discontent.

The Current Study

This study was designed to contribute to the body of knowledge in the area through identification of the specific stressors faced by women in remote communities and the range of coping repertoires that these women tend to utilize. This information will be particularly useful in the design of such things as: preventive mental health policies to avoid negative outcomes, continuing education and inservice programs, and community planning in general. Thus the current study has the potential to offer information that will improve the quality of life for residents of remote communities.

Overview

The following four chapters will address the issues outlined above. Chapter two is a review of the existing literature in the areas of stress, women, and single-

industry communities. Chapter three provides a description of the methodology used in the present study. Chapter four outlines the results of the study, and chapter five presents a discussion of the results, implications, strengths and limitations of the study, and suggestions for further research.

CHAPTER 2

LITERATURE REVIEW

This chapter utilizes the theme of stress to review the literature on women's issues and single-industry communities. First, a current model of stress is presented. Second, an overview of women and stress is outlined. Third, stressors associated with living in single-industry communities are explored. Fourth, a synthesis is presented. Finally, research questions are proposed.

Nature of Stress

Many different definitions and models of stress have been proposed in the literature. "Stress, like relativity, is a scientific concept which has suffered from the mixed blessing of being too well known and too little understood" (Selye, 1980, p. 127). While the evolution of stress theory has acknowledged stress as both a stimulus and as a response, the consensus at present is on a comprehensive model - the transactional theory of stress (Törestad, Olah, & Magnusson, 1985).

The Evolution of Stress Theory

The term "stress" was first used in the 14th century to mean hardship, affliction, or adversity (Lumsden, cited in Lazarus & Folkman, 1984). The field of physics makes claim to its subsequent use in the sense of pressure, strain, or force applied to a system (Everly & Rosenfeld,

1981). Hans Selye is said to have introduced the term into the health field in 1926 (Everly & Rosenfeld, 1981). Since then, the term has been used in many different disciplines with many different definitions, even within the health field itself (Kasl, 1984; Lazarus, 1976; Lazarus & Folkman, 1984; Matheny, Aycock, Pugh, Curlette, & Cannella, 1986).

Despite the amount of research that has been done on stress, there has been very little consensus, in the past, regarding the nature of stress in humans (Matheny et al., 1986). As Kasl (1984) outlines, stress has been used (a) as an environmental condition ("I'm going through a lot of stress"); (b) as the appraisal of an environmental situation ("This is stressful"); (c) as a response to an environmental condition or to its appraisal ("I'm feeling stressed"); or (d) as an interactive term indicating the relationship between perception of both environmental demands and the person's capacity to meet these demands. Current stress literature regards position (c) as a "response" model of stress, and positions (a) and (b) as a "stimulus" model of stress. It is position (d) that forms the basis of the transactional model of stress. A brief overview of the inadequacies of the response and stimulus models of stress are outlined below, followed by a presentation of the current model.

Inadequacy of Early Models

Hans Selye popularized the notion of stress as a response. He defined stress as, "the rate of wear and tear in the body" (Selye, 1956, p. 3), and later as, "the nonspecific response of the body to any demand" (Selye, 1974, p. 14). In other words stress, by this definition, is seen as a physiological reaction to demands made upon the individual (Matheny et al., 1986). Selye's definition continues to be used in biology and medicine (Lazarus & Folkman, 1984).

In terms of human experience, the response model of stress cannot claim to be a comprehensive theory (Kasl, 1984; Lazarus & Folkman, 1984; Matheny et al., 1986). Firstly, it is limited to a physiological level of analysis (Lazarus & Folkman, 1984). Secondly, it ignores the role of cognition in terms of the interpretation individuals give to an event (Cox, 1978; Matheny et al., 1986). Thirdly by defining stress as a response, there is no way of defining what sorts of events will become stressors until a stress reaction results (Lazarus & Folkman, 1984). In addition, many responses which may seem to indicate a stress reaction in a physiological sense may not be stress at all in a psychological sense. An example is the case of a jogger whose heart rate has increased (physiological stress) but who is psychologically calm. If one is unable

to predict a stressor, preventive intervention is very difficult (Hiebert, 1988a).

An alternative model, and one of the most common usages of the term stress, has been to define it as a stimulus. By this definition, the focus is on the environment. Life events are the key referring to events in daily living which affect susceptibility to illness (Holmes & Masuda, 1974; Gunderson & Rahe, 1974). Any change, positive or negative is thought to have stressful impact (Holmes & Masuda, 1974). Stress, by this model, is thought to be quantifiable by assigning a suggested magnitude to each event as an indicator of the amount of change the average person would experience as a result of the event (Holmes & Masuda, 1974; Holmes & Rahe, 1967). While this has been one of the most popular definition of stress in the past, it also has several drawbacks.

The first drawback of the stimulus model is the assumption that only major life events lead to a stress reaction, implying that ordinary events of day-to-day living are not as important in determining stress (Lazarus & Folkman, 1984; Matheny et al., 1986; Pearlin & Schooler, 1978). In reality, it has been shown that the cumulative impact of "daily hassles" may contribute more to health outcomes (Lazarus & Folkman, 1984).

Secondly, the stimulus model of stress ignores individual differences (Cox, 1978; Roskies & Lazarus,

1980). If the stress is inherent in the stimulus, it follows that all individuals should experience the same stress reaction to the same stimulus. It also makes sense that the same individual should experience the same reaction at each encounter with the stimulus. Neither of these assumptions are evidenced in people's experience (Hiebert, 1988a). As with the previous model, the stimulus model cannot be considered a comprehensive conceptualization of stress.

The Transactional Model

The current and most comprehensive model of stress is the transactional model (Hiebert, 1987, 1988a; Torestad et al., 1985) which defines stress as having both stimulus and response components (Kasl, 1984). It's principal spokesman is Richard Lazarus (Matheny et al., 1986) who defines stress as an interaction between the person and the environment (Cox, 1978; Lazarus, 1966). From the transactional perspective, the determining factor of whether a stress response will occur or not is appraisal of the nature of the environmental demand, of one's personal resources to cope with the demand, and of the consequences involved (Lazarus & Folkman, 1984). If one perceives that there is a relative balance between the demand one faces and ones coping resources, and that the consequences are manageable in the event of failure, stress will be minimal. Stress occurs as a result of a perceived imbalance between

demands and coping resources where failure to cope adequately with the demand is seen as having undesirable consequences (Kasl, 1984; Lazarus & Folkman, 1984; Magnusson, 1982). Perceived consequences are crucial in determining a stress response. If failure to meet the demand is considered important to the individual or if failure will result in perceived adverse consequences, then perceived inability to handle demands will likely produce intense stress levels. If consequences are seen as irrelevant, then stress levels will likely be low irrespective of the person's perceived coping adequacy. In any event, appraisal plays a central role in determining people's stressful experiences (Coyne & Lazarus, 1980).

Cognitive Appraisal

Cognitive appraisal is, "an evaluative process that determines why and to what extent a particular transaction or series of transactions between the person and the environment is stressful" (Lazarus & Folkman, 1984, p. 19). Appraisal consists of two parts, primary and secondary appraisal. It is important to note that the labels are not intended to connote that one precedes the other in time, or that one is more important than the other (Lazarus & Folkman, 1984). Primary appraisal refers to the perception of the seriousness of the demand and of the consequences associated with it (Coyne & Lazarus, 1980; Lazarus & Folkman, 1984; Matheny et al., 1986; Torestad et al.,

1985). A stress response is not likely to be triggered if the event or its consequences are perceived as: (1) irrelevant or insignificant to the individual's well-being, (2) benign, where there is a good match between demands and resources, or (3) challenge, where one's resources are pushed but there is still healthy functioning. Challenge tends to trigger positive emotions such as excitement and eagerness. On the other hand, primary appraisal may trigger a stress response if the situation or event is perceived as producing harm or loss or poses a threat of harm or loss. In either case, an appraisal of threat is likely to trigger negative emotions such as fear and/or anger (Matheny et al., 1986).

Secondary appraisal refers to perception of the adequacy of one's resources and evaluation of what can be done about the situation (Coyne & Lazarus, 1980; Lazarus & Folkman, 1984; Matheny et al., 1986; Torestad et al., 1985). If one appraises one's coping resources as being adequate to meet the demand, a stress reaction is less likely to occur. It is important to note that for both primary and secondary appraisal, the objective nature of the demands and resources is not as relevant in determining a stress reaction as the personal perception of the demands and resources. It is, "the cognitive appraisal of a stressful situation [which is] the important factor

underlying stress and anxiety reactions" (Magnusson, 1982, p. 202).

Demands

The stress process is initiated by demands made on the individual (Matheny et al., 1986). On a daily basis individuals are faced with demands that require adaptation. Demands are either self-generated (e.g., trying to appear witty), external in origin (e.g., beginning school), role-related (e.g., student role, mother role), or related to the hassling experiences of life (e.g., traffic) (Matheny et al., 1986). There are two types of demands: pressures and stressors. Those demands that an individual feels capable of coping with are called pressures (Hiebert, 1987). Therefore, even if the demand is perceived as being very difficult, if one feels one has the skills to deal effectively with it, it is seen as a pressure and a stress reaction will be minimal. "The physical and psychosocial elements of a situation that impose demands on individuals and that lead to stress reactions are usually discussed in terms of stressors" (Magnusson, 1982, p. 234). Pressures may become stressors through cognitive appraisal and interpretation of threat.

Coping

Coping is defined by Lazarus and Folkman (1984) as, "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are

appraised as taxing or exceeding the resources of the person" (p. 141). It is important to note that this definition recognizes intentional practises that require an effort and not automatic behaviors. Any effort is recognized as coping regardless of outcome.

Problem-focused coping. Coping practises may be understood by dividing them into two types: problem-focused and emotion-focused (Folkman & Lazarus, 1980; Lazarus & Folkman, 1984). Problem-focused coping aims at altering or managing the demand itself. Strategies include reducing the demand, such as changing jobs, or increasing ones coping skills to handle the demand, such as learning effective time management (Hiebert, 1988b).

Emotion-focused coping. Emotion-focused strategies aim at controlling the emotional response to the demand as opposed to focusing on the demand itself. Emotion-focused strategies aim at modifying one or more of the following responses: physiological response (such as progressive relaxation or meditation), cognitive response (such as altering self-dialogue), and behavioral response (such as finding an outlet for arousal through exercise) (Hiebert, 1988b). It is suggested that emotion-focused forms of coping are more appropriate after problem-focused strategies have been attempted or when there is little chance for modification of the demand or ones coping resources (Hiebert, 1988b). A broad range of coping skills

is also recommended for greatest coping effectiveness (Pearlin & Schooler, 1978).

Summary

The transactional stress theory provides a comprehensive model whereby appraisal and individual differences are recognized. If one perceives that the demand and ones resources are in balance or that the consequences attached to the situation are trivial, stress reactions will be minimal. Appraisal of demand, consequences, and coping resources is the key in determining a person's stress reaction.

Women and Stress

Although women face many similar stressors to men in our society, it has been suggested that they face unique additional stressors (Lowe, 1989). Several authors have indicated that women are overrepresented in health care utilization, depressive illness, and suicide attempts, yet explanations for why this occurs have so far been inconclusive. These observations are discussed below, along with some potential explanations for the phenomena.

Women's Experience of Stress

According to the literature, women utilize health care services at a far greater rate than men (Bohnen, 1980; D'Arcy & Schmitz, 1979; Dohrenwend & Dohrenwend, 1976; Lapierre, 1982; Lowe, 1989). "Women are reported as having higher rates of utilization of various kinds of health

services from physician services to dental services and drugs" (D'Arcy & Schmitz, 1979, p. 19). At the present time, it is not known whether this pattern reflects either true physiological differences or socialization effects, or whether women actually experience more stressors than do men (Lowe, 1989). The fact is that women are high consumers of health care as compared with men, an observation which warrants further scrutiny.

Women are also much more likely than men to experience depression (Evans & Cooperstock, 1983; Scott & Mothersill, 1987; Thompson, 1987). "There is fairly consistent evidence that depression is a particular problem among Canadian women" (Women and Mental Health Committee, 1987). In addition, it has been noted that married women are more depressed than never-married women, and also more depressed than married men, even when factors such as age, education, income, employment status, satisfaction with job and marriage, parental status, and amount of housework performed are taken into account (Belle, 1982; Radloff, 1975). Housewives are significantly more depressed and have worse health than working wives (Cochrane, 1989; Lowe, 1989; Marecek & Ballou, 1981; Nathanson, 1980; Women and Mental Health Committee, 1987) and both are found to be more depressed than working husbands by a ratio of 2:1 (Belle, 1982; Radloff, 1975). Married women who do not

work outside the home would seem to be a distinct high risk group for depression (Greenglass, 1990; Nathanson, 1980).

Research shows that women also attempt suicide at a greater rate than men (Kehoe & Abbott, 1975). Although men actually end their lives by suicide more often, women attempt suicide at twice the rate of men (Women and Mental Health Committee, 1987).

In summary, research shows that women are overrepresented in health care utilization, depression, and suicide attempts which may all be seen as indicators of a stress reaction. Three suggested explanations for these phenomena are given below: (1) role-overload, (2) support gap, and (3) powerlessness.

Role overload

As more women enter the paid labour force, dual-income families are rapidly becoming the norm. In the 1950s, only 11% of married women in Canada were employed outside the home. By 1981, almost 51% of all married women were participating in the paid labor force (Canadian Advisory Council on the Status of Women [CACSW], 1987). Currently, approximately 66% of women with employed husbands and children under the age of 16 work for pay, 42% of which are working full-time (Duffy, Mandell, & Pupo, 1989). Less than 16% of Canadian families currently fit the concept of a "traditional family" where the father is the bread-winner

and the mother is at home full-time with the children (CACSW, 1987).

However, the sharing of wage-earning has not brought with it a sharing of tasks at home. Statistics show that women continue to carry the responsibility for parenting, housekeeping, and family well-being despite their out-of-home responsibilities (CACSW, 1984; Cochrane, 1989; Heller, 1986; White, 1983; Women and Mental Health Committee, 1987; Zur-Szpiro & Longfellow, 1982). "This is a 1980s pattern of work outside the home with a 1950s division of labour at home" (Burt, Code, & Dorney, 1988, p. 110). In 1986, the Canadian Advisory Council on the Status of Women found that women's work outside the home did not make a significant difference in terms of division of labour in the home. They found that 85% of women working at home are primarily responsible for their family's health care, compared to 79% of women working part-time outside the home, and 73% of women working full-time outside the home. Women in the work force are, in a sense, committing themselves to two full-time jobs (Duffy et al., 1989; Dunlop, 1981). Data shows that women who have partners who share household tasks are less depressed (Zur-Szpiro & Longfellow, 1982). A 1981 study found that men generally spend an average of 13 hours a week on "committed time" devoted to household work and childcare, whereas employed females spend 21 hours per week committed time (and homemakers spend 42 hours per

week) (Harvey, 1983). As a result of overload, women have less time and energy than men to develop coping skills. Data indicates that employed women have 4 hours a week less free time than men (Employment and Immigration Canada [EIC], 1991; Harvey, 1983). This time could be dedicated to learning new coping skills which would mean more coping options available to them.

The result of considerably more time spent on household chores can also be fatigue and self-neglect (Lowe, 1989). Inadequate time has been cited as a major reason why women fail to look after their own well-being. "With multiple demands on their time and energy, some things have to be sacrificed, including aspects of their own health care" (Heller, 1986, p. 25). It has been shown that women with full-time jobs who also have homemaking responsibilities have an increased risk of heart disease (Haynes & Feinleib, 1980). It would appear that having the majority of the responsibility for the roles of career person, parent, and homemaker may come with a price.

Support gap

Another potential reason for the sex difference in the stress reactions mentioned above is referred to as the "support gap"; that is, giving support to others without receiving support oneself (Belle, 1982). As previously mentioned, men appear to benefit from a protective advantage of marriage that women do not (Marecek & Ballou,

1981). Married men are less depressed, and have reduced risk for suicide, substance abuse, mental health problems, and delinquent behavior (Belle, 1982; Marecek & Ballou, 1981). Yet married women are found to suffer an increase in depression and suicide attempts (Belle, 1982; Bernard, 1976; Marecek & Ballou, 1981; Radloff, 1975).

"Traditionally, the family has been a blessing for men at the expense of women" (Greenglass, 1990, p. 290). The support gap theory suggests that "men derive more protection from marriage than women because more of the support in marriage flows from women to men than vice versa" (Belle, 1982, p. 498). Women often assume the responsibility of monitoring the health and emotional balance of their families and of nursing them when they are sick (Guberman, 1988). This includes husbands, even when both spouses are employed outside the home. However, many women report that they are on their own when they become sick (Heller, 1986). Studies have shown that the recipients of social support derive strong protection against the negative effects of stress (Belle, 1982; Cobb, 1976; LaRocco, House, & French, 1980; Lowe, 1989; Tucker, 1982). Yet, studies show that men more often seek support from their wives than do women who often turn to other women for emotional support (Belle, 1982; Bernard, 1976; Zur-Szpiro & Longfellow, 1982). In other words, it would

appear that there is an imbalance of support in partnership for which women may or may not find compensation.

The act of providing support to others and not receiving it in return is nowhere more obvious than in childcare. "The frequent result of providing support to a child while receiving only erratic support in return is frustration and dysphoria" (Belle, 1982, p. 4). Henderson (1977) found that caring for young children increases a mother's own requirements for support. "The risk of depression . . . in mothers was found to increase as the number of children living at home increased and as the age of the youngest child declined" (Belle, 1982, p. 499). As caregivers, women are often required to nurture others while receiving little or no nurturing in return and, in addition, neglecting themselves (Lowe, 1989).

Powerlessness

A third proposed explanation for sex differences in the stress reactions mentioned above is described under the broad heading "powerlessness". "Powerlessness and lack of freedom are conditions that are known to have an adverse effect on mental health" (Women and Mental Health Committee, 1987, p. 39). Included here are factors such as economic discrimination and violence at home and in society.

Economic discrimination affects women in the labour force and at home. At work, women continue to dominate

jobs at the lowest paid levels, many of which are temporary, part-time, and unskilled (CACSW, 1987; White, 1983). Approximately 58% of Canadian women in the labour force occupy clerical, sales, and service jobs that are at the lowest end of the pay spectrum (Status of Women Canada, 1989). Statistics reveal that women currently working full-time and year-round earn approximately 64% as much as men earn (CACSW, 1987; Day, 1987; Women and Mental Health Committee, 1987). Even when age, experience, and duration on the job are held constant, women still get paid less and are promoted more slowly (Hunter College Women's Collective, 1983). Gender segregation also tends to place men at the highest decision-making levels such as school principals, superintendents, chief executive officers, and administrators (Hunter College Women's Collective, 1983). There is a similar overrepresentation of men in professional roles. According to 1991 statistics, 98% of dental hygienist and assistants in B.C. are women while women comprise only 9% of B.C. dentists and only 5% of B.C. engineers (EIC, 1991). In 1984, 68% of women in the paid-labour force were not unionized and 63% did not have employee-sponsored pension plans (CACSW, 1987). It is suggested here that the existence of "pink-collar work", or jobs filled mostly by women which tend to be paid less, have low status, and have less opportunity for promotion

contributes to women's sense of powerlessness (Burt et al., 1988; EIC, 1991).

Economic discrimination also takes place in the home. Primary is a lack of recognition for work done in the home (CACSW, 1984; Ivancevich & Matteson, 1982; Lowe, 1989; White, 1983; Women and Mental Health Committee, 1987) and work done behind the scenes in support of a husband's occupation (CACSW, 1987; Marecek & Ballou, 1981; Meissner, Humphreys, Meis, & Scheu, 1975). Within one year of separation or divorce, a women's household income may decrease as much as 70% whereas a man's disposable income is likely to increase as much as 43% (CACSW, 1987). In 1981, 1 in 10 Canadian families were headed by single Mothers. Such families are 4.5 times more likely to be poor than families headed by a male (CACSW, 1987). Approximately 57% of single-parent families headed by women live below the poverty line (EIC, 1991). Additional factors which contribute to women's economic disadvantage may be the time and energy spent on child-bearing and child-care which is both costly and reduces the time available for paid employment (CACSW, 1987). In sum, although half the labour force is now comprised of women, there is no accompanying trend toward economic self-sufficiency for women (CACSW, 1987). Again, economic dependence may contribute to a sense of powerlessness among women.

Violence at home and in society is another factor that may contribute to a general climate of fear and powerlessness among women (CACSW, 1987). At home, approximately 1 out of every 10 women is assaulted by her partner (Status of Women Canada, 1989; Lewis, 1982; MacLeod, 1987). "Wife battering is a serious problem because it is a type of violence which potentially affects all families as well as all women in intimate relationships . . . " (MacLeod, 1987, p. 8): The physical and psychological trauma of battering is compounded by the isolation created as a result of the secrecy of wife abuse (MacLeod, 1987). In its extreme form, battering can lead to death. Approximately one fifth of all homicides in Canada are committed by spouses, 83% of which are wives killed by husbands (CACSW, 1985). The definition of wife battering now includes, "loss of dignity, control, and safety as well as feelings of powerlessness and entrapment . . . physical, psychological, economic, sexual, and/or verbal violence . . . persistent threats or the witnessing of such violence . . . " (MacLeod, 1987, p. 16). Current statistics reveal that wife abuse is not a rarity nor is it restricted to any socio-economic level (Guberman & Wolfe, 1985). "All documentation indicates that the violence is much too common and encompassing to be treated simply as an anomaly" (Guberman & Wolfe, 1985, p. 9). Violence at home

is suggested to be another contributor to powerlessness for women.

Violence also confronts women outside the home. Violence against women may span the range from sexual harassment to rape (Guberman & Wolfe, 1985). According to the Canadian Human Rights Commission 10 to 20% or approximately 1.2 million Canadian women have been sexually harassed (Guberman & Wolfe, 1985). Women who experience sexual harassment at the work site have been shown to experience emotional consequences including general tension, nervousness, anger, fear, headaches, tiredness, as well as loss of job satisfaction and self-confidence (Lowe, 1989).

Sexual assault and rape are also prevalent. It has been estimated that 1 in 17 women in Canada have been raped (Kinnon, 1981). As the number of incidences reported increases, many myths are dispelled. For example, the number of rapes committed in private dwellings (as opposed to back alleys) ranges from 51.9 to 67%. In addition, the majority of rapes are committed by a man who is acquainted with the victim (Kinnon, 1981). In 1984, The Committee on Sexual Offences Against Children and Youths, (known as the "Badgley Committee" after its chairman) established by the Ministers of Justice and National Health and Welfare, pursued detailed information regarding sexual offences against children. The Badgley Report estimated that 1 in 2

females are victims of "unwanted sexual acts" and that four-fifths of these incidents occurred when the person was under 18 (Robertson, 1988). The high incidence of acts of violence and aggression against women and children may be another contributor to feelings of powerlessness and stress reactions.

In sum, it is suggested that economic discrimination, at home and at the work site, and pervasive violence against women both in and outside the home may lead to a general sense of powerlessness among women. "Being part of a devalued . . . group -- in this case, women -- leads to the development of poor self-esteem, low levels of aspiration about one's work and achievement, and the belief that one must "make do" and accept whatever one is offered" (Women and Mental Health Committee, 1987, p. 37). This sense of powerlessness is suggested to contribute to stress reactions such as depression, suicide, and extensive health care utilization.

Summary

Three explanations, role-overload, support gap, and powerlessness, have been suggested to explain why women are overrepresented in certain stress reactions. While these perspectives provide a partial explanation, a clear picture of women's experience and the stressors they face has not been achieved. What is clear, however, is that women as a group face numerous demands that are unique to their gender

and constitute potential stressors. The stress potential is increased in cases where women have not acquired necessary coping skills to enable them to deal effectively with unique gender-related demands in situations related to role-overload, support gap, or powerlessness.

Stressors of Living in Remote, Single Industry Communities

While some individuals choose to live in remote one-industry towns for the slower pace of community living and for outdoor life, the majority seem to be prompted by the prospect of good wages, an economic advantage that comes with potential disadvantages (CEIAC, 1987). Below is a definition and general description of single-industry communities and some common problems associated with living in such towns.

Description

The definition of a single-industry community is ambiguous (CEIAC, 1987). Of the studies that exist on resource towns, many define applicable communities using percentages of the labour force employed in the dominant industry, usually between 20 and 35 percent (CEIAC, 1987). However, by this definition, many larger centres such as Ottawa, where the federal government is the dominant employer, and Calgary, where the economy is dominated by the oil and gas industry would rate as single-industry communities (CEIAC, 1987).

A more specific and therefore meaningful definition is: "A single-industry community is one in which there exists a single dominant economic activity/industry . . . and which is not within commuting distance of another area or areas offering alternative employment opportunities" (CDREE, 1977, p. 3). By definition these communities have a limited economic base and are removed from economic and transportation mainstreams. Single-resource communities are, therefore, usually considered to be both small and remote (CEIAC, 1987; CDREE, 1977).

In addition to the lack of consensus of definition, there is little agreement as to how many such communities exist in Canada. Estimations range from 811 to 1,500 to several thousand if one includes fishing villages of Newfoundland and farming towns of the prairies (CEIAC, 1987). Resource-based communities are found in every Canadian province and territory (CEIAC, 1987; CDREE, 1977). The estimated population living in such towns is approximately 2,500,000 which represents 25.5 per cent of Canada's non-urban population (CEIAC, 1987; CDREE, 1977). Figures such as these have lead Robinson (cited in Gartrell, Krahn, & Sunahara, 1980) to note that, "more than any other country, Canada might be considered the land of new towns" (p. 1).

Problems Associated with Single-Industry Communities

Although single-industry communities have been built in Canada since the early 1900's, there has been a lack of research on their development and the common problems persist in such communities (Siemens, 1973). In fact, negative reports of life in these towns are abundant and make use of such adjectives as, "unappealing" and "deplorable" (Siemens, 1973). Difficulties associated with living in single-industry communities may be grouped under three headings: (1) physical stressors, (2) psychological stressors, and (3) stressors as a result of limited resources.

Physical stressors

Many of the physical attributes of single-industry communities are potential stressors to residents. Amongst the physical stressors are: lack of community planning including housing, and geographical isolation.

The first physical stressor, lack of community planning, focuses on the neglect of planning officials to take into account the practical needs of the community (CEIAC, 1987). Common complaints include lack of malls for easier winter shopping and community focus, facilities for nightshift workers (including recreation, shopping, and daycare), activity centres for teenagers, and the most common focus of complaint - lack of adequate housing (CEIAC, 1987; Northern British Columbia Women's Task Force,

1977). Housing is frequently provided by the company at reduced rates (Siemens, 1973). However, it is usually modest accommodation, such as Atco trailers, and apartments, with very little variety. Further, this accommodation often becomes run-down due to high turnover (CDREE, 1977). Even those who are fortunate enough to get housing may be dissatisfied, as workers often bring well-formed preferences of housing from other urban centres (Siemens, 1973). Those less fortunate are often business people and other non-company personnel who may not have access to adequate housing at all (CEIAC, 1987). Studies have shown that type of housing, especially when children are involved, has a great impact on emotional well-being (Gartrell et al., 1980).

The second physical stressor outlined above is geographical isolation which, amongst many things, refers to isolation from other communities and limited employment opportunities (CDREE, 1977). Isolation from other communities means costly or time-consuming travel to other centres, as well as a high cost of living due to transportation costs of importing goods and services (CEIAC, 1987). Geographical isolation also means that few employment opportunities exist outside the dominant industry. The jobs that are available are most often non-traditional for women and limited for adolescents (CDREE, 1977).

Psychological stressors

Psychologically, residents of single-industry communities face many common stressors which may be seen as both a by-product and source of stress (Evans & Cooperstock, 1983). Sources of stress may include cabin fever, unstable industry, shiftwork, and lack of anonymity.

The rate of psychological disturbances, which may be seen as a by-product of stress, is particularly high in resource-communities, especially northern communities (Evans & Cooperstock, 1983). Symptoms most frequently referred to in the literature are high rates of: mental health problems especially depression, alcoholism, loneliness, promiscuity, wife-battering, suicide, marital breakdown, prescription drug use, and a phenomenon referred to as "Injuries - Accidents - Violence" (IAV) which is said to be the leading cause of death in northern communities (Evans & Cooperstock, 1983; Siemens, 1973).

One of the most common psychological disturbances in many northern communities and a potential source of stress is known as "cabin fever" (Siemens, 1973). This refers to, "some combination of irritability, moodiness, boredom, depression, or feeling of dissatisfaction in response to confinement, bad weather, routine, isolation, or lack of stimulation" (Rosenblatt, Anderson, & Johnson, 1984, p. 44). In the north, the phenomenon is common as a result of enforced long periods indoors due to the climate as well as

to the long northern nights (Siemens, 1973). Cabin fever is hypothesized to be one of the major reasons for the drastic increase in psychoactive drug prescriptions in later winter months (Siemens, 1973).

Another psychological stressor which is common to most resources communities, regardless of location, is the town's dependence on a vulnerable economy. There is an inherent stress in the constant threat that the industry, which is often unstable, will terminate, and with it terminate jobs and residency in the community (CEIAC, 1987; CDREE, 1977). Lack of diversification has resulted in more than 400 ghost towns found across Canada (CEIAC, 1987). Few people seem to develop the skills for dealing with this sort of uncertainty which becomes a constant source of stress for all residents.

Shiftwork, which usually is part and parcel of being employed in an industry that demands round-the-clock labour, is another potential source of psychological stress. Shiftwork may contribute to lack of harmony in family relations, especially if spouses work opposite shifts, and restriction of one's social life to individuals working the same shift (CDREE, 1977). Shiftwork also restricts access to potential social support networks which have been shown to affect or buffer stress (LaRocco et al., 1980; Lazarus & Folkman, 1984). In addition, town amenities tend to be geared to the day-shift, leaving the

night-shift with virtually non-existent facilities (CEIAC, 1987). Although shiftwork may be an efficient form of labour organization, it may come at a price for employees.

Although more examples may exist, a final potential psychological source of stress cited here is the lack of anonymity that frequently accompanies life in small towns (CDREE, 1977). There is often a lack of privacy or "fishbowl" effect in that there is a homogeneous population and limited alternatives for employment, recreation, and socialization (CDREE, 1977). In addition, the company's problems are often the town's problems and it is difficult to separate oneself from work and ones colleagues (CDREE, 1977). This lack of privacy and variety has been described as, "a near claustrophobic reduction of alternatives" (CDREE, 1977, p. 17).

Limited resources

Another common attribute of life in single-industry communities is lack of resources that might alleviate some stressors and equip residents with better coping skills. A sampling of resources commonly found lacking in these communities are related to: education, health and social services, and entertainment and shopping facilities.

A reality of living in a small town is that education is usually limited to secondary education and post-secondary institutions are not within commuting distance (CDREE, 1977). This often means that adolescents must go

elsewhere to seek higher education and training and often move permanently for better employment opportunities. As a result there may be a steady outpouring of the best-educated and best-trained individuals who seek employment elsewhere leaving behind those that are less well trained, less flexible, and less adaptable. It also means that, for adults who are restricted by other obligations, attaining higher education may be very difficult or impossible (CDREE, 1977).

Health and social services are two other areas frequently lacking in single-resource communities (Ellis, 1980). Medical and dental practices often cannot lure professionals away from urban life. For those professionals who do seek practises in remote communities, there is often a lack of capital for necessary equipment and facilities. Hospital and special services often must be sought in other centres (CDREE, 1977; CEIAC, 1987). Social services such as counselling and transition houses for battered women are frequently lacking in these communities (Ellis, 1980; Evans & Cooperstock, 1983). Due to lack of anonymity, there is often a resistance to seek help in such communities (Evans & Cooperstock, 1983). Services which may aid individuals to develop coping mechanisms are often absent, or are not accessed.

Residents of small, remote communities also tend to face a lack of access to a broad variety of commercial and

recreational facilities (CDREE, 1977). In a study of resident's conception of needs of typical resource communities, entertainment and recreation were the number one priority. Yet these facilities, perhaps as a result of the impermanent nature of the towns, are rarely provided (Siemens, 1973).

Summary

In summary, living in a single-industry community is often equated with a high level of stressors. Lack of adequate housing, isolation from other communities and limited employment opportunities outside the main industry are common physical stressors. Psychologically, residents often face stressors such as cabin fever, unstable economy, shiftwork and lack of anonymity. Lack of resources is a common source of stress to most residents of single-industry communities. With its drawbacks, however, a sizable population lives in such communities and faces these stressors on a daily basis.

Stressors Women Face in Single-Industry Communities

"There is ample evidence that women in single-resource communities are experiencing psychosocial difficulties" (Evans & Cooperstock, 1983, p. 61). Although research supports the observation that women generally utilize health care more than men, the prescription of antidepressants and minor tranquilizers to women in isolated communities is thought to be exceptionally high and

physicians see an unusually large number of these women as patients (Siemens, 1973). Research in northern Canada also indicates that suicide rates are much higher for women in isolated communities than in urban centres. In 1972, 4.7 females per male attempted suicide in the Yukon compared to 1.4 females per male in a Vancouver study of a comparable population (Kehoe & Abbott, 1975). There is considerable evidence to suggest that women in isolated communities are at particularly high risk of psychosocial disturbance (Evans & Cooperstock, 1983; Health and Welfare Canada, 1986).

The Need for Research

According to the literature, women resident in isolated single-industry communities have unique demands built into their lifestyle (Chumway, 1981). However, very little research has focused specifically on this subset of the population (Evans & Cooperstock, 1983). Although abundant literature exists on resource communities, the focus is typically on economic issues with little mention of any psychosocial aspects and even less pertaining to the well-being of women residents (Evans & Cooperstock, 1982). When women are mentioned in such literature, it is often in reference to their influence on the high rate of labour turnover and community instability. Of the literature that does exist where women in resource communities are the primary focus, less than half the studies are published,

making access very difficult or impossible (Evans & Cooperstock, 1983).

Isolation

The majority of the demands which women in single-industry communities experience can be said to result from isolation and can be broken down into three different types: (1) physical isolation, (2) social isolation, and (3) emotional isolation.

Physical isolation

Evans and Cooperstock, researchers of women in resource communities, claim that, "the circumstances of women's lives in these communities suggest that they will experience isolation differently from men" (Evans & Cooperstock, 1983, p. 61). For the large majority of women whose primary role is homemaker, many factors contribute to their sense of isolation. The first form of isolation, physical or geographic isolation, results from the community typically being small, inadequately equipped, and remote from other communities. Resource towns often lack adequate facilities such as shopping, entertainment, sports, education, and health and social services (Chumway, 1981; Northern British Columbia Women's Task Force, 1977; Siemens, 1973). Often goods and services must be sought in other towns which requires time consuming and costly transportation, if such transportation exists at all. Physical isolation is exacerbated by severe winter

conditions which make poor roads more difficult to travel or may prevent such travel altogether (Evans & Cooperstock, 1983). Therefore, accessibility is often impractical and residents must do without many services. Geographic isolation also amounts to a high cost of living due to importing costs of goods and services (Siemens, 1973). In sum, physical isolation often adds up to women being unable to compensate for the lack of goods and services which would enable them to better cope with their current situation.

Social isolation

The second form of isolation, social isolation, may exist for women within the community itself. For example, there is evidence to suggest that work outside the home has a positive effect on women's well-being (Bohnen, 1980; Cochrane, 1989; Lapierre, 1982; Nathanson, 1980). However, there is typically a lack of opportunities for employment or skills upgrading for women of these communities (Ellis, 1980; Northern British Columbia Women's Task Force, 1977). Lack of employment serves to maintain women in the home and deprives them of the positive social aspects of colleagues at work and at school.

Social isolation is further maintained by lack of transportation within the town itself. Often spouse's work sites are located at some distance from the town meaning that husbands are forced to take the family vehicle

(Northern British Columbia Women's Task Force, 1977). With a lack of public transportation within the community, women are kept at home (Evans & Cooperstock, 1982). Inadequate child care and lack of proper public facilities to meet others during the day or evening may also prevent women from making contacts while at home alone. Unfortunately, women with the greatest number of children or those who are the most socially withdrawn and depressed are the ones who are unable to make contacts in the community and remain most socially isolated (Evans & Cooperstock, 1982).

Emotional isolation

The third form of isolation, emotional isolation, can be severe for women in single-industry communities. The very nature of the industry of the town may create emotional isolation for women. Firstly, residents of such towns have experienced frequent relocation and are likely to experience another move in the next few years (Evans & Cooperstock, 1983). Relocation can mean separation from the extended family and support networks. Women have often left their families and friends, and there is a lack of older-generation contacts or friends to call on for advice or reassurance in child-rearing (Evans & Cooperstock, 1983; Northern British Columbia Women's Task Force, 1977). Research also supports the idea that women frequently have little voice in the decision to move (Gartrell et al., 1980), and in some instances have given up jobs to follow.

their husbands (Weissman & Paykel, 1974). In addition, high mobility can foster superficial relationships and/or a sense of loss when close friendships are severed by moving, both of which serve to maintain emotional isolation (Chumway, 1981; Women's Research Centre, 1979).

Shiftwork is another company policy which fosters emotional isolation (Northern British Columbia Women's Task Force, 1977). Social ties tend to be restricted to individual's whose husbands are on the same shift to facilitate families getting together. In addition, shiftwork can be disruptive to family life and daily routine since individuals work for the majority of time on one shift and on their shift off they often partake in non-family oriented activities such as hunting and fishing (Women's Research Centre, 1979). Another frequent occurrence with shift employment is extensive over-time meaning lack of shared time with spouses and families (Evans & Cooperstock, 1982). Lastly, in one-industry towns, employees are at the mercy of the company's policies with no alternatives. If the situation is difficult for the family, there are no alternate employment opportunities available (Siemens, 1973).

Another contributor to emotional isolation for women in single-industry communities is the typical "frontier society" the community usually consists of (Evans & Cooperstock, 1983). The term describes a male-oriented

culture which often means a higher than average rate and acceptance of domestic violence (Women's Research Centre, 1979). Many factors in such societies contribute to encourage women to remain in destructive and often dangerous relationships. Firstly, a lack of jobs, child-care services, and housing for sole-support mothers means women are under severe economic constraints. Secondly, support services such as transition houses, counselling and preventive services seldom are adequate (Evans & Cooperstock, 1983). Thirdly, if social support services do exist, lack of anonymity often deters women from seeking help and police are reluctant to intervene in domestic squabbles (Women's Research Centre, 1979). Other contributors to the high rate of family violence are high rate of male alcohol consumption, traditional values where women are believed to be responsible for keeping harmony and nurturing the family, and the under-representation of women in local government where they may have impact in developing support services for women in these communities (Chumway, 1981; Evans & Cooperstock, 1983). All of the above factors serve to further a woman's sense of emotional isolation within the community.

Summary

Research supports the contention that women in isolated resource communities are at high risk of experiencing stress. Yet, despite the abundance of

potential stressors these women may face, the question remains as to how they perceive the sources of stress in relation to their own abilities to cope. Questions regarding the level of stress this group is actually experiencing, what their main sources of stress are, and their methods and effectiveness of coping serve as the focus of this study. The specific research questions guiding this exploration are listed below.

Research Questions

1. What is the level of stress of women in a one-industry town?
2. What are the particular stressors women face in this community?
3. Which subsets of individuals are at particular risk of experiencing stress?
4. How do these women tend to cope?
5. How adequate do they perceive their coping resources to be?
6. What kind of interventions would be useful in helping women cope more effectively?

Chapter 3

Methodology

The site of data collection of this study was a remote resource community in northern British Columbia, Tumbler Ridge. A pilot study, described later in this chapter, was initially conducted in order to gain preliminary data. Subsequently, 300 women were polled using three questionnaires in order to address the research questions.

Setting

Tumbler Ridge is a single-industry community in northeastern B.C., known as the "Peace River region". It is located 1,082 km. by road northwest of Calgary, only 65 km. due west of the B.C./Alta. border. It has an approximate population of 4,500 people. Its closest urban centre is Dawson Creek, 200 kilometers northwest by paved road, which has an approximate population of 10,500. It also neighbors Chetwynd, 95 km. west, which has an approximate population of 2,900. The closest larger centres are Prince George, 609 km. southwest, and Grande Prairie, Alberta, 330 km. east. Edmonton is an 8 hour drive and Vancouver is approximately 14 hours by road.

The decision to create the town of Tumbler Ridge was made in 1977 with the intention of accommodating the population associated with the Northeast Coal mining project in the Peace River region (Planning Collaborative, 1983; Rabnett, 1978). Construction of the town began in

1981 (McGrath, 1985). Tumbler Ridge's single-industry is coal. There are two mines which feed the industry and two companies operating them: Quintette Coal Ltd. and Bullmoose Operating Company. Together, they presently employ approximately 1,700 individuals.

Unlike many other resource communities, Tumbler Ridge was a completely planned town before it was constructed and was developed with a lot of forethought. "Though quite isolated, . . . the care and attention to detail that occurred in the construction of Tumbler Ridge . . . is superior" (Kania, 1989, p. 11). In fact, part of the team that contributed to the unique design of Tumbler Ridge was a group of environmental criminologists. The intention was to create an architectural and urban design which would minimize crime and encourage social interaction (Labonte, 1983) a goal which has been achieved, to a certain degree.

At the time of this study, the town had eight 50-unit apartment buildings and approximately 800 houses. The community facilities include a \$10 million community centre which houses an ice arena, curling rink, library, day care facility, meeting rooms, weight room, teen centre, and a restaurant. The Health Centre houses a Diagnostic and Treatment Centre including an emergency medical department, lab and x-ray, 3 doctors, an optometrist, a dietitian, a physiotherapist, a dentist, and facilities for counselling and Social Services and Housing. Public buildings in

Tumbler Ridge include a distinctive town hall, public works building, fire hall and RCMP barracks. Shopping facilities include one grocery store (Super Value), a Sears outlet (for catalogue orders only), 2 small clothing stores, one pharmacy, 2 hardware stores, 2 furniture stores, one liquor store, and 2 video stores (there is no movie theatre). Other amenities include one bank (The Royal Bank), an outbranch of the Northern Lights College, 3 restaurants, 2 hairdressers, one hotel, a dry-cleaners, and a Greyhound bus depot.

Counselling and other social service agencies which hire trained professionals, at the time of this study, included the following: the Employee and Family Assistance Program (EFAP) with 1 counsellor to do short-term drug and alcohol counselling; the Family Support Society who fund a Program Director, 2 Child-Care Workers (with diplomas in Social Work), a Victims Assistance Coordinator (with a diploma in Social Work), and 1 1/2 Youth Workers at an Alternate School for Behavior Disordered youths; and the Ministry of Social Services who provide one Social Worker who comes in from Chetwynd one or two days a week, and a Financial Assistance Worker who comes in one day a week.

According to the last census (1986), 91% of the population of Tumbler Ridge is English speaking only, 0.3% is Native Indian, and 92% are under the age of 45. The average family has 1.5 children and has an average

household income of \$54,945.00 (the average for males 15 years and over with an income is \$41,886; the average for females 15 year and over with an income is \$12,281). In 1986 there were 1,215 women over the age of 20 in Tumbler Ridge (Statistics Canada, 1986).

Sample

The sample consisted of 92 women, 20 years of age or over who are residents of Tumbler Ridge. The sample was selected from the voter's list for Tumbler Ridge. All the female names on the list were cross-referenced with the telephone book in an attempt to determine which individuals were still resident in the town, and to determine the new addresses of those that had moved. A total of 300 addresses were randomly selected from the final list. It should be noted that it is difficult to calculate the exact percentage rate of return since it is impossible to know if the houses selected actually contained potential respondents. It is felt that the above procedure maximized the chances of reaching respondents, though it is not guaranteed.

The respondents' ages ranged from 21 to 56 and the mean age was 34.2 years. The sample consisted of 79.4% married subjects, 6.5% single subjects, 5.4% divorced or separated subjects, 1.1% widowed subjects, and 7.6% subjects currently cohabitating (but not married). A total of 47.8% of subjects had been married or cohabitating for

over 10 years. The sample had an average of 2.2 children with an average of 1.6 children currently residing with the respondent. Only 5 respondents were single-mothers. A polling of highest educational level completed revealed that 3.3% of the sample had grade school experience only, 35.9% had a high school diploma only, 37.0% had some community college experience, 20.7% had a University degree, and 2.2% had a Master's degree or higher. The sample contained 55.4% of respondents who had been in Tumbler Ridge for more than 5 years, and 46.7% of respondents had someone in the house, besides themselves, working shiftwork. The sample consisted of 60.9% employed women working an average of 34.2 hours a week, with 63.0% having a combined family income over \$50,000.00 per year.

Measurement

Three research instruments were used: (1) The Symptoms of Stress Inventory, (2) The Coping Resources Inventory for Stress, and (3) a researcher-devised questionnaire entitled the Background Information Form.

The Symptoms of Stress Inventory. The Symptoms of Stress Inventory (SOSI) (Leckie & Thompson, 1979) is an instrument designed to quantify the frequency of stress-related symptoms. The SOSI is a modification of the Cornell Medical Index which was insufficient to meet the clinical need. The SOSI consists of 94 items with a 5-point scale where subjects rate their frequency of

experiencing stress related symptoms in the previous two weeks. A total SOSI score (Sositot) results as well as 10 subscale scores: Peripheral, Cardiopulmonary, Neural, Gastrointestinal, Muscular, Habitual Patterns, Depression, Anxiety/Fear, Anger, and Cognitive Disorganization.

Validity of the SOSI has been demonstrated primarily by its high face validity. In addition, convergent validity is evidenced by a high correlation (.82) with an alternate measure of psychological stress, the SCL-90. Subscale internal consistency is evidenced by alpha coefficients ranging from .62 to .91 and the internal consistency for the full scale score is .97. Full scale test-retest reliability is .83, and subscale correlations range from .54 to .86 (Thompson, 1987). Results of the SOSI were utilized to contribute to the research question, "What is the level of stress of women in one-industry towns?"

The Coping Resources Inventory for Stress. The Coping Resources Inventory for Stress (CRIS) (Curllette, Aycock, Matheny, Pugh, & Taylor, 1988) is designed to measure an individual's resources for coping with stress. It contains 280 items requiring a true or false response. Computer scoring provides 37 scores: a global score - the Coping Resources Effectiveness score (CRE); 12 Primary scales - Self-Disclosure, Self-Directedness, Confidence, Acceptance, Social Support, Financial Freedom, Physical Health,

Physical Fitness, Stress Monitoring, Tension Control, Structuring, and Problem Solving; 3 Composite scales - Cognitive Restructuring, Functional Beliefs, and Social Ease; 16 Wellness Inhibiting Items; and 5 Validity scales.

Reliability of the CRIS is demonstrated through internal consistency of subscales ranging from .84 to .97 (Chronbach's alpha), and .97 for the CRE scale. Test-retest correlations of the subscales range from .76 to .95 (Pearson correlations), with .95 for the CRE. In general, test-retest reliabilities demonstrate that CRIS scores are stable over time when stress coping interventions are not present.

The Validity of the CRIS is also demonstrated. The content validity is established by agreement of the scale items with the stress literature. In addition, at least three out of five stressology experts concurred on assignment of items to scales 90 percent of the time. Construct validity is shown through the ability of the CRIS to discriminate between functional groups and dysfunctional groups and through factor analysis. Also, significant negative correlations were found between items indicating good coping resources and items measuring unfavorable health conditions. (Curlette et al., 1988). Results of the CRIS were utilized to contribute to the research question, "How adequate do women in one-industry towns perceive their coping resources to be?"

The Background Information Form. The Background Information Form (BIF) (see Appendix D) is a self-devised instrument based on literature and pilot-study data. It consists of 46 closed and open-ended questions and takes between 5 and 10 minutes to complete. The BIF is comprised of 4 parts: demographic variables, sources of stress and coping resources, social support, and intentional coping activities for the purpose of reducing stress. The rationale for each section is as follows. Questions tapping sources of stress and coping resources were designed to contribute to the research questions: "What are the particular stressors women face in single-industry communities?" and, "How do these women tend to cope?" Questions tapping intentional coping activities for the purpose of reducing stress were also intended to contribute to the latter research question. All questions were utilized to contribute to the research question: "Which subsets of individuals are at particular risk of experiencing stress?" as well as to provide further information regarding subjects coping strategies.

Procedure

A pilot study was conducted in order to create the BIF. Initially, a tentative list of questions was developed from the relevant research literature. Twelve women who volunteered by personal contact and involvement in the Employee and Family Assistance Program in Tumbler

Ridge served as pilot subjects for the draft form. These subjects were asked to complete the BIF and later in a half hour interview were asked to comment on its readability, relevance, and comprehensiveness. Suggestions regarding the above 3 areas that were made by 2 or more pilot subjects were incorporated into the final form of the BIF.

Data collection took place in May, 1990. A questionnaire package was distributed manually to each of 300 randomly chosen subjects. The package contained a Cover Letter (see Appendix A), an Instructions sheet (see Appendix B), 3 questionnaires (see above), and a pre-stamped return envelope. (Arrangements were made with the post-office, who supplied a "postage prepaid" stamp, to only be charged for envelopes once they were returned.) Subjects were asked to complete the 3 questionnaires and send them back by return mail. One week later, a Reminder notice (see Appendix C) was manually distributed to each subject.

In addition to the above, more publicity of the study was established in order to encourage participation. Two newspaper articles were published, one in "The Tumbler Ridge Observer", and the other in "The Weekly Record", (which is distributed throughout B.C.), a note was published in each of two consecutive "Quick Facts" flyers which are delivered weekly to each household, a Final Notice was posted in the local Post Office, a presentation

was made to Town Council, and, finally, a CBC radio interview was obtained on "Day Break" broadcasting throughout northern B.C. Thus, reasonable effort was expended to achieve as high a return rate as possible.

Summary

In sum, data collection took place in Tumbler Ridge, B.C., which meets the criteria of a single-industry community. The process consisted of random selection of 300 subjects, one quarter of the population of women over the age of 20, who were requested to respond to 3 questionnaires. Each of the questionnaires was designed to answer one or more of the research questions which shall be addressed later in the study. Results of the data analysis will subsequently be presented.

Chapter 4

Results

In order to address the research questions, data analysis incorporated both descriptive and inferential procedures. Initially, descriptive statistics were performed to provide a clearer picture of subjects' responses to sources of stress, levels of stress, and coping resources. Next, inferential statistics were performed to provide information regarding the interrelation among variables and to compare responses across different demographic subgroups.

Data were collected as described in Chapter 3. The Symptoms of Stress Inventory (SOSI) (Leckie & Thompson, 1979) produced a total score and 10 subscale scores. The Coping Resources Inventory for Stress (CRIS) (Curlette et al., 1988) produced a total score and 12 subscale scores. Frequencies were calculated for each category on the Background Information Form (BIF). The open-ended questions of the BIF were aggregated by creating categories from each question based on subjects' responses.

Descriptive Results

Both structured and open-ended questions were used to assess subjects' sources of stress, levels of stress, and coping resources. In aggregating subjects' responses to the four open-ended questions, the following procedure was used. Initially, a content analysis was conducted on a random selection of 12 responses. The subjects' answers to each of

the four questions were grouped according to the similarities of the themes they addressed. Where possible, category labels for the themes were used that were consistent with terminology used in the research literature on stress and coping. This initial classification system was then used to code responses of the remaining subjects. In each case if the subjects' responses fit into the classification system it was coded accordingly or a new category was created to incorporate a response. In cases where a new category was created, previously coded questionnaires were recoded using the more extensive classification system. This procedure was used for each of the open-ended questions. Inter-rater reliability was determined by randomly selecting 12 questionnaires and having a 2nd and 3rd trained rater code the responses. In each case, percent agreement of 85% or greater was obtained. The resulting classification systems are given in Appendix D.

Stress Sources

Two of the 4 open-ended questions of the BIF were designed to address the research question: "What are the particular stressors women face in single-industry communities?" Subjects were requested to list their three greatest sources of stress and the factors in those sources which cause the stress. Responses were aggregated and coded using a qualitative approach. A total of 15 categories for the first question (BIF question #17), and 17 categories for

the second question (BIF question #18) emerged that incorporated the respondents' answers for each question. (See Appendix D for a complete tabulation of BIF response frequencies).

The 5 most frequently cited sources of stress, beginning with the most frequent category, were: kids (children, step-children, parenthood, and childcare); work - personal (dissatisfaction with work, lack of work, and school; does not include homemaking or balancing home and work); money (including money management, and not enough money); time management (organizational difficulties, pressure, lack of time; not specifically work, family, or household); and emotional problem - self (difficult emotional state or personal problem including loneliness, boredom, and abuse). The top 5 answers cited as reasons why these events were stressful, in order, were: people not conforming to expectations (others not performing in desired manner including kids misbehaving and spouse unsupportive); situation not conforming (reality does not match ideal state, including lack of adequate facilities in Tumbler Ridge, and isolation from family and friends); lack of coping skills for handling demands (including money management, and time management; emphasis on personal responsibility); quantitative overload (overwhelmed as task is too big, or too many things to do; emphasis on external control); and

unspecified overload (overwhelmed for unstated or vague reason).

Stress Levels

The SOSI was used to answer the research question, "What is the level of stress of women in one-industry towns?" The sample means and standard deviations of the SOSI total score (Sositot) and its subscales are reported in Table 1. Note - Statistical comparisons between the sample and the published norms was not conducted because the available data necessary for the computations was not available. Therefore, descriptive comments only are provided.

Comparisons were made between the sample and normative groups reported in the SOSI manual (Thompson, 1987). The sample Sositot mean (87.88) was 14% higher than a Non-Client Convenience Sample (76.93). The Sositot mean was 14% lower for the sample than for female Stress Management Clients (102.63) and in between the "screen" (96.64) and "exit" (60.34) means for another Stress Management norm group. It should be noted that initial scores for Stress Management Clients would be expected to be particularly high since they are seeking treatment to learn to deal with stress.

Comparisons of sample subscale scores and normative group subscale scores reported in the SOSI manual were varied. All subscale means of the sample were higher than those of a Non-Client Convenience Sample. Compared to female Stress Management Clients, the sample scored lower on all

Table 1SOSI Means and Standard Deviations

SOSI scale	<u>M</u>	<u>SD</u>
Sositot	87.88	51.20
Peripheral Manifestations	5.67	4.80
Cardiopulmonary	11.84	9.02
Central-Neurological	2.22	2.46
Gastrointestinal	9.19	6.50
Muscle Tension	10.40	7.11
Habitual Pattern	16.37	9.12
Depression	8.12	6.33
Anxiety/Fear	8.47	6.59
Emotional Irritability (Anger)	9.97	7.01
Cognitive Disorganization	5.64	4.79

subscales except Gastrointestinal. When compared to Stress Management Clients where "screen" and "exit" means were provided, the sample scores were in between these means on every subscale except both Cardiopulmonary, and Gastrointestinal, where the sample scored higher than both the screen and exit means. Using standardized scores, the sample's most prevalent symptoms of stress, in order, were: emotional irritability (anger), muscle tension, habitual pattern, gastrointestinal, and depression.

Coping

Method of coping. The remaining 2 open-ended questions of the BIF were utilized to answer the research question: "How do women in single-industry communities tend to cope?" In the same manner as described earlier, subjects were requested to list their 3 greatest sources of help (BIF question #19) and reasons for the help (BIF question #20) (See Appendix D). The 5 greatest sources of help to respondents, beginning with the most frequent category, were: talking (for social support or unspecified); physical activity (exercise, including walking); emotional support (where talking was not specified); activities for enjoyment (including reading, television, hobbies); and optimism (focus on positive circumstances in life). The 5 answers most often cited as reasons why these strategies are helpful, in order, were: social support (feel cared about, listened to, encouraged); relaxation (mentally calm, not a physical release); escape (get ones mind off the problem, get "lost"); personal satisfaction (feel better about oneself; sense of accomplishment); and confronting the problem (doing something constructive to deal with the problem).

Perceived adequacy of coping. The results of the CRIS address the research question, "How adequate do women in one-industry towns perceive their coping resources to be?" The sample means and standard deviations of the CRIS total score (CRE) and it's subscales are reported in Table 2.

The global Coping Resource Effectiveness score (CRE) for the sample was 59.30 which is 10% lower than the normative sample mean (65.99) reported in the CRIS manual. The normative sample consisted of 814 individuals considered to be a representative sample of the United States population stratified according to age, sex, and race.

In addition, all 15 sample subscale mean scores were lower than the normative sample mean scores indicating that the sample generally perceived themselves to have fewer coping resources than the normative sample. Amongst the 12 subscales, the sample scored highest on "Social Support", the availability of family and friends for support, "Structuring", the ability to organize and manage resources, and "Physical Health", or overall health and wellness. The sample scored lowest on "Physical Fitness", personal health practices, "Acceptance", beliefs and behaviors indicating acceptance of self, others, and the world, and "Tension Control", ability to lower arousal through relaxation procedures and thought control. It should be noted that it is easiest to score high on the scales of Social Support and Physical Health, and hardest to score high on the Physical Fitness scale (Curlette et al., 1988).

Intentional coping practises. In order to further address the research question, "How do women in single-industry communities tend to cope?", subjects were asked to indicate how frequently they used various coping strategies

Table 2CRIS Means and Standard Deviations

CRIS Scale	Tumbler Ridge		Normative sample	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
CRE score	59.30	25.40	65.99	15.85
Self-Disclosure	58.80	32.10	63.00	30.10
Self-Directedness	50.10	29.90	57.30	25.85
Confidence	57.40	32.60	67.20	27.40
Acceptance	49.50	29.00	54.60	23.80
Social Support	70.40	30.30	75.65	20.00
Financial Freedom	63.90	34.80	67.95	28.60
Physical Health	65.80	26.60	75.65	20.00
Physical Fitness	40.70	31.80	48.52	31.20
Stress Monitoring	62.00	32.90	70.05	27.15
Tension Control	49.80	26.70	56.15	26.00
Structuring	66.70	30.10	69.85	22.90
Problem Solving	63.90	30.40	72.05	23.25
Cognitive Restructuring	56.50	28.20	62.57	24.57
Functional Beliefs	48.60	28.50	55.23	24.82
Social Ease	57.90	30.60	66.15	26.20

for the purpose of reducing stress. The strategy list had been originally derived in a wide variety of stress control workshops where subjects were asked what they typically did to control stress in their lives. For the purpose of this study, strategies were seen as either counterproductive, facilitative, or unsupported in terms of stress reduction. Using the BIF, subjects were asked to rate the frequency with which they engaged in intentional stress reduction activities (See Appendix D). Highlights of subjects' responses are given below.

Several practises are supported by the literature as being counterproductive in terms of stress reduction. These practices include prescription medication, non-prescription medication, alcohol, and smoking (Benson, 1975; Cooper, 1982; Greenberg & Pargman, 1986; Rice, 1987). According to the data, 77% of the sample report that they never use prescription medication to reduce stress, and 1% do so on a daily basis. A total of 73% of the sample never use non-prescription medication to reduce stress, and none report that they do so on a daily basis. When asked about intentional use of alcohol to reduce stress, 72% of the sample report that they never use it to reduce stress, while 3% report that they do so on a weekly basis, and none use alcohol to reduce stress on a daily basis. A total of 77% of the sample report that they never smoke to reduce stress, and 20% report that they do so on a daily basis.

Several procedures are also supported by the literature as being facilitative in reducing stress when done on a consistent basis. These practices include exercise, deep relaxation or meditation, nutrition, learning a new coping skill, and support groups (Benson, 1975; Cooper, 1982; Greenberg & Pargman, 1986; Hiebert, 1988b; Rice, 1987). According to the data, 37% of the sample use exercise on a monthly basis or less, 36% use it on a weekly basis, and 3% use exercise to deal with stress on a daily basis. On the subject of deep relaxation, self-hypnosis or meditation, 75% of subjects report that they never use these practises to reduce stress, and 2% do so on a daily basis. A total of 34% of the sample report that they never use nutrition to reduce stress, and 34% do so on a daily basis. An average of 80% of the sample never use a support group to reduce stress, and 9% do so on a weekly basis. Approximately 50% of the sample never learn a new coping skill in order to reduce stress, and 14% do so on at least a monthly basis.

It should be noted that the activities described above are effective in reducing stress only if they are correctly implemented. For example, although some subjects claimed to use relaxation regularly to reduce stress, they may not have been using a procedure endorsed by the literature. Relaxation practises that have a documented history for reducing stress include procedures such as progressive

muscle relaxation, meditation, or hypnosis, and which are practised on a daily basis (Benson, 1975; Hiebert 1988a). Subjects who sit down and put their feet up for 5 minutes during the day may have answered this item, and may benefit from this practise. However, it is not a procedure with empirical support for stress reduction.

Several procedures also exist which have no documented support of being effective in terms of stress reduction. These practises include music, reading, and television. According to the data, 58% of the sample use music to reduce stress on at least a weekly basis including 33% who do so on a daily basis. Approximately 67% of the sample use reading to reduce stress on at least a weekly basis, including 42% who do so on a daily basis. In addition, 67% of the sample watch television to reduce stress on a weekly basis including 40% who do so on a daily basis.

Inferential Results

Correlational Results

A correlational analysis was utilized to further answer the research question, "How do women in single-industry communities tend to cope?" Pearson Correlation Coefficients were calculated between the SOSI total score (Sositot), the CRIS total score (CRE), and the 12 CRIS subscales (See Table 3). Highlights of results are presented below.

The Sositot was negatively correlated with the CRE ($r = -.65$, $p < .01$) which suggests that higher stress levels are associated with lower coping resources. Correlations between the Sositot and the CRIS subscales ranged from $r = -.13$ to $r = -.55$, all significant ($p < .01$) except Physical Fitness. The 3 subscales reporting the strongest correlation between the Sositot and the CRIS subscales were Confidence, Social Support, and Physical Health, $r = -.52$, $-.55$, and $-.53$ respectively. These correlations support the transactional theory of stress which suggests that stress results from an imbalance between demand and coping resources.

Correlations between the CRE and the CRIS subscales ranged from $r = .33$ to $r = .82$ and all were significant ($p < .01$). The strongest correlations were Self-Directedness, Confidence, Stress Monitoring, and Problem Solving, $r = .74$, $.82$, $.75$, and $.75$ respectively. The lowest correlation of $r = .33$ was for Physical Fitness. In general, the above correlations confirm the high internal consistency of all subscales reported by the CRIS manual (coefficients ranging from $.84$ to $.97$).

The fact that Physical Fitness is not highly correlated with stress levels or coping may, at first, seem contrary to previous statements that physical fitness can be a significant contributor to stress reduction. However, inspection of the CRIS items reveal that only a small

Table 3

Correlations Between Total Scores and CRIS Subscale Scores

Scale

	CPE	SELDIS	SELDIR	CONF	ACC	SOSUP	FINFRE	PHYHEA	PHYFIT	STRMON	TENCON	STRUC	PRSOL
SOSITOT	-.65 ($<.01$)	-.38 ($<.01$)	-.33 ($<.01$)	-.52 ($<.01$)	-.46 ($<.01$)	-.55 ($<.01$)	-.33 ($<.01$)	-.51 ($<.01$)	-.13 (=.11)	-.42 ($<.01$)	-.31 ($<.01$)	-.40 ($<.01$)	-.38 ($<.01$)
CPE		.62 ($<.01$)	.74 ($<.01$)	.82 ($<.01$)	.65 ($<.01$)	.57 ($<.01$)	.57 ($<.01$)	.48 ($<.01$)	.33 ($<.01$)	.75 ($<.01$)	.65 ($<.01$)	.61 ($<.01$)	.75 ($<.01$)
SELDIS			.57 ($<.01$)	.46 ($<.01$)	.39 ($<.01$)	.52 ($<.01$)	.29 ($<.01$)	.09 (=.21)	.09 (=.19)	.47 ($<.01$)	.29 ($<.01$)	.29 ($<.01$)	.29 ($<.01$)
SELDIR				.73 ($<.01$)	.51 ($<.01$)	.39 ($<.01$)	.31 ($<.01$)	.23 (=.01)	.12 (=.13)	.48 ($<.01$)	.43 ($<.01$)	.34 ($<.01$)	.48 ($<.01$)
CONF					.62 ($<.01$)	.52 ($<.01$)	.32 ($<.01$)	.31 ($<.01$)	.04 (=.35)	.58 ($<.01$)	.49 ($<.01$)	.40 ($<.01$)	.68 ($<.01$)
ACC						.47 ($<.01$)	.21 (=.02)	.19 (=.03)	-.00 (=.50)	.44 ($<.01$)	.48 ($<.01$)	.24 (=.01)	.50 ($<.01$)
SOSUP							.12 (=.12)	.19 (=.04)	-.09 (=.20)	.37 ($<.01$)	.33 ($<.01$)	.24 (=.01)	.39 ($<.01$)
FINFRE								.20 (=.03)	.30 ($<.01$)	.44 ($<.01$)	.28 ($<.01$)	.37 ($<.01$)	.34 ($<.01$)
PHYHEA									.46 ($<.01$)	.20 (=.03)	.25 ($<.01$)	.32 ($<.01$)	.23 (=.01)
PHYFIT										.16 (=.07)	.05 (=.32)	.11 (=.14)	.06 (=.28)
STRMON											.54 ($<.01$)	.46 ($<.01$)	.59 ($<.01$)
TENCON												.37 ($<.01$)	.68 ($<.01$)
STRUC													.60 ($<.01$)

Note. Probabilities are reported in parentheses.

proportion of items refer directly to aerobic fitness while the majority refer specifically to muscle building or are neutral in content by referring to "exercise program". Literature supports the claim that aerobic fitness is a significant contributor to stress reduction. It is possible to score high, however, on the CRIS subscale of Physical

Fitness but not be aerobically fit and therefore receive less benefits in terms of stress reduction (Cooper, 1982; Greenberg & Pargman, 1986; Rice, 1987).

Comparative Results

Analysis of variance (ANOVA) was utilized to address the research question, "Which subsets of individuals are at particular risk of experiencing stress?" Initially, ANOVAs were performed using the Sositot and the CRE as dependent measures. All the demographic variables reported by the BIF were used as independent measures. The demographic characteristics which resulted in significant findings using the ANOVA procedure were: (1) number of children at home, (2) education level, (3) changes of residence in the past 5 years, (4) change of residence in the past year, (5) number of years of residence in Tumbler Ridge, (6) number of friends in the community, (7) frequency of participation in community activities, (8) frequency of participation in religious functions, (9) learning a new coping skill, (10) deep relaxation, (11) nutrition, (12) prescription medication use, and (13) alcohol.

Following each ANOVA procedure which produced significant results, MANOVAs were performed using the Sositot, and CRIS subscales as dependent measures. Six of the above independent variables also produced significant MANOVA results which will be discussed separately.

Firstly, elaboration of the ANOVA results (where the MANOVA results were not significant) are reported below.

"Number of children currently living at home" was shown to affect women's perception of their coping resources $F(3,88) = 3.09, p < .03$. Post hoc analysis using Tukey ($p < .05$) indicated that women with 3 or more children at home perceived their coping to be less effective than women with no children at home. Analysis further revealed that coping decreases as number of children increases (See Table 4).

"Education level" was shown to affect women's perception of both their coping resources $F(2,88) = 3.78, p = .03$, and their stress levels $F(2,88) = 3.26, p = .04$. Post hoc Tukey analysis ($p < .05$) revealed that women with college experience reported both lower coping resources and higher symptoms of stress than did women with a university degree (See Table 4).

"Moving in the past year" was also found to affect women's perception of their stress levels $F(1,90) = 4.99, p = .03$. Post hoc Tukey analysis ($p < .05$) indicated that women who had changed their place of residence in the past year had significantly higher stress levels than women who had not moved in the past year. "Number of years of residence in Tumbler Ridge" revealed a further difference in stress levels for subjects $F(2,89) = 4.13, p = .02$. Post hoc Tukey analysis ($p < .05$) revealed that women who had

Table 4

Means and Standard Deviations for Sositot and CRE for
Significant ANOVAs

Variable		Sositot	<u>F</u>	<u>p</u>	CRE	<u>F</u>	<u>p</u>
Subcategory							
Number of children at home			2.13	.10		3.09	.03
0	n=23	71.17 (36.31)			65.65 (21.50)		
1	n=14	73.43 (50.43)			55.00 (28.07)		
2	n=37	100.68 (57.26)			48.19 (25.57)		
>2	n=18	94.17 (49.91)			44.67 (26.06)		
Education level			3.26	.04		3.78	.03
Grade/High school	n=36	83.72 (49.60)			50.58 (24.07)		
University degree	n=21	69.38 (42.81)			65.52 (24.67)		
College	n=34	103.86 (54.86)			46.792 (26.63)		
Change of residence in the past year			4.99	.03		.88	.35
yes	n=12	118.00 (62.23)			46.33 (22.98)		
no	n=80	83.36 (48.19)			53.89 (26.37)		

Note: Standard deviations are reported in parenthesis.

(table continues)

Variable	Sositot	<u>F</u>	<u>p</u>	CRE	<u>F</u>	<u>p</u>
Subcategory						

No. of years in Tumbler Ridge		4.13	.02		2.20	.12
<3 n=23	113.00			43.22		
	(56.20)			(28.12)		
3-5 n=18	73.39			55.50		
	(32.68)			(23.23)		
>5 n=51	81.67			56.35		
	(51.12)			(25.26)		

Frequency of religious participation per year		3.50	.04		1.96	.15
<3 n=13	100.54			51.15		
	(50.03)			(32.88)		
3-24 n=15	114.87			43.33		
	(41.20)			(23.43)		
>52 n=17	71.53			61.47		
	(50.08)			(21.98)		

Use of nutrition to cope per year		2.44	.09		3.39	.04
0 n=31				56.94		
				(22.93)		
1-52 n=24				42.83		
				(24.26)		
>365 n=31				59.03		
				(25.87)		

Note: Standard deviations are reported in parenthesis.

(table continues)

Variable		Sositot	F	p	CRE	F	p
Subcategory							
Use of alcohol to cope			4.65	.03		.58	.45
no	n=66	80.00 (43.58)			54.64 (24.80)		
yes	n=25	105.12 (63.12)			50.04 (28.23)		

Note: Standard deviations are reported in parenthesis.

resided in Tumbler Ridge for less than 3 years had significantly higher stress levels than did all other groups (See Table 4).

"Frequency of participation in religious functions" was also found to affect women's perception of their stress levels $F(2,42) = 3.50$, $p = .04$. Post hoc Tukey analysis revealed that women who participate in religious functions between 3 times a year to twice a month have higher stress levels than women who participate in religious functions once a week or more (See Table 4).

Two of the intentional coping strategies for the purpose of reducing stress produced significant results. The first is "Nutritional practises" which was shown to

affect women's perception of their coping resources $F(2,83) = 3.39, p = .04$. Post hoc analysis using Tukey ($p < .05$) indicated that women who intentionally use nutritional practises to reduce stress from 1 to 2 times a year up to weekly, have significantly lower perception of their coping resources than women who do so on a daily basis (See Table 4).

Secondly, intentional "Use of alcohol" to reduce stress was shown to affect stress levels $F(1,89) = 4.65, p = .03$. Post hoc analysis using Tukey ($p < .05$) indicated that women who never use alcohol as an intentional method to reduce stress had significantly lower stress levels than women who do use alcohol to reduce stress (See Table 4).

ANOVAs were also conducted on the following variables with no significant results: age, marital status, length of time of marriage or cohabitation, number of children, number of people other than immediate family living at home, single-parenthood, employment status including length of time of employment and hours worked per week, shiftwork, other members of the family working shiftwork, family income, attendance of religious function, participation in community activities, exercise, and frequency of socialization with friends.

The following activities used to intentionally reduce stress were also not found to have significant results: nonprescription medication, music, socializing, consulting

with colleague or friend, support group, religious observance, reading, focus on the positive, smoking, television, exercise, and hobbies.

Subsequent to each case where ANOVAs produced significant results, MANOVAs were performed using the Sositot and the CRIS subscales as dependent measures. The demographic characteristics which resulted in significant findings using the MANOVA procedure were: (1) number of changes of residence in the past 5 years, (2) number of friends in the community, (3) frequency of participation in community activities, (4) prescription medication use, (5) learning a new coping skill, and (6) deep relaxation. Elaboration of results are presented below.

Using the MANOVA procedure, Omnibus F-tests revealed significant differences in "Number of changes of residence in the past 5 years", $F(26,152) = .69, p < .01$. Post hoc univariate tests indicated that there was a significant difference in coping resources in the following subscales: Self-Directedness [$F(2,89) = 3.09, p = .05$], Confidence [$F(2,89) = 4.56, p = .01$], Acceptance [$F(2,89) = 3.46, p = .04$], Social Support [$F(2,89) = 3.24, p = .04$], and Problem Solving [$F(2,89) = 4.32, p = .02$]. Follow-up Tukey analysis ($p < .05$) indicated that women who had moved 4 or more times in the past 5 years had significantly higher stress levels than individuals who had moved one or less times in the past 5 years. Post hoc tests revealed that no

groups scored significantly different in terms of coping resources (See Table 5).

Omnibus F-tests revealed a significant difference using "Number of friends in the community" as the independent variable, $F(26,152) = 1.10$, $p < .01$. Post hoc univariate tests indicated that number of friends in the community affected the following scores: Sositot [$F(2,89) = 10.69$, $p < .01$], Self-Disclosure [$F(2,89) = 23.93$, $p < .01$], Self-Directedness [$F(2,89) = 8.56$, $p < .01$], Confidence [$F(2,89) = 7.55$, $p < .01$], Acceptance [$F(2,89) = 9.48$, $p < .01$], Social Support [$F(2,89) = 13.05$, $p < .01$], Financial Freedom [$F(2,89) = 5.53$, $p < .01$], Stress Monitoring [$F(2,89) = 9.72$, $p < .01$], and Tension Control [$F(2,89) = 3.73$, $p = .03$]. Follow-up Tukey analysis ($p < .05$) indicated that women with 2 friends or less had significantly lower coping resources as well as significantly higher stress levels than women with 3 or more friends (See Table 5).

Omnibus F-tests also revealed a significant difference using the independent variable of "Frequency of participation in community activities", $F(26,144) = .73$, $p < .01$. Post hoc univariate tests indicated that the following scores were affected by the independent variable: Sositot [$F(2,85) = 3.63$, $p = .03$], Self-Disclosure [$F(2,85) = 3.05$, $p = .05$], Confidence [$F(2,85) = 4.43$, $p = .02$], Social Support [$F(2,85) = 3.86$, $p = .03$], Physical Health

Table 5

Means and Standard Deviations for Subscales as a Function
of Moves and Friends

Scale	No. moves in 5 years			No. friends		
	0 - 1	2 - 3	4 +	1	2	3 +
<u>n</u>	51	29	12	38	31	23
Sositot	81.29 (45.92)	86.21 (47.98)	119.92 (70.08)	114.08 (51.74)	74.39 (39.74)	62.78 (45.68)
Seldis	55.49 (29.42)	48.55 (28.39)	64.00 (16.83)	35.39 (24.48)	63.32 (22.31)	73.83 (20.39)
Seldir	54.98 (32.13)	44.97 (30.04)	32.42 (18.24)	34.24 (25.96)	59.52 (31.70)	58.74 (27.91)
Conf	60.27 (29.60)	55.86 (26.04)	33.00 (26.69)	42.34 (23.55)	62.16 (31.84)	67.57 (26.66)
Acc	59.47 (30.52)	46.97 (28.82)	37.50 (27.35)	37.76 (25.29)	60.81 (30.12)	66.30 (28.98)
Sosup	64.80 (29.02)	52.97 (30.01)	44.17 (24.53)	41.84 (26.24)	68.06 (26.41)	72.65 (26.06)
Finfre	70.00 (30.30)	54.21 (30.83)	54.08 (33.39)	50.61 (30.76)	73.00 (32.57)	69.78 (24.90)
Phyhea	48.57 (26.64)	52.55 (24.95)	37.25 (29.36)	45.00 (26.15)	57.42 (26.26)	41.65 (25.57)
Phyfit	48.80 (24.31)	53.38 (29.67)	60.33 (19.16)	50.50 (25.29)	54.42 (25.31)	50.22 (27.32)
Strmon	61.49 (32.17)	49.45 (25.32)	50.92 (30.16)	41.21 (25.33)	65.94 (31.38)	68.30 (25.83)
Tencon	61.92 (23.85)	50.79 (27.99)	55.42 (23.09)	50.03 (27.88)	66.29 (23.20)	58.26 (20.38)
Struc	62.16 (28.18)	60.14 (29.59)	47.75 (24.98)	52.44 (26.22)	63.71 (30.59)	66.04 (27.11)
Prsol	63.25 (32.02)	49.76 (26.10)	38.08 (27.89)	47.71 (28.58)	59.16 (35.37)	64.30 (25.49)

Note: Standard deviations are reported in parentheses

[$F(2,85) = 3.57, p = .03$], Stress Monitoring [$F(2,85) = 3.10, p = .05$], and Structuring [$F(2,85) = 3.47, p = .04$]. Post hoc Tukey analysis ($p < .05$) indicated that women who participated in community activities 8 times per year or less had significantly lower stress levels than women who participated in community activities once or twice a month. Furthermore, women who participated in community activities once or twice a month perceived themselves to have significantly lower coping resources than women who participated once a week or more (See Table 6).

Three of the intentional stress-reduction activities produced significant MANOVA results. Omnibus F-tests indicated a significant difference using "Prescription medication use" as the independent variable [$F(13,77) = .41, p < .01$]. Post hoc univariate tests indicated a significant difference in the following scales: Confidence [$F(1,89) = 8.56, p < .01$], Physical Health [$F(1,89) = 7.15, p < .01$], Problem Solving [$F(1,89) = 4.33, p = .04$], and Sositot [$F(1,89) = 20.09, p < .01$]. Post hoc Tukey analysis ($p < .05$) indicated that women who never intentionally take prescription medication for the purposes of reducing stress have significantly lower stress levels and higher coping resources than women who do use prescription medication to deal with stress (See Table 6).

A second intentional stress-reduction activity with significant Omnibus F-test was "Learning a new coping

skill", $F(39,218) = 1.16, p < .01$. Post hoc univariate tests indicated that there was a significant difference on the Sositot and all CRIS subscales: Sositot [$F(1,89) = 252.27, p < .01$], Self Disclosure [$F(1,89) = 309.70, p < .01$], Self-Directedness [$F(1,89) = 172.58, p < .01$], Confidence [$F(1,89) = 230.42, p < .01$], Acceptance [$F(1,89) = 203.33, p < .01$], Social Support [$F(1,89) = 243.83, p < .01$], Financial Freedom [$F(1,89) = 326.96, p < .01$], Physical Health [$F(1,89) = 203.96, p < .01$], Physical Fitness [$F(1,89) = 288.09, p < .01$], Stress Monitoring [$F(1,89) = 262.43, p < .01$], Tension Control [$F(1,89) = 402.59, p < .01$], Structuring [$F(1,89) = 304.39, p < .01$], and Problem Solving [$F(1,89) = 236.28, p < .01$]. Post hoc Tukey analysis ($p < .05$) indicated that women who never intentionally learn a new coping skill in order to deal with stress had significantly lower stress levels than women who did so on a monthly basis up to several times a day. No significant differences were found across groups in terms of coping scores (See Table 7).

A final significant Omnibus F-test revealed differences in the intentional coping activity of "Meditation, hypnosis, or other deep relaxation procedure" $F(13,76) = .70, p < .01$. Post hoc univariate tests indicated that there was a significant difference in the following scales: Sositot [$F(1,89) = 14.66, p < .01$], and Physical Health [$F(1,89) = 12.90, p < .01$]. Post hoc Tukey analysis ($p < .05$) indicated that women who never intentionally use

Table 6

Means and Standard Deviations for Subscales as a Function of
Community Activities and Prescription Drug Use

Scale	Activities per year			Prescription drug use	
	0 - 8	12 - 24	> 52	no	yes
<u>n</u>	39	19	30	71	20
Sositot	76.72 (38.86)	114.32 (50.68)	84.77 (62.10)	75.44 (43.93)	127.60 (52.82)
Seldis	52.23 (27.72)	43.42 (27.30)	63.03 (28.06)	54.63 (26.77)	55.75 (31.70)
Seldir	54.38 (31.37)	43.42 (28.08)	55.30 (31.84)	50.07 (31.29)	45.10 (30.01)
Conf	56.56 (27.17)	39.53 (27.10)	64.27 (30.91)	60.13 (28.41)	39.25 (27.33)
Acc	53.41 (29.43)	47.16 (34.21)	56.17 (28.86)	56.10 (29.59)	42.20 (31.28)
Sosup	59.69 (28.22)	42.59 (31.29)	66.23 (28.13)	61.31 (28.64)	49.10 (31.69)
Finfre	61.62 (31.63)	69.05 (26.51)	61.50 (34.28)	63.06 (31.12)	64.30 (33.59)
Phyhea	50.46 (26.60)	34.58 (24.35)	54.53 (26.97)	52.41 (25.43)	34.95 (27.09)
Phyfit	51.00 (26.16)	47.21 (22.53)	56.13 (25.88)	51.75 (27.55)	52.15 (18.41)
Strmon	63.62 (30.41)	43.63 (24.29)	59.10 (29.58)	59.55 (29.71)	47.20 (29.34)
Tencon	59.03 (24.86)	53.63 (23.60)	58.03 (26.49)	59.34 (24.78)	53.40 (26.39)
Struc	66.13 (29.84)	45.68 (24.00)	59.73 (27.06)	62.10 (27.47)	53.50 (39.41)
Prsol	56.46 (29.68)	49.21 (31.74)	59.17 (32.16)	59.68 (29.67)	43.80 (31.72)

Note: Standard deviations are reported in parentheses

Table 7

Means and Standard Deviations for Subscales as a Function of
Learning New Coping Skills and Deep Relaxation Practice

Scale	New coping skills per year				Deep relaxation	
	0	1 - 2	3 - 8	> 8	No	Yes
<u>n</u>	46	19	12	13	69	21
Sositot	78.33 (50.85)	79.37 (45.33)	100.67 (42.09)	119.46 (53.69)	77.29 (42.97)	121.95 (57.24)
Seldis	48.91 (25.94)	56.32 (32.68)	65.17 (26.33)	64.31 (25.91)	53.97 (28.35)	57.95 (26.81)
Seldir	48.52 (30.71)	49.58 (33.13)	49.58 (34.12)	51.92 (28.32)	49.93 (32.05)	45.71 (28.18)
Conf	60.80 (25.70)	57.05 (30.56)	50.50 (32.03)	43.31 (33.48)	57.64 (28.12)	46.57 (31.54)
Acc	55.83 (28.12)	64.00 (29.51)	42.42 (29.53)	40.92 (33.63)	53.62 (29.90)	49.52 (32.15)
Sosup	62.12 (28.04)	59.42 (33.55)	55.58 (28.61)	48.85 (31.77)	61.67 (29.22)	47.86 (29.50)
Finfre	55.50 (33.22)	69.58 (28.33)	80.80 (26.38)	63.69 (27.78)	65.25 (31.06)	55.67 (32.65)
Phyhea	53.98 (25.96)	52.42 (26.92)	33.67 (22.92)	33.69 (20.63)	53.71 (26.33)	31.19 (20.68)
Phyfit	49.35 (28.53)	58.82 (19.98)	56.67 (22.36)	48.38 (26.24)	51.64 (26.86)	51.86 (22.72)
Strmon	56.26 (27.65)	68.53 (28.21)	60.42 (35.37)	42.46 (28.71)	67.88 (29.89)	53.81 (31.17)
Tencon	54.28 (25.69)	67.32 (21.89)	65.08 (18.72)	53.69 (29.49)	55.38 (25.13)	67.43 (23.73)
Struc	59.50 (28.95)	54.53 (28.32)	51.67 (26.84)	61.31 (25.12)	61.41 (26.98)	56.33 (32.02)
Prsol	54.59 (28.34)	68.86 (29.72)	54.92 (29.48)	48.46 (38.51)	55.54 (28.67)	57.00 (37.41)

Note: Standard deviations are reported in parentheses

meditation or relaxation to reduce stress had significantly lower stress levels than women who do use such procedures. No significant difference between groups was found for coping resources (See Table 7).

A summary of results of chapter 4 is presented at the beginning of chapter 5.

CHAPTER 5

DISCUSSION

The results of the data analysis were presented in the previous chapter with minimal comment. The focus of the present chapter is on the meaning and interpretations of the data. First, a summary of the most prevalent findings is presented along with the meaning the author attaches to those findings. Then, implications of the results are suggested followed by strengths and limitations of the study, future research, and finally, general conclusions and recommendations.

Summary and Interpretation

Six research questions were addressed by the data analysis. Following is a summary and interpretation of results for each of the research questions.

Question 1: What are the particular stressors women face in single-industry communities?

Results of the BIF indicated that the 5 greatest sources of stress to subjects, in order, were: kids, work or lack of work, money, time management, and emotional problems. The top 5 answers cited as reasons why these events were stressful, in order, were: people not conforming to expectations, situation not conforming to expectations, lack of coping skills for handling demands, qualitative overload, and unspecified overload. Thus, regardless of the source of stress, the main reason why

things were stressful was other people not conforming to expectations. It is interesting to note that, although money is the third greatest source of stress, Tumbler Ridge is rated as the 4th wealthiest community in Canada ("Postal codes", 1990), and 63% of the sample have a combined family income over \$50,000, with 33% having a family income over \$60,000.

In addition, lack of work was previously suggested to be one of the greatest sources of stress for women in single-industry communities. Also, kids, time-management and qualitative and unspecified overload support the role-overload hypothesis as contributing to stress reactions for women. Both comments support previous findings reported in chapter 2.

Lastly, the third highest reason for stress, lack of coping skills for handling demand, indicates that women of Tumbler Ridge are aware of their need for acquiring further skills in order to handle demands they face. These results relate well to Folkman and Lazarus's (1980) model of coping and will be discussed in more detail later in the chapter.

Question 2: What is the level of stress of women in one-industry towns?

Comparing the SOSI scores of the sample in this study with the norms presented by the authors revealed that the total SOSI score was 12% higher than a Non-Client Convenience Sample, 14% lower than a female Stress

Management Sample, and in between the "screen" and "exit" scores for another Stress Management norm group. In other words, compared to another non-clinical population, stress levels were higher than the norm.

Comparison of SOSI subscale scores indicated that all subscale means of this sample were higher than those of a Non-Client Convenience Sample and lower, except Gastrointestinal, than female Stress Management Clients. All sample subscale means were in between "screen" and "exit" means for another Stress Management norm group except both Cardiopulmonary and Gastrointestinal which were above screen and exit means. The most prevalent symptoms of stress, in order, were: emotional irritability (anger), muscle tension, habitual patterns, gastrointestinal, and depression.

In summary, stress levels were higher than normative groups, and the most frequently cited symptoms of stress were anger, muscle tension, habitual patterns, gastrointestinal, and depression. Although results do not show exorbitantly high stress levels, there is an indication of an imbalance between perceived demand and perceived coping resources. In order to decrease symptoms of stress, intervention may focus on either the problem, or the emotional response, or both, as will be discussed later in the chapter.

Question 3: How do women in single-industry communities tend to cope?

Several measurements were used to assess the coping strategies of the sample. Firstly, subjects were asked to list their most common coping strategies and the reasons for their effectiveness. Secondly, subjects were asked the frequency with which they engaged in coping strategies which are supported by the literature as being either counterproductive to coping, facilitative of coping, or neutral (neither helpful nor harmful). Thirdly, correlational analysis was done to determine which coping resources were most closely associated with stress levels. Results indicate the strategies as well as the effectiveness of the sample's coping resources.

The first assessment of coping resources was the BIF which indicated the 5 most common coping strategies (talking, physical activity, emotional support, activities for enjoyment, and optimism), and the 5 most frequent explanations subjects gave for the effectiveness of the strategies (social support, relaxation, escape, personal satisfaction, and facing the problem). Although some of these strategies (physical activity, social support, and relaxation) could potentially be effective, the results indicate that, for the most part, they are not employed at a level that literature suggests is necessary in order to have a positive impact on stress reduction.

Although physical activity is cited as one of the top coping mechanisms to control stress, it was also cited as the lowest coping resource on the CRIS. In addition, 73% of the sample reported engaging in exercise at a level that the literature suggests is insufficient to provide a benefit for stress reduction. Exercise researchers suggest that three or four 30 minute sessions a week at target heart rate (which includes a warm-up and cool-down) are necessary to improve or maintain aerobic fitness (Greenberg & Pargman, 1986; Cooper & Cooper, 1988). Researchers have shown that aerobic fitness is related to faster recovery from stress (Evans, Cox, & Jamieson, cited in Hiebert, 1988a) and may moderate the intensity and duration of anxiety states and depression (Ledwidge, 1980). Although physical activity is cited as a coping strength, results indicate that activity is at an insufficient level to be effective in terms of stress reduction.

Although the most frequent explanation for the effectiveness of the coping mechanisms was social support, 40% of the sample get together with friends twice a month or less, 49% report socializing in order to reduce stress on a monthly basis or less, 49% report consulting with a colleague or friend to reduce stress on a monthly basis or less, and 80% never use a support group. In addition, MANOVA results indicated that women with 2 or less friends in the community had both lower coping resources and higher

stress levels than women with 3 or more friends. Evidence is mounting to attest to the importance of receiving emotional support from others and that low social support is correlated with negative health outcomes (Lazarus & Folkman, 1984; Tucker, 1982). "A major moderator of stress is the extent of social support available" (Rice, 1987, p. 139). Even though social support is listed as a coping strength, results indicate that social support is utilized at a very low level.

Analysis of relaxation practises also showed conflicting findings. Although relaxation was the second most popular explanation for coping effectiveness, 75% report never using deep relaxation. According to the literature, the forms of relaxation which are documented as being effective in terms of stress reduction are progressive relaxation, hypnosis, autogenic training, meditation, biofeedback, Zen and yoga (Benson, 1975; Hiebert, 1988a; King, 1980). Although subjects may be engaging in activities which they perceive as relaxing or soothing, they are not utilizing relaxation methods which have a documented history of counteracting the physiological component of the stress response (Hiebert, 1988a). In sum, results of the most common coping strategies employed by the sample indicate that the primary ways subjects control stress are not employed at a level that the literature would suggest is conducive to stress

reduction, and may therefore be less effective in terms of managing stress.

The second assessment of coping resources was a measurement of intentional coping strategies. Subjects were asked to indicate how frequently they used various coping strategies for the purpose of reducing stress. This is in keeping with the transactional model of coping which refers to intentional practises that require an effort and not automatic behaviors. For the purpose of this study, strategies were seen as either counterproductive, facilitative, or unsupported in terms of stress reduction.

Counterproductive strategies are those that the literature suggests may actually exacerbate stress-related problems, either in terms of creating negative side-effects or masking symptoms and therefore not ameliorating the underlying cause of the stress. Counterproductive strategies include prescription medication, non-prescription medication, alcohol, and smoking (Benson, 1975; Cooper, 1982; Greenberg & Pargman, 1986; Rice, 1987). Results indicate that 77% of the sample never use prescription medication to reduce stress, and 4% do so on at least a weekly basis, 73% never use non-prescription medication to reduce stress, and 3% do so on at least a weekly basis, 72% never use alcohol to reduce stress and 3% do so on a weekly basis, 77% never smoke to reduce stress and 20% do so on a daily basis. These results suggest that

the sample does not tend to rely on coping strategies that are counterproductive to stress reduction.

Facilitative strategies, on the other hand, were those that had documented support in the literature as being effective in terms of stress reduction. These strategies included exercise, nutrition, use of support group, learning a new coping skill, and meditation or other deep relaxation procedure (Benson, 1975; Cooper, 1982; Greenberg, 1986; Hiebert, 1988b; Rice, 1987). Results indicate that 73% of the sample use exercise on a weekly basis or less, 34% of the sample never use nutrition and 34% do so on a daily basis, 80% never use a support group and 9% do so on a weekly basis, 50% never learn new coping skills and 14% do so at least on a monthly basis, and 75% never use meditation, self-hypnosis, or other deep relaxation procedure and 2% do so on a daily basis. These data indicate that a large percentage of the sample do not engage in coping strategies that are documented to be effective in reducing stress and a very small percentage regularly use such strategies.

Strategies which have no documented support in being effective in terms of stress reduction include music, reading, and TV. Results of the sample's use of such activities to intentionally reduce stress indicate that 58% use music on at least a weekly basis including 33% who do so on a daily basis, 67% use reading on at least a weekly

basis including 42% who do so on a daily basis, and 67% watch TV on at least a weekly basis including 40% who do so on a daily basis. It would appear that such strategies are more regularly utilized by this sample as methods of attempting to reduce stress.

In summation, these results suggest that although the sample does not tend to engage in counterproductive strategies to cope with stress, they used very few documented strategies at a level that the literature suggests would have a positive impact. Instead, the sample appears to be relying on strategies which have no documented success record and therefore which have less chance of being effective in terms of stress reduction. The importance of this observation is that counsellors typically would place more confidence in suggesting interventions to clients which have a documented success record.

Correlational results confirmed that stress levels and coping resources are highly negatively correlated. In other words, high coping resources are associated with lower stress levels. In addition, coping resources most highly associated with stress levels are: social support, confidence, physical health, and acceptance.

Overall, results indicate that the sample engage in very few strategies that the literature says are effective in terms of stress reduction. Using Folkman and Lazarus's

model (1980), subjects appear to make few attempts at problem-focused strategies (decreasing the demand and/or increasing coping skills) or emotion-focused strategies (behavioral, physiological, and cognitive changes). These results have implications for relevant target areas for skills acquisition which shall be discussed later in the chapter.

Question 4: How adequate do women in one-industry towns perceive their coping resources to be?

Results of the CRIS indicated that the sample perceived themselves to have 10% lower total coping resources and lower scores on all coping resources subscales as compared with the normative sample. The sample perceived their strengths to be in terms of social support, structuring, and physical health, and their weaknesses to be in terms of physical fitness, acceptance, tension control, and self-directedness. On the whole, it would appear that coping resources are lower than normative data, with physical fitness, acceptance, tension control, and self-directedness as areas of coping weakness. These results indicate that the sample perceives their coping resources to be low, which may lead to a demand/coping imbalance and subsequent stress. As previously mentioned, strategies to increase coping resources will be discussed later in the chapter.

Question 5: Which subsets of individuals are at particular risk of experiencing stress?

Eleven of the BIF demographic subgroups had significantly higher stress levels than other subgroups of the sample: women who have moved 4 or more times in the past 5 years (vs. women who have moved one or less times in the past 5 years), women who have moved in the past year (vs. women who have not), women who have lived in Tumbler Ridge for less than 3 years (vs. women who have lived there more than 3 years), women with college experience (vs. women with a university degree), women with 2 friends or less (vs. women with 3 or more friends), women who participate in community activities once or twice a month (vs. women who participate 8 times per year or less), women who participate in religious functions between 3 times a year to twice a month (vs. women who participate in religious functions once a week or more), women who use alcohol to reduce stress (vs. women who do not), women who take prescription medication to reduce stress (vs. women who never do so), women who learn a new coping skill in order to deal with stress on a monthly basis up to several times a day (vs. women who never do so), and women who never use meditation or relaxation to reduce stress (vs. women who do).

Six demographic subgroups had significantly lower coping resources than other subgroups of the sample and

therefore are at risk for experiencing stress: women with 3 or more children at home (vs. women with no children at home), women with 2 friends or less (vs. women with 3 or more friends), women who participate in community activities once or twice a month (vs. women who participate once a week or more), women with college experience (vs. women with a university degree), women who use nutritional practises to reduce stress from 1 to 2 times a year up to weekly (vs. women who do so on a daily basis), and women who intentionally use prescription medication to reduce stress (vs. women who never do so).

The above results may be used to anticipate which individuals are more likely to experience stress. Women who have moved in the past year and/or 4 or more times in the last 5 years, women who have lived in Tumbler Ridge less than 3 years, women who have 3 or more children at home, women who have college experience, and women who have a casual commitment to community activities and/or religion, are more likely to experience stress due to an imbalance between perceived demand and perceived coping resources. This information is useful for women who may be in one or more of these categories in order to anticipate the stressor and to be able to learn effective coping strategies. It may also be useful for program developers to know which groups to target for skills training.

Several of the above findings merit further discussion. Firstly, it is interesting that women who have lived in Tumbler Ridge less than 3 years have higher stress levels than long-term residents. It is one hypothesis that those families who do not appreciate the lifestyle of a single-industry community move elsewhere in the first 3 years whereas those who have made the decision to stay longer may actually enjoy the way of life.

Also worthy of note is the fact that women with college experience had both higher stress levels and lower coping resources than women with a university degree. The transactional theory of stress offers one hypothesis for this observation. If education facilitates coping, it may follow that more educated women have better coping resources and therefore lower stress levels. The SOSI manual (Thompson, 1987) also reports that less educated subjects are more likely to report higher frequency of stress symptoms. However, in this sample, college women do not fare better than women with less education. One possible explanation is that women who have had some exposure to higher education but who were not able to complete a degree or vocational training due to lack of facilities in a one-industry town would be more frustrated than women who have not begun such a process.

Another seemingly contradictory finding is the fact that women who learn a new coping skill in order to deal

with stress on a monthly basis up to several times a day have significantly higher stress levels than women who never learn new coping skills to deal with stress. Given the unlikelihood that women are learning a new coping skill for controlling stress several times a day, it is possible that it is their perception that they are constantly learning new skills and barely keeping up with the demands they face. It is also possible that the coping skills they are learning are not necessarily effective.

A final point of note is that several of the coping practises indicate that women with casual commitments to a coping resource seem to fare worse than women who have a firm commitment, and sometimes also to women who have very little commitment to an activity. Examples are: religion and participation in community activities. One view is that these activities can both be seen as positive forms of social support. An hypothesis is that women who rarely participate in these activities are finding social support elsewhere. Women who are casual participants may need the social support, but are not able to increase participation, or find support elsewhere. Women who casually participate in religious activities may suffer the additional burden of guilt which may serve to increase stress levels.

Implications

Data analysis revealed that the sample perceived themselves to have higher stress levels and lower coping

resources than normative groups. According to the transactional stress model, stress results from an imbalance between perception of demand and perception of coping resources. Given that the sample perceive an imbalance, intervention may focus on skills acquisition to improve coping. It would be necessary for program development for skills acquisition to include both a motivational component and an educational component. These are elaborated below.

Program Development

Motivation

Results indicated that subjects are either unaware of the value of learning effective coping strategies or are unaware that alternative strategies exist. Part of program development should address convincing participants of the importance of acquiring personal coping resources as well as awareness that strategies exist from which they may benefit.

To begin with, women of single-industry communities need to be aware of the adverse effects of ineffective coping strategies. For example, Rice (1987) suggests that improper life-style, amongst other medical complications, can lead to fatigue and lowered resistance to illness. Inadequate coping resources can mean that either, "irritation increases until it boils over in outright anger . . . or it festers inside, robbing us of energy, vitality,

and spontaneity" (Rice, 1987, p. 12). Indeed, the most common symptoms of stress for this sample were emotional irritability/anger, muscle tension, habitual patterns, gastrointestinal, and depression. The positive side is that by learning coping skills, one can "reduce physical discomfort and disease, increase self-actualization, reduce stress, and improve conflict management in interpersonal relations" (Rice, 1987, p. 10). In other words, by developing greater coping resources through instruction, it is possible to attain an overall higher quality of life.

Education

Intervention might further include educational programs to train individuals to develop skills necessary to deal with the demands they face. Using Folkman and Lazarus's model, two focuses for intervention are provided: problem-focused strategies, and emotion-focused strategies. Results indicate target areas for each coping strategy.

Problem-focused coping. Problem-focused coping, or "stressor management", is focused on reducing the demand and/or increasing coping skills (Hiebert, 1988b). The first strategy is to try to change the situation in order to make the situation less demanding. If this is not possible or insufficient, one might get assistance or acquire more effective skills to deal with the demand (Lazarus & Folkman, 1984).

Results indicate several potential target areas for skills acquisition. First of all, since kids are cited as the greatest stressor, learning new techniques of parenting, or ways to promote ones partner taking greater responsibility for parenting, would be a logical step in order to reduce such a demand. Secondly, since money is the 3rd greatest stressor in a relatively wealthy community, money management might be another logical target area. Time management was another commonly cited stressor which suggests a third target area for skills acquisition. Fourthly, physical fitness was found to be the lowest coping resource despite the fact that it was cited as the most common form of coping, which suggests health and fitness instruction as another target area. In addition, lack of adequate nutritional practises was shown to adversely affect the sample which provides a fifth focus for skills acquisition. Lastly, although use of a support group is a documented effective coping resource, 80% never use one which suggests a sixth focus. In sum, problem-focused strategies to learn more effective ways of dealing with demands might include parenting skills, money management, time management, health and fitness instruction, nutrition counselling, and support groups.

Emotion-focused coping. Emotion-focused coping, or "stress management" is appropriate when it is not possible to decrease the demand/coping imbalance or as a coping

supplement. Emotion-focused coping aims at moderating the stress response through three target areas. Physiological strategies include relaxation procedures which produce a body state that is the opposite of a stress response. Behavioral strategies include slowing down and decreasing Type A behavior. Cognitive strategies include decreasing negative self-talk and exaggeration of demand and fostering self-support and encouragement (Hiebert, 1988b). All three strategies would be effective in helping subjects to decrease the negative effects of stress.

Several results provide rationale for promoting stress management. Confidence and acceptance were found to highly correlate with symptoms of stress (and acceptance was one of the lowest coping resources), and muscle tension and habitual patterns were two of the highest symptoms of stress. In addition, tension control was one of the lowest coping resource and found to affect the sample's coping resources. The above findings provide logical target areas for stress management which may include relaxation training, and learning to decrease Type A behavior and to increase positive self-talk.

Intervention

Intervention aimed at developing programs to increase problem and emotion-focused coping skills may include skill training and informational approaches. Specific programs might include: seminars, group counselling, and/or

individual counselling, and self-help groups or mentor programs which would also serve to enhance social support. Specific topics were provided above.

One method of structuring aid to this population would be the institution of a Women's Resource Centre. Firstly, the formal implementation of such a centre would make a statement to the community that this subsection of the population have specific issues which require attention. Secondly, such a structure creates a focus that could be well advertised and easily accessible to all. Thirdly, government aid may be sought to fund the above programs to provide professional help for these women who have common concerns and could benefit from structured intervention and education.

An additional focus for program development could be at the industrial work site. Individuals who work at the mine may be informed of issues affecting themselves and their partners so as to facilitate systemic learning. Additionally, employers might consider establishing subsidized day-care centres, flex-time, and public transportation as ways of reducing employee demands or increasing coping resources. It is appropriate to note that some of these suggestions have already been adopted by one or the other of the major employers in Tumbler Ridge.

Strengths and Limitations of Study

Limitations of this study and changes if it were to be repeated are worthy of mention. Firstly, the study is a correlational study and can only infer causal relationships. In order to truly understand the causes for differential stress and coping levels, an experimental design would be necessary. Secondly, generalizability of the results are limited due to the fact that Tumbler Ridge is a unique community for several reasons. It is one of the few pre-planned single-industry communities that was designed with considerable forethought (CEIAC, 1987; Labonte, 1983). As a result, facilities exist which may be lacking in other such communities. Thirdly, the study incorporated a mail-in return procedure which may have reduced response rates. In addition, the length of the task of filling in the questionnaires may have hampered some responses and may have biased the sample as the most depressed and overloaded women may not have had the energy or time to complete the task. Fourthly, questionnaires were sent out on the same week that arbitration was occurring to determine the price of coal and the tenuous future of the mine and of Tumbler Ridge itself which may have affected stress levels. Lastly, questionnaires were sent out in the Spring and may have resulted in different results than if polling was done in the middle of winter.

Strengths of the study can also be found. Firstly, the study used a model of stress which is progressive and more comprehensive than past models. Secondly, two highly reliable and valid instruments were used with standardized questions to facilitate comparison. Thirdly, a random selection of subjects provided less opportunity for bias to occur.

Perhaps the greatest strength of this study is that it tapped the subjective experience of the women in the sample in addition to providing normative information on their stress levels and coping resources. Open-ended questions were utilized to identify both the idiographic sources of stress and the factor which constituted the stressor for the respondent, and the individual coping strategies and the factor that made it successful in the eyes of the user. This additional information may provide insight that would be valuable in intervention planning.

Future Research

A productive future direction would be to implement one of the above suggestions for program development to increase the coping skills of women who are deficient in these skills, and research the effects of the program. For example, it may be possible to initiate a health and fitness workshop which could include information on the importance of exercise and how to implement a program, as well as nutritional information and relaxation procedures,

to name but a few relevant topics. Another example might be the implementation of a parenting workshop which would include both parents (except in the case of single parents) and discussion around coparenting issues. A researcher may wish to take pre and post-workshop measurements of stress and coping and note any change.

Another related area of interest may be stress and coping of men in single-industry communities. Future research may also use the present data to determine the differential stress and coping styles of men and women of single-industry communities.

General Conclusions and Recommendations

It is hoped that this research may provide information and concrete suggestions to those attempting to enhance coping of women in single-industry communities. Given the above results, many programs may be established to enhance the coping resources of this population. Program administrators would be well advised to, firstly, address the current lack of understanding regarding the value of learning effective coping strategies and that such strategies exist and may be learned. Secondly, effective program development with this population should focus on enhancement of the following areas: parenting, money management, time management, health and fitness instruction, nutritional counselling, relaxation, and support groups. Acquisition of these skills may be

implemented through individual or group counselling, seminars, self-help groups and mentor programs. Education through the work site would also enhance understanding and learning of partners and employed women. A Women's Resource Centre is a final recommendation as a way of facilitating education and counselling in a formal and centralized manner.

Essentially, women in single-industry communities appear to have moderately high stress levels and moderately low coping resources. They face unique stressors as a result of their position in society as well as their living conditions. What is apparent is that they do not tend to utilize effective strategies to cope with stress. Through education and program development such as workshops, support groups and a Women's Resource Centre, women in single-industry communities may be helped to not only improve their coping, and reduce the risk of stress-related health problems, but to enjoy a higher quality of life.

References

- Belle, D. (1982). The stress of caring: Women as providers of social support. In L. Goldberg & S. Breznitz (Eds.), Handbook of stress: Theoretical and clinical aspects (pp. 496-505). New York: Free Press.
- Benson, H. (1975). The relaxation response. New York: Morrow.
- Bernard, J. (1976). Homosociality and female depression. Journal of Social Issues, 32, 213-238.
- Bohnen, E. (1980, June). Women and health promotion. Strategy paper for the Ontario Regional Office, Health Promotion Directorate, Health Services and Promotion Branch. Toronto: Health and Welfare Canada.
- Burt, S., Code, L., & Dorney, L. (Eds.). (1988). Changing patterns: Women in Canada. Toronto: McClelland & Stewart.
- Canada Department of Regional Economic Expansion. (1977). Single-industry communities, "occasional papers". Ottawa: Minister of Supply and Services Canada.
- Canada Employment and Immigration Advisory Council (1987, February). Canada's single-industry communities: A proud determination to survive (Cat No. MP15-16). Ottawa: Minister of Supply and Services Canada.
- Canadian Advisory Council on the Status of Women. (1984). Juggling a family and a job. Ottawa: Author.

- Canadian Advisory Council on the Status of Women. (1985, February). Wife battering. Ottawa: Author.
- Canadian Advisory Council on the Status of Women. (1987). Fine balances: Equal status for women in Canada in the 1990s. Ottawa: Author.
- Chumway, R. (1981, March). Different experiences with common problems: A panel on northern, native, immigrant and francophone women's health needs. Proceedings from Strategies for well-being: A conference for action on women's health. Toronto: Ryerson.
- Cobb, S. (1976). Social support as a moderator of life stress. Psychosomatic Medicine, 38, 300-314.
- Cochrane, J. J. (1989). Stress and the working women. In V. Carver & C. Ponee (Eds.), Women, work, and wellness (pp. 127-137). Toronto: Addiction Research Foundation.
- Cooper, K. H. (1982). The aerobics program for total well-being. Toronto: Bantam.
- Cooper, K. H. & Cooper, M. (1988). The new aerobics for women. Toronto: Bantam.
- Cox, T. (1978). Stress. New York: Macmillan.
- Coyne, J. C. & Lazarus, R. S. (1980). Cognitive style, stress perception, and coping. In I. L. Kutash, L. B. Schlesinger, & Associates (Eds.), Handbook on stress and anxiety (pp. 127-143). San Francisco: Jossey-Bass.

- Curlette, W. L., Aycock, D. W., Matheny, K. B., Pugh, J. L., & Taylor, H. F. (1988). Coping resources inventory for stress manual. Atlanta, G.A.: Health Prisms.
- D'Arcy, C. & Schmitz, J. A. (1979). Sex differences in the utilization of health services for psychiatric problems in Saskatchewan. Canadian Journal of Psychiatry, 24 19-27.
- Day, T. (1987, March). Background paper - pay equity: Some issues in the debate. Ottawa: Canadian Advisory Council on the Status of Women.
- Dohrenwend, B. P. & Dohrenwend, B. S. (1976). Sex differences and psychiatric disorders. American Journal of Sociology, 81, 1447-1454.
- Duffy, A., Mandell, N., & Pupo, N. (1989). Few choices: Women, work and family. Toronto: Garamond.
- Dunlop, K. (1981). Maternal employment and child care. Professional Psychology, 12, 67-75.
- Ellis, D. & McGowan, S. (1980, February). Women and economic development: A handbook. Vancouver.
- Employment and Immigration Canada. (1991, March). Occupational outlook - B.C./Yukon region. (Special Edition - International Women's Day '91). Vancouver: Author.
- Evans, J. & Cooperstock R. (1982, December). Survival in the north: The experience of women. Paper presented at a symposium on "Psycho-social impacts of resource

- development in Canada: Research strategies and application", Toronto.
- Evans, J. & Cooperstock R. (1983). Psycho-social problems of women in primary resource communities. Canadian Journal of Community Mental Health, Winter Suppl., 59-66.
- Everly, G. S. & Rosenfeld, R. (1981). The nature and treatment of the stress response: A practical guide for clinicians. New York: Plenum.
- Folkman, S. & Lazarus, R. S. (1980). An analysis of coping in a middle-aged community sample. Journal of Health and Social Behavior, 21, 219-239.
- Gartrell, J. W., Krahn, H., & Sunahara, D. F. (1980). A study of human adjustment in Fort McMurray, volume 1: Field study and results (AOSERP Report 112). Edmonton: University of Alberta.
- Greenberg, J. S. & Pargman, D. (1986). Physical fitness: A wellness approach. New Jersey: Prentice-Hall.
- Greenglass, E. R. (1990). A social-psychological view of marriage for women. In G. H. Nemiroff (Ed.). Women and men: Interdisciplinary readings on gender. Montreal: Fitzhenry & Whiteside.
- Guberman, C. & Wolfe, M. (Eds.). (1985). No safe place: Violence against women and children. Toronto: Women's Press.

- Guberman, N. (1988). The family, women and caring: Who cares for the carers? Resources for Feminist Research, 17(2), 37-40.
- Gunderson, E. K. E. & Rahe, R. H. (Eds.). (1974). Life stress and illness. Illinois: Thomas.
- Harvey, A. S. (1983). How Canadians use their time: Implications for career counselling. In Employment and Immigration Canada. Natcon 6. Ottawa: Canada Employment and Immigration Commission.
- Haynes, S. G. & Feinleib, M. (1980). Women, work, and coronary heart disease: Prospective findings from the Framingham heart study. American Journal of Public Health, 70, 133-141.
- Health and Welfare Canada. (1986, November). Issues and priorities for women's health in Canada: A key informant survey. Ottawa: Health Promotion Directorate.
- Heller, A. F. (1986, March). Health and home: Women as health guardians. Ottawa: Canadian Advisory Council on the Status of Women.
- Henderson, S. (1977). The social network, support and neurosis: The function of attachment in adult life. British Journal of Psychiatry, 131, 185-191.
- Hiebert, B. (1987). Refining understandings about stressors, stress, and coping. The Canadian School Executive, 6(10), 12-17.

- Hiebert, B. (1988a). Controlling stress: A conceptual update. Canadian Journal of Counselling, 22, 226-241.
- Hiebert, B. (1988b). Dealing with stress. In M. Wideen, P. Holbourn, & I. Andrews (Eds.), Becoming a teacher. Toronto: Kagan & Woo.
- Holmes, T. H. & Masuda, M. (1974). Life changes and illness susceptibility. In B. S. Dohrenwend & B. P. Dohrenwend (Eds.), Stressful life events: Their nature and effects. New York: Wiley.
- Holmes, T. H. & Rahe, R. H. (1967). The social readjustment rating scale. Journal of Psychosomatic Research, 11, 213-218.
- Hunter College Women's Collective. (1983). Women's realities, women's choices: An introduction to women's studies. New York: Oxford.
- Ivancevich, J. M. & Matteson, M. T. (1982). Occupational stress, satisfaction, physical well being, and coping: A study of homemakers. Psychological Reports, 50, 995-1005.
- Kania, M. R. (1989). New towns in the far north: Communities lying on the edge of design. Small Town, May-June, 5-11.
- Kasl, S. V. (1984). Stress and health. In L. Breslow, J. E. Fielding, & L. B. Lave (Eds.), Annual review of public health. Palo Alto: Annual Reviews, 5, 319-342.

- Kehoe, J. P. & Abbott, A. P. (1975). Suicide and attempted suicide in the Yukon Territory. Canadian Psychiatric Association Journal, 20, 15-23.
- King, N. J. (1980). The therapeutic utility of abbreviated progressive relaxation: A critical review with implications for clinical practice. In M. Hersen, R. N. Eisler, & P. M. Miller (Eds.), Progress in behavior modification (10, pp. 147-182). New York: Academic.
- Kinnon, D. (1981, December). Report on sexual assault in Canada. Ottawa: Canadian Advisory Council on the Status of Women.
- Labonte, R. (1983). Crime stoppers: Tumbler Ridge, an "instant town" in British Columbia, was designed by a team of environmental criminologist. Saturday Night, January, 7-8.
- Lapierre, L. (1982). Canadian women: Profile of their health (Cat 82-542E). Ottawa: Statistics Canada.
- LaRocco, J. M., House, J. S., & French, J. R. P., Jr. (1980). Social support, occupational stress, and health. Journal of Health and Social Behavior, 21, 202-218.
- Lazarus, R. (1966). Psychological stress and the coping process. New York: McGraw-Hill.
- Lazarus, R. (1976). Patterns of adjustment and human effectiveness. New York: McGraw-Hill.
- Lazarus, R. & Folkman, S. (1984). Stress, appraisal, and coping. New York: Springer.

- Leckie, M. S. & Thompson, E. (1979). Symptoms of stress inventory: A self assessment. Seattle: University of Washington.
- Ledwidge, B. (1980). Run for your mind: Aerobic exercise as a means of alleviating anxiety and depression. Canadian Journal of Behavioral Science, 12, 126-157.
- Lewis, D. J. (1982, January). A brief on wife battering with proposals for federal action. Ottawa: Canadian Advisory Council on the Status of Women.
- Lowe, G. S. (1989). Women, paid/unpaid work, and stress: New directions for research (No. 89-S-155). Ottawa: The Canadian Advisory Council on the Status of Women.
- MacLeod, L. (1987). Battered but not beaten: Preventing wife battering in Canada. Ottawa: Canadian Advisory Council on the Status of Women.
- Magnusson, D. (1982). Situational determinants of stress: An interactional perspective. In L. Goldberg & S. Breznitz (Eds.), Handbook of stress: Theoretical and clinical aspects. New York: Free Press.
- Marecek, J. & Ballou, D. J. (1981). Family roles and women's mental health. Professional Psychology, 12, 39-46.
- Matheny, K. B., Aycock, D. W., Pugh, J. L., Curlette, W. L., & Cannella, K. A. S. (1986). Stress coping: A qualitative and quantitative synthesis with implications

for treatment. The Counselling Psychologist, 14, 499-549.

McGrath, S. (1985, September). Tumbler Ridge: An assessment of the local government method of resource community development. Prepared for the conference of the

International Association of Impact Assessment, Calgary.

Meissner, M., Humphreys, E. W., Meis, S. M., & Scheu, W. J. (1975). No exit for wives: Sexual division of labour and the cumulation of household demands. Canadian Review of Sociology and Anthropology, 12, 424-439.

Nathanson, C. A. (1980). Social roles and health status among women: The significance of employment. Social Science & Medicine, 14A, 463-471.

Northern British Columbia Women's Task Force. (1977). Report on single-industry resource communities. Vancouver: Women's Research Centre.

Pearlin, L. I. & Schooler, C. (1978). The structure of coping. Journal of Health and Social Behavior, 19, 2-21.

Planning Collaborative Inc. (1983, August). Tumbler Ridge: Energy-efficient subdivision and community designs. Ottawa: Canada Mortgage and Housing Corporation.

Postal codes with high incomes. (1990, July 2). The Globe and Mail, p. A10.

Rabnett, R. (1978, March). Conceptual plan Tumbler Ridge northeast sector, B.C.: A physical plan/social

- plan/financial plan/organizational plan. Vancouver: B.C. Ministry of Municipal Affairs and Housing.
- Radloff, L. (1975). Sex differences in depression: The effects of occupation and marital status. Sex Roles, 1, 249-265.
- Rice, P. L. (1987). Stress and health: Principles and practice for coping and wellness. California: Brooks/Cole.
- Robertson, J. R. (1988). Sexual offences against children: The Badgley report. Ottawa: Minister of Supply and Services Canada.
- Rosenblatt, P. C., Anderson R. M., & Johnson, P. A. (1984). The meaning of "cabin fever". The Journal of Social Psychology, 123, 43-53.
- Roskies, E. & Lazarus, R. S. (1980). Coping theory and the teaching of coping skills. In P. O. Davidson & S. M. Davidson (Eds.), Behavioral medicine (pp. 38-69). New York: Brunner/Mazel.
- Scott, C. B. & Mothersill, K. J. (1987). Gender differences in depression and anxiety: Implications for the cognitive model. Alberta Psychology, 16(4), 9-12, 24.
- Selye, H. (1956). The stress of life. New York: McGraw-Hill.
- Selye, H. (1974). Stress without distress. New York: Harper/Row.

- Selye, H. (1980). The stress concept today. In I. L. Kutash, L. B. Schlesinger, & Associates (Eds.), Handbook on stress and anxiety (pp. 127-143). San Francisco: Jossey-Bass.
- Siemens, L. B. (1973). Single-enterprise community studies in northern Canada. Winnipeg: University of Manitoba, Center for Settlement Studies, series 5, Occasional Paper 7, December.
- Statistics Canada. (1986). Census of Canada: Selected characteristics for census divisions and census subdivisions, British Columbia. Ottawa: Author.
- Status of Women Canada. (1989). Dimensions of equality: An update of the federal government work plan for women. Ottawa: Author.
- Thompson, E. A. (1987). Interpretation of the symptoms of stress inventory. Unpublished manuscript, University of Washington, Department of Psychosocial Nursing, Stress Management Project, Seattle.
- Torestad, B., Olah, A., & Magnusson, D. (1985). Coping, control, and experience of stress: An interactional perspective (No. 643). University of Stockholm, Department of Psychology.
- Tucker, M. B. (1982). Social support and coping: Applications for the study of female drug abuse. Journal of Social Issues, 38, 117-137.

- Weissman, M. M. & Paykel, E. S. (1974). The depressed woman: A study of social relationships. Chicago: University of Chicago Press.
- White, J. (1983). Women and part-time work. Ottawa: Canadian Advisory Council on the Status of Women.
- Women and Mental Health Committee (1987, April). Women and mental health in Canada: Strategies for change. Toronto: Canadian Mental Health Association.
- Women's Research Centre. (1979, December). Beyond the pipeline. Vancouver.
- Zur-Szpiro, S. & Longfellow, C. (1982). Father's support to mothers and children. In D. Belle (Ed.), Lives in stress: Women and depression. (pp. 145-153). California: Sage.

APPENDICES

APPENDIX A
Cover Letter

A STUDY OF WOMEN IN SINGLE-INDUSTRY COMMUNITIES

C/O Nanci C. Bunce
P.O. Box 1949
Tumbler Ridge, B.C.
V0C 2W0
tel. (604) 242-3781

Dear Study Participant:

I am a Masters Student at the University of Calgary in the Department of Educational Psychology. I am also a new resident of Tumbler Ridge. Out of both interests, I am doing a research project on Tumbler Ridge. As part of my thesis requirement for my degree, I want to assess stress and coping of women in small, remote, single-industry communities. This community is a prime example and I could use your help to find out what it's like to be a woman living here. It is my intention to find out about the sorts of demands the women of this community face and how they cope with these demands. I hope to get this information from the answers to the three questionnaires that are included in this package.

If you decide to participate, all that you need to do is to complete the three questionnaires enclosed before _____. They should take a total of about 1 1/2 hours to complete. You need not complete them all at once but I would ask that they all be done within the same week, and that once you begin a questionnaire, you complete it in one sitting if at all possible. In order to gauge your time, the Symptoms of Stress Inventory should take 10 - 20 minutes to complete, the Coping Resources Inventory for Stress should take about an hour, and the Demographic Questionnaire will take about 20 minutes to complete. I would ask that you not consult with anyone as you fill out the questionnaires but to give your own answers, as honestly as possible. You are free to omit any items that you do not wish to answer, however, it will help me to obtain a more complete picture of the situation in the community if all the questions are answered. I would ask you to complete all the questions if at all possible.

Any of the information collected in this study will be strictly confidential. I am interested in information as it relates to the community and not to you personally. Therefore, I am not asking you to attach your name to these forms so that no information will be traceable back to you. All of the results will be reported as group results. Participation in this study is voluntary and your returning the completed questionnaires will be taken as your consent to participate.

If you do wish to participate, simply follow the instructions provided with the questionnaires and complete them as instructed above. When you have finished all three questionnaires, seal them all in the same envelope (which is provided) and drop the envelope off at the post-office preferably before _____. At the completion of the study, which should be in April, 1991, you may receive a summary of the results by contacting me in Tumbler Ridge. I appreciate your effort. Thank you.

Nanci Bunce

APPENDIX B
Instructions to Subjects

INSTRUCTIONS

1. Complete each questionnaire. If at all possible complete a questionnaire once you have started it.
 - a) the SOSI takes 10 - 20 minutes
 - b) the CRIS takes 1 hour
 - c) the Background Information Form takes 15 minutes.
2. Place all material that you have received including the test booklets into the prestamped envelope provided and seal the envelope.
3. Place the envelope in the mail. (If possible, BEFORE _____.)
4. If you have any questions regarding this procedure, please call 242-3781.
5. Thank you for your responses.

APPENDIX C
Subject Reminder

REMINDER

An envelope should have been delivered to your house last week with three questionnaires for the "Women in Tumbler Ridge Study". It is important, in order to provide my study with a more complete picture of what it's like to be a woman living in this community that as many people as possible complete the questionnaires and return them to me. If you have not yet completed the forms and returned them in the envelope provided, I would greatly appreciate it if you would do so within the next week.

If, for some reason, you did not receive the questionnaires or have misplaced them, and you wish to participate, please call me at 242-3781 and I will arrange to get you another copy.

Thank you for helping me out.

Sincerely,

Nanci Bunce

APPENDIX D

The Background Information Form

(The BIF)

BACKGROUND INFORMATION FORMFrequencies

(Numbers in parentheses indicate frequencies for each category)

Answer by placing the appropriate number(s) in the blank spaces to the right of each question. Please place only ONE number in each space and try to answer all questions. Thank you.

1. Age in years (mean = 34.22)
(range = 35.00)
2. Marital Status
 1. single (never married) (6)
 2. married (73)
 3. cohabitating (7)
 4. divorced/separated (5)
 5. widowed (1)
3. If married or cohabitating, for what period of time?
 1. 0 - 2 years (6)
 2. 2 - 4 years (7)
 3. 4 - 7 years (14)
 4. 7 - 10 years (15)
 5. more than 10 years (44)
4. How many children do you have? (including step-children, foster children, etc.) (mean = 2.19)
(range = 9)
5. How many children do you have living at home? (including step-children etc.) (mean = 1.60)
(range = 4)
6. How many additional people are currently living in your home? (eg. borders, students, guests, etc.) (mean = 0.27)
(range = 6)
7. Are you a single parent? (please mark "1" for yes, or "2" for no). (1 = 5)
(2 = 87)

8. What is the highest educational level you have completed?
- | | |
|------------------------------|------|
| 1. Grade School | (3) |
| 2. High School | (33) |
| 3. Community College | (34) |
| 4. University degree | (19) |
| 5. Master's degree or higher | (2) |
| 6. Other (please specify): | (0) |
-
9. How long have you lived in Tumbler Ridge?
- | | |
|--------------------------|------|
| 0. under a year | (3) |
| 1. between 1 and 2 years | (9) |
| 2. between 2 and 3 years | (11) |
| 3. between 3 and 4 years | (5) |
| 4. between 4 and 5 years | (13) |
| 5. more than 5 years | (51) |
10. Have you changed your place of residence in the last year? (1=yes, 2=no).
- | |
|----------|
| (1 = 12) |
| (2 = 80) |
11. How many times have you changed your place of residence in the past 5 years?
- | | |
|----------------------|------|
| 1. 0 - 1 | (51) |
| 2. 2 - 3 | (29) |
| 3. 4 - 5 | (10) |
| 4. 6 - 7 | (1) |
| 5. more than 7 times | (1) |
12. Are you currently employed? (1=yes, 2=no)
- | |
|----------|
| (1 = 56) |
| (2 = 36) |
13. If yes, please specify how long you have been employed in your current job, and the number of hours per week you work:
- | (length of time) | (hours/week) |
|------------------|----------------|
| (mean = 3.91) | (mean = 34.19) |
| (range = 13.0) | (range = 45.0) |
14. Do you work shiftwork? (1=yes, 2=no)
- | |
|----------|
| (1 = 7) |
| (2 = 80) |

15. How many members of your household, besides yourself, are employed on shiftwork?
- | | | |
|----|--------------|------|
| 0. | none | (41) |
| 1. | one | (43) |
| 2. | two | (3) |
| 3. | three | (1) |
| 4. | four or more | (0) |
16. What is your combined family income?
- | | | |
|----|---------------------|------|
| 1. | under \$10,000 | (1) |
| 2. | \$10,000 - \$20,000 | (2) |
| 3. | \$20,000 - \$30,000 | (3) |
| 4. | \$30,000 - \$40,000 | (5) |
| 5. | \$40,000 - \$50,000 | (21) |
| 6. | \$50,000 - \$60,000 | (28) |
| 7. | over \$60,000 | (30) |
17. What 3 things do you think create the greatest amount of stress for you in your life?.
- | | | |
|----|------------------------------|------|
| 01 | - Kids | (43) |
| 02 | - Family | (7) |
| 03 | - Work - Personal | (35) |
| 04 | - Work - Spouse | (4) |
| 05 | - Community - physical | (12) |
| 06 | - Community - social | (17) |
| 07 | - Health - self | (9) |
| 08 | - Health - others | (3) |
| 09 | - Money | (30) |
| 10 | - Household chores | (8) |
| 11 | - Emotional problem - self | (19) |
| 12 | - Emotional problem - others | (18) |
| 13 | - Time management | (21) |
| 14 | - Marital difficulties | (7) |
| 15 | - Other | (8) |

18. For each of the situations described in #17 above, indicate what it is about that situation or event that causes the stress for you.

01 - People not conforming	(48)
02 - Situation not conforming	(43)
03 - Insecurity - appraisal error	(2)
04 - Insecurity - adequacy of performance	(9)
05 - Qualitative overload	(4)
06 - Quantitative overload	(15)
07 - Underload - quantitative or qualitative	(2)
08 - Unspecified overload	(15)
09 - Worry	(8)
10 - Contagion of stress	(8)
11 - Lack of coping skills	(43)
12 - Health problems - life-threatening	(3)
13 - Health problem - undiagnosed	(2)
14 - Health problem - not life-threatening	(3)
15 - Personality variable	(6)
16 - helplessness	(7)
17 - other	(2)

19. What 3 things do you think are most helpful to you in dealing with stress in your life?

01 - Physical activity	(35)
02 - Time-out	(6)
03 - Meditation/relaxation	(8)
04 - Sleep	(1)
05 - Talking - social support/unspecified	(44)
06 - Talking - release	(6)
07 - Emotional Support	(32)
08 - Religion/prayer	(16)
09 - Entertainment/activities for enjoyment	(21)
10 - Vacation/getting away	(17)
11 - Counselling/support group	(8)
12 - Cognitive control	(6)
13 - Drugs/alcohol	(2)
14 - Introspection/personal development	(12)
15 - Planning/organization	(7)
16 - Optimism/focus on positive	(18)
17 - Problem solving	(8)
18 - Stress management	(1)
19 - other	(1)

20. For each of the items mentioned in #19 above, indicate what it is about that situation or event that provides the assistance for you.
- | | |
|----------------------------------|------|
| 01 - Relaxation | (24) |
| 02 - Physical release | (11) |
| 03 - Social Support | (67) |
| 04 - Entertainment | (7) |
| 05 - Personal Factor | (20) |
| 06 - Time-out | (9) |
| 07 - Escape | (23) |
| 08 - Mental release | (11) |
| 09 - Freedom from responsibility | (8) |
| 10 - Face the problem | (13) |
| 11 - Optimism | (10) |
| 12 - Clears the mind | (3) |
| 13 - Get a break | (7) |
| 14 - Physical well-being | (4) |
| 15 - Talking to complain | (1) |
| 16 - Other | (1) |
21. Do you attend religious functions in town? (eg. church service) (1=yes, 2=no).
(1 = 34)
(2 = 57)
22. If yes, how frequently do you participate in religious functions?
- | | |
|---------------------------------|------|
| 1. once or twice a year or less | (14) |
| 2. 3 to 8 times per year | (4) |
| 3. once or twice a month | (11) |
| 4. once or twice a week | (9) |
| 5. three or more times a week | (7) |
| 6. every day | (0) |
23. Do you regularly participate in any other community activities? (1=yes, 2=no)
(1 = 58)
(2 = 34)

24. If yes, which community activities?
- 01 - Fitness, sports (25)
 - 02 - Children's activities (children only) (5)
 - 03 - Children's activities (subject involved) (3)
 - 04 - Children's activities (subject involvement unspecified) (11)
 - 05 - Participation in arts - choir, drama, band (9)
 - 06 - Organizing special events (1)
 - 07 - Ongoing leadership - board/council member (adult related) (6)
 - 08 - Education - lessons, classes, teaching (3)
 - 09 - Volunteer work (13)
 - 10 - Entertainment, special events (21)
 - 11 - Health and service groups (9)
 - 12 - Religious services and groups (1)
 - 13 - Clubs of groups (unspecified) (1)
 - 14 - Clubs or groups (involvement unspecified) (5)
25. How often do you participate in community activities?
- 1. once or twice a year or less (12)
 - 2. 3 to 8 times per year (27)
 - 3. once or twice a month (19)
 - 4. once or twice a week (19)
 - 5. three or more times a week (11)
 - 6. every day (0)
26. How many friends do you have in the community that you can talk to about problems or things that are important to you?
- 0. none (6)
 - 1. 1 or 2 (32)
 - 2. 3 to 5 (31)
 - 3. 5 to 8 (14)
 - 4. more than 8 (9)
27. How often do you get together with friends?
- 1. once or twice a year or less (3)
 - 2. 3 to 8 times per year (6)
 - 3. once or twice a month (28)
 - 4. once or twice a week (28)
 - 5. three or more times a week (21)
 - 6. every day (6)
28. How often do you do exercise that raises your heart rate to around 120 beats per minute and maintains that level for at least 15 minutes?
- 1. once or twice a year or less (9)
 - 2. 3 to 8 times per year (8)
 - 3. once or twice a month (17)
 - 4. once or twice a week (25)
 - 5. three or more times a week (26)
 - 6. every day (7)

Indicate how often you engage in the following activities for the purpose of reducing stress. (ie. how frequently you intentionally use these activities to help control stress).

Please try to answer all question using the following scale.

- 0. never
- 1. once or twice a year, or less
- 2. 3 to 8 times per year
- 3. monthly
- 4. weekly
- 5. daily
- 6. several times per day

		Frequencies						
		0	1	2	3	4	5	6

29.	prescription medication	71	11	2	3	3	0	1
30.	non-prescription medication	67	9	5	7	3	0	0
31.	music	11	10	8	9	23	28	2
32.	socializing	10	6	8	21	33	12	1
33.	nutrition	31	5	7	4	8	28	3
34.	consult with colleague or friend	4	9	13	18	31	15	1
35.	use of support group	74	2	3	4	8	0	0
36.	learn new coping skills	46	19	12	6	5	2	0
37.	religious observance (eg. prayer)	46	7	6	7	8	11	6
38.	reading	12	4	5	8	23	37	2
39.	focus on the positive (positive self-talk)	13	3	3	12	23	29	6

- 0. never
- 1. once or twice a year, or less
- 2. 3 to 8 times per year
- 3. monthly
- 4. weekly
- 5. daily
- 6. several times per day

		Frequencies						
		0	1	2	3	4	5	6

40.	meditation, self-hypnosis, or other deep relaxation procedure	69	3	6	5	5	2	0
41.	alcohol	66	8	10	4	3	0	0
42.	smoking	71	0	1	0	0	7	11
43.	watching T.V.	14	3	3	9	25	35	2
44.	exercise	11	4	8	11	33	22	1
45.	hobbies	--	--	1	3	4	3	2