University of Alberta

Farm Women of Alberta: Their Perceptions of Their Health and Work

by

Jennifer J. Young 

a thesis submitted to the Faculty of Graduate Studies and Research Studies in partial fulfillment of the requirements for the degree of Master of Nursing

Faculty of Nursing

Edmonton, Alberta

Spring, 1997

University of Alberta

Library Release Form

Name of Author: Jennifer J. Young

Title of Thesis: Farm Women of Alberta: Their Perceptions of Their Health and Work

Degree: Master of Nursing

Year This Degree Granted: 1997

Jennifer Young

R. R. 4

Red Deer, Alberta

T4N 5E4

Date: April 17, 1997

University of Alberta

Faculty of Graduate Studies and Research

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled Farm Women of Alberta: Their Perceptions of Their Health and Work submitted by Jennifer J. Young in partial fulfillment of the requirements for the degree of Master of Nursing.

Peggy Reeve Field

Dr. P. A. Field, Co-Supervisor

Patricia Valentine

Dr. P. Valentine, Co-Supervisor

Brenda C. Munro

Dr. B. Munro

10 April 1997

Abstract

Canadian farm women occupy a wide variety of work roles. Their health status needs attention, as they work in changing socioeconomic environments, and under circumstances which pose health and safety risks. The purpose of this research was to explore farm women's perceptions of health and the relationships between their health and work. For the nineteen women in this qualitative study, health has physical, mental, social and spiritual aspects. A healthy person has balance, a well rounded life, and takes responsibility for health. A positive mental attitude, and self esteem are important. Work hazards, stressors, respect and recognition, communication, and decision making in working relationships influence perceptions of health. Women perceive increased health when they value farming, and values, beliefs, goals, and expectations are congruent with those seen in the farming operation. Other influential factors are: knowledge and confidence, support, respect and recognition, stress, control over hazard exposure, assertiveness, attention to personal goals, and personality factors.

Acknowledgements

I would like to acknowledge the people who assisted and supported me in the completion of this project.

I am indebted to the women who participated in this study, who so generously shared their time and perspectives.

I would like to thank my thesis committee members for their interest in this area of research and in the progress of this study. Thank you to Dr. Peggy Anne Field for her expertise, guidance, and encouragement; Dr. Patricia Valentine for her feedback and support; and Dr. Brenda Munro for her assistance and direction.

And special thanks to my dear family, my husband Robert, and children Lindsay, Emily, and Michael for their patience, support, feedback and encouragement throughout my graduate education. Thank you to my parents who have always thought I could do whatever I chose.

This study was supported by a grant from the Alberta Association of Registered Nurses.

Table of Contents

IV. Findings (continued)

List of Tables

List of Figures

I. Introduction

Statement of the Problem

In Canada, women play a large, multifaceted role in agricultural production that includes farm work, household work, and off farm employment. However, the physical and psychological well being of these women has received little attention (Bushy, 1993). Rural women deserve particular attention because their lives, compared to their urban counterparts, are characterized by a number of conditions that are different from non rural women, and some of these may be especially stressful. Farm women in this group may be facing new and unique stressors related to changes such as erosion of the traditional sociocultural structure of rural communities, and the industrialization of agriculture (Bigbee, 1984; Bushy, 1990; Ghorayshi, 1989; Keating, 1991; Lee, 1991; Shaver, 1990; Smith, 1987).

Most primary agricultural production in Canada is based on family farms, where most or all of the labor required to operate the farming operation is provided by family members. Family operated farms account for 98% of all census farms in Canada (Statistics Canada,1994). Women's work on the farm has long been treated as a natural extension of all women's work in the home, and has not been awarded particular economic value and has been seen as undeserving of specific recognition (Ghorayshi, 1989; Keating & Munro, 1988; Smith, 1987; 1992). At the time of the census in 1991, women were best represented on two operator farms, on which they accounted for 44% of operators. Sole female farm operators comprised 6% of the total in Canada (Statistics Canada, 1994).

The work and health relationships of farm women need particular attention because of the close relationship of the farming enterprise and the

family life, where work time is not easily distinguished from non work time. Women have always worked on Canadian farms, but they are now increasing their involvement in farm work. Farms have been identified as dangerous places to work and raise a family (Cordes & Foster Rea, 1991), and increased time spent in work on the farm in a wider variety of tasks increases women's exposure to hazards. Heavy equipment, dangerous machinery, and toxic chemicals are integral to present day agriculture. Women's and children's injuries from farm machinery are on the rise, because working with machinery is a role being performed more often by women and children because of increasing mechanization (Bushy, 1993).

In addition, farm women are entering the labor force in record numbers, and many women work on and off the farm, while continuing to raise children, and often, care for older parents. In Alberta, 21,705 women identified themselves as sole or co-operators of farms in Alberta. Of these, 8580, or 39.5% of women were involved in paid off farm work, and the average number of days per year worked off the farm in paid work was 182 days for women who were sole operators of farms, and 174 days for women who farmed with another farm operator (Statistics Canada, 1992).

Social, political, and economic factors influence health status (Robertson & Boyle, 1984). Farmers and rural dwellers in the prairie provinces are experiencing economic, social, and cultural upheaval, and the effects of these stresses and changes on health need to be explored and identified. Most health related research in rural areas has focused on health care provision, in particular the maldistribution of physicians and health care services in rural areas. Little health research has focused on the characteristics, determinants, and consequences of health and illness among rural people. Delivery-oriented

research is critical, but more pressing is the need for research focusing on the unique aspects of rural cultures and communities (Bigbee, 1984).

Understanding a woman's concept of health is critical for understanding her concepts of health promotion, health maintenance, and illness treatment (Long, 1993). The perceptions of farm women themselves about health, their own health, and the influence of work on their health have been little reported, and an understanding of these perceptions is needed to provide an essential basis for assessing health risks, problems, outcomes, and planning potential preventive and health promotion measures.

Purpose of the Study

The purpose of this research study was to explore farm women's perceptions of health, their own health, and the relationships between their work and health. The goal of this exploration has been to increase nurses' and others' understanding of the health perceptions of farm women in Alberta, to facilitate assessment of health risks, problems, outcomes, and planning of potential preventive and health promotion measures.

Research Questions

The research questions were: What do farm women perceive to be their work activities? Do farm women relate their work activities to their health? What are farm women's perceptions of and beliefs about health? What are their perceptions of their own health? What are their perceived effects of work on their health? What activities do they undertake to promote their health?

Definition of Terms

Rural. The term "rural" is generally associated with agrarian activities, but in actuality the rural population is divided into farm and non farm components (Hay, 1992). Other primary rural economic activities are the fur trade, fishing,

forestry and mining, and business. So to be a farmer is to be a rural dweller, but to be rural is not necessarily to be a farmer. In 1991, the definition of "rural" population used by the Canadian Census referred to those who were not "urban", urban meaning the population residing in continuously built-up areas having a population concentration of 1000 or more and a population density of 400 or more per square kilometer. To be considered continuous, the built-up area must not have a discontinuity of more than two kilometers (Hay, 1992).

Rural and farm women. The rural women discussed throughout this review are considered to be women over 15 years of age, living in rural areas. Farm women are women living and working on farms or small holdings.

Work. Work is described as physical and mental effort directed toward a goal (Webster's Desk Dictionary, 1988). An individual determines for himself or herself the activities that he or she does that are called work.

II. Literature Review

The literature that will be reviewed here includes literature from 1980 to the present, that relates to Canadian and American women identified as 'rural' or 'farm' women, in which their health or effects of work on their health has been studied. This review will not include a detailed review of women's on or off farm work activities, or a review of women's general labor force participation. Computerized data bases (CINAHL, Medline, PsycLIT, and Sociofile) were the initial sources of identification of the literature included in this review. Additional literature was accumulated as the study progressed, as a greater awareness of the issues and topics developed. Colleagues and interested others provided references and articles, and participants on several occasions provided references or copies of relevant newspaper articles.

Bigbee (1984) writes that research related to rural women has largely been neglected and that, until the 1970's, rural women were included in studies only as "factors" related to the success of their husbands, children and families (Joyce & Leadley, 1977). Bushy (1993) suggests that research in relation to rural women has been minimal because researchers have used more convenient urban samples. In Canada, data collection procedures have limited collection of accurate data for use in research related to rural women, particularly farm women. Until recently, data collection by Statistics Canada has not included information about women as farm operators. For the first time in 1991, Statistics Canada data collection forms permitted more than one farm operator to be listed per farm.

The age ranges of women in the studies reviewed are seldom given. Of Canada's 390,870 farm operators in 1991, 26% were women (Statistics Canada, 1994). Of this group, 49% identified farming as their primary

occupation. The proportion of female farm operators in Alberta is 27% of the total number of farm operators. These figures do not include additional women who are associated with farms in Canada or Alberta. At the time of the 1991 census, most female operators in Canada were married to or living common law with a male farm operator, yet nearly twice as many women, 156,200, had a husband or partner who was a farm operator, but were not themselves listed as farm operators on the census form. Women apparently do not view themselves as principal farmers, and Perrault (1994) suggests that it is the perception farm women have of themselves that explains why many women who live and work on farms underestimate their own contributions and do not identify themselves as farm operators.

In the past decade greater attention to roles of women in farming units has been attributed to growing attention to the interrelations of the household and the farming enterprise in family farming (Buttel & Gillespie, 1984). Additionally, the farm crisis of the 1980's and the increase in the entry of farm women into the labor force has also promoted the attention of researchers to the roles and needs of farm women. Throughout this crisis the survival of the family farm in Canada and the United States may have invited more enquiry about the roles of women on farms.

Much of the research and literature relating to rural women has focused on American and British women, and has been sociological in nature. Some examples are studies of the trends in the work patterns of rural women (Mansfield, Preston & Crawford, 1988; Smith, 1992), family dynamics, (Bigbee, 1988; Bushy, 1990a), farm wives' involvement in decision making (Sawer 1973), the hours women allocate to farm and household work, and the contribution of women's off farm work to family expenditures (Fast & Munro,

1991). Smith (1992) writes that a considerable body of literature addressing the needs and interests of Canadian rural women has developed over the last twenty years, but these works are difficult to locate as much of this literature was prepared with minimal budgets for specialized audiences. Some examples might be reports from farming women's organizations, such as the Alberta Women's Institutes and the Women of Unifarm in Alberta. For example, the Women of Unifarm (Jevne, 1984) undertook a survey of farm women's perceptions of farm women, and Kupfer (1990) collected perceptions, concerns and stories of rural women in southern Alberta.

Interest in rural women's health is growing. In relation to rural women's health and work, researchers have examined life satisfaction, psychological well-being, perceived health, family stress, and personal stress, with particular emphasis on these factors in relation to farm women's off farm work roles. In much of the research reviewed, the ethnicity of the women is not identified, and it is assumed that the women under study are white.

Some researchers have addressed physical differences between men and women, and the consequences of these differences for women's participation in work, particularly women's participation in traditional male roles. However, no articles addressing this problem for farming women were located. Little research was found that addresses women's perceptions of themselves as farmers, or as farm operators. Pearson (1980), and Gasson (1988) have described profiles of women who farm, including some perceptions of women themselves.

The focus of a small but growing body of nursing descriptive and research literature about rural women relates to health implications within the context of social, cultural, and economic change in rural communities and

agriculture. Rural-urban comparisons of women's psychological health, and the implications of rurality for health (Bigbee, 1988) have also been explored by nurses (Lee, 1991; Lee, 1993b; Mansfield, Preston, & Crawford,1988).

Definition of Terms

Health. Health is an holistic, dynamic process of development of a person's potential, encompassing all aspects of a person -- physical, mental, emotional, and spiritual (Woods, Laffrey, Duffy, Lents, Mitchell, Taylor, & Cowan,1988). Social factors, such as health promotion programs, and political factors, such as the enforcement of clean air policies, influence health. Economic factors such as personal ability to access and pay for services also influence personal definitions of health, health status, and perceptions of health. Culture plays an important role in health and health beliefs; for example, many rural persons equate health with the ability to work (Lee, 1993), rather than, for example, a goal of reaching one's maximum potential. In this review, the term 'well-being' was seen to connote health.

Rural Women's Work and Health

Canadian census data comparing the demographic and reproductive profiles of rural and urban women have been collected, however, specific information about the health status of rural Canadian women is not available. Themes in the literature relating to the health of rural women are the farm family as a unit of production, and the identification of the unique stressors experienced by rural women because of being rural. The health implications of current economic, cultural, and social change in rural communities and agriculture comprise a third theme.

Implications of the Integration of Farm and Family

A critical aspect of the farm family that has consequences for rural women in terms of their work is the farm family as a unit of production. The farm household is integral to farm production, and work time is not easily distinguished from non-work time. The division of labor is not necessarily based on competence and qualifications, but on age, gender, ability, and needs of the family (Ghorayshi, 1989). For women, this creates a situation where they have multiple roles that are central to the production of the family unit. Smith (1992), identifies a typology for farm women's work that includes: on farm work, household or domestic work, off farm work, and volunteer work.

On farm work. Participating in farm production related tasks, and administrative work are two major categories of women's on farm work. For example, women are involved in plowing and planting, harvesting crops, taking care of farm animals, running farm errands, and marketing products (Engberg, 1991). Administrative tasks may include bookkeeping, maintaining records, and preparing tax forms. Wilson-Larson (1991) conducted a qualitative study about Alberta farm women's experiences of work, and reported that farm women in this study defined 'work' to mean the completion of tasks pertaining to the farm enterprise. It appeared that activities which were closely related to the economic outcomes of the farm business were more likely to be defined as work, and more distantly related tasks, such as housework were regarded merely as "responsibilities", or "just what I do (p. 34)."

Household work. Typical responsibilities in the household include child care, preparing meals, laundry, and housecleaning. In roles as wife, mother, and administrator, Ghorayshi (1989) suggests that women establish priorities,

solve family conflicts, and make sure the interests of both the family and farm business are taken into account.

Volunteer work. Based upon a study of four farming communities in Saskatchewan in 1987, Smith (1992) reports that 55 % of farm women volunteer time in their communities. She suggests that volunteer work be added as a fourth role in a typology of farm women's work, as this is a way women contribute to their communities, and therefore to agriculture.

Off farm work. At the time of the census in 1991, 21,705 women identified themselves as sole or co-operators of farms in Alberta. Of these, 8580, or 39.5% of women were involved in paid off farm work, and the average number of days per year worked off the farm in paid work was 182 days for women who were sole operators of farms, and 174 days for women who farmed with another farm operator (Statistics Canada, 1992).

Despite the essential role of women in the production of the family farm, the importance of their work is reported to have been ignored, underestimated, and de-emphasized (Auer, 1989; Bushy,1990b; Ghorayshi, 1989; Kupfer, 1990; Smith, 1987). Rural women are sometimes referred to as 'invisible farmers' because their work is done in the household or done as supportive of the husband's farm work (Bushy, 1993; Fast & Munro, 1991; Ghorayshi, 1989). Ghorayshi (1989) discusses this invisibility in terms of women's perceptions of themselves as farmers: "Some women operate machinery, some tend the cows . . . act as receptionists . . . accountants . . . mechanics, buyers and so on. They call this 'helping out, running errands' . . ." (p. 583). Non farm rural women may have similar experiences, in that rural dwelling families are often involved in intergenerational family businesses, such as a service garage or restaurant (Bigbee, 1988, Smith, 1987). Ghorayshi (1989) suggests that women

themselves foster the impression of a 'quiet' partner to maintain their spouse's social standing, and so reproduce the gender inequality.

There is growing recognition of the need to value the 'invisible' work done by rural women, and to accurately estimate the health effects of this workload. Farm women's formal and informal groups and organizations have expressed concern about farm women's invisibility in terms of their work and legal status. At the First National Farm Women's conference in 1980, the lack of public recognition of the work of women in agriculture was reiterated as a major concern (Boivin, 1987).

Implications of Economic, Social, and Cultural Change.

Many factors have contributed to economic stress for rural families. A serious fall in grain prices, the mechanization and industrialization of farming, and large debts assumed when grain and livestock markets were profitable have contributed to the economic crisis in farming (Auer, 1989). Diaz and Gingrich (1992) suggest several socioeconomic and political causes for the deterioration of agriculture in Canada. First is the integration of prairie farmers into international markets where a large number of factors create instability in commodity prices, and the second is the inability of the Canadian farm movement to influence economic and political decision making. Accompanying these are changes in patterns of family farming -- larger, heavily capitalized farms, more equipment, and more off farm employment for men and women. This economic situation may mean feelings of hopelessness and depression for women (Bushy, 1993). Highly educated farm women may need to take jobs such as clerks or secretaries as there is limited opportunity for work in professional fields.

Off farm work. A marked increase in the number of farm women (Bigbee, 1988, Smith, 1987, 1992) who are employed off the farm is thought to be a response to the economic crisis. Smith (1992) reports that in 1986, 35% of women employed off the farm invested 75% of their income in the farming operation. Fast and Munro (1991) found that little difference was shown between the total contributions of men and women toward the economic well-being of the farm family. This study provides essential information about the value of women's contributions, yet the perceptions of rural women about their work, the economic and non economic value of their work and other roles were not a data source.

Multiple Roles

A trend identified in the literature is growing interest in identifying the 'real' workload many rural women carry. In addition to roles of wife and mother, there are roles such as farm worker, purchasing agent, accountant, manager and mediator of family conflicts. A conception of rural women's work cannot be limited to a specific activity or clear cut lines drawn between different roles (Ghorayshi, 1989).

The effects of multiple roles on women's health have been studied by Waldron and Jacobs (1989), and their findings did not support the hypothesis that multiple roles contribute to role overload and role conflict in women. In fact, having more roles was associated with better health trends. The roles studied, however, included only those of wife, mother, and labor force participant. The addition of the fourth role of farm worker was not considered; findings from this study may not be generalizable to rural women who live and work on farms. Some farm women occupy fewer work roles on the farm as children leave

home, assume their mother's work roles, or the hard work of earlier years begins to pay off (Keating & Munro, 1988).

Job satisfaction. In a study of rural employed mothers, researchers found that job satisfaction variables were more predictive of mothers' satisfaction with the dual work role than were family or other sociopsychological variables (McKenry, Hamdorf, Walters, & Murray, 1985). The women in this study had older children and saw their off farm work as central to their lives, and these factors may have been reflected in their satisfaction. The researchers suggest that their satisfaction may be related to little conflict with traditional values, as most of them were making important economic contributions to their families. However, these women may have a reduced number of roles, which might indicate more traditional attitudes toward work. The influence of other roles these women may have had, such as farm labor or farm management roles, was not investigated in this study.

Lifestyle satisfaction. Lifestyle satisfaction was examined in a survey investigating the effects of off-farm employment on farm couples (Knaub, Draughn, Wozniak, Little, Smith, & Weeks,1988). The lifestyle satisfaction of farm couples whose wives are employed off the farm was compared with that of farm couples whose wives are not employed off the farm. Of these couples, 92.4% were parents, and 52.5 % of the couples had children living at home. The wives' age range was 21 to 76 years. Lifestyle satisfaction was measured by satisfaction with equity, parenting and overall satisfaction. Equity and financial security for women were more important in their perceptions of lifestyle satisfaction. Women's greater dissatisfaction with equity might be related to husband's lack of participation in household work and child care even when she is employed (Draughn et al., 1988). Wives were much less satisfied with

financial security when they were involved in partnerships/incorporated farms than in individual/family farms. This might be accounted for if these wives were not in control over management decisions; or, if traditional roles exist in the family where husbands take more responsibility for financial decisions and planning. Equity satisfaction (Draughn et al., 1988) was shown to decrease with the number of roles assumed by farm women.

Marital quality. Role overload created by work expectations on and off the farm may generate marital dissatisfaction, especially if the husband has a disapproving attitude toward his wife's work (Folk, Nickols, & Peck, 1989). This may also be true when wives believe they have an inequitable marital distribution of roles (Draughn, Little et al, 1988). The researchers studied how the number of wives' roles and specific roles were related to marital happiness. A seven point scale, ranging from extremely unhappy to perfect, with happy as the midpoint, was used to measure marital happiness. Marital happiness was found to be unrelated to any specific roles, or to numbers of roles.

In summary, the study of effects of multiple roles has been an approach to assessing the health effects of work. The number of roles performed has been negatively related to lifestyle satisfaction, and women are less satisfied with equity and financial issues than their husbands. This dissatisfaction with equity may be related to a lack of husband help with household work, especially when the wife has off farm employment. Role conflict women may experience is buffered by husband support; and the psychological climate is more important than a particular assignment of tasks.

Sociocultural Factors.

Bushy (1990a) described cultural beliefs, rural values, economics, and social structures as important determinants in rural family health status. Rural

women consistently identify a smaller social network (Lee, 1991). A relevant social change is the rapid disappearance of homemaking clubs (Lee, 1991). These clubs have been an important source of health information. If not replaced with other opportunities for women to meet and exchange information, this may leave a gap because rural women are socialized to keep to themselves: "They state they are ashamed of their little problems, try to resolve their concerns alone, and believe there is nothing to complain about if one has a healthy husband and children (Tevis, 1979, p. 22)." However, increased transportation at least for a good number of rural women, may permit access to other sources of socialization and access to health information. Technology, such as computers, may provide health information.

Cultural beliefs are an important factor in health perceptions, and Bushy (1990) writes that social, economic, and geographic differences extend along a continuum from the most rural to the most urban community. Rural communities generally are slower to change traditional cultural values and are reluctant to adopt mass societal influences.

Unique Stressors

Researchers who have examined the situations of rural women suggest that they face unique stressors (Berkowitz & Hedlund, cited in Bigbee, 1984; Bushy, 1990a; Mansfield, Preston, & Crawford,1988; Smith, 1992). Some of these stressors are uncertainty of weather, limited health care services, long distances to travel, changes in family life, the role of women in rural society, declining economic conditions, and isolation, especially in frontier areas (Bigbee, 1990; Bushy, 1990a; Mansfield et al., 1988).

The role of rural women has reflected the traditional value system of the rural culture: conservative, traditionalist, change-resistant, and family-oriented

(Bigbee, 1984; Bushy, 1990a; Mansfield et al., 1988). Rural women's lives have changed considerably in the last decade or so, most notably by their increased labor force participation (Walters & McHenry, 1985). Considering the more traditional nature of rural families, the employment of wives and mothers may be more problematic for these women and their families than for urban women.

Bushy (1990b) writes that rural women have unique stressors in that they are socialized to keep their feelings to themselves, and have a smaller social network than urban women. Privacy is extremely important, and this may be limited in a small community where work and social ties are close.

Occupational Health

Some major health implications of an increased number of roles are fatigue, potential for increased sex role conflict (Bigbee, 1988), low self esteem and self alienation (Kupfer, 1990), and increased injuries during farm work (Bushy, 1990b, Pearson, 1980). There is a surprising dearth of discussion and research about the occupational health of rural women, for on farm and off farm work. Engberg (1993) detailed the health implications of a wide variety of tasks and roles for farm women, in household work, and on farm work. Major categories of health related problems in agriculture are accidents, musculoskeletal and soft-tissue disorders, thermal stress, vibration and noise, chemical exposure, zoonoses, dermatitis, reproductive hazards, and respiratory problems.

The occupational health and safety practices and attitudes of male and female farmers of southern Alberta was studied by Blundell-Gosselin (1995). In this quantitative study, men and women responded to mailed survey questionnaires which posed questions about farmers' knowledge and attitudes toward occupational health and safety problems, and their farming practices in

relation to health and safety. Of the 136 female respondents, 59.1 % reported that they operated farm machinery. Women were more significantly concerned than men about the dangers of operating a tractor without rollover protection, yet very low percentages of women who drive tractors with rollover protection routinely use seatbelts that are needed in order to prevent injury even with rollover protection. However, no machinery related injuries were reported by women for the two years previous to completing the questionnaire, in contrast to 5.4 % of men reporting some kind of injury. Overall, more men reported higher numbers of injuries and illnesses. The major problem areas for women in the two years prior to the study were emotional problems or stress, muscle and joint injuries, and breathing problems. Women reported much less frequent use of hearing protection than men, and they use breathing protection less often than men when working with grain, feed, or bedding material.

Vezina and Courville's (1992) article about the integration of women into traditionally masculine jobs discusses physical requirements for traditionally male and female jobs. Farming tasks are not included in the discussion, however, this discussion draws attention to the issues women face in these roles. Several needs discussed were needs for great endurance, and physical stamina, not usually considered by health and safety experts in evaluating job demands.

Most of the research in relation to work and health has been in relation to stress, and minimal research has studied or measured the physical effects of work and hazard exposure on farm women. An Ontario study of farm women's work and health (Early Results,1994) reported that many women were full participants in their farm operations, and were likely to be exposed to the same hazards as men. Lifting of heavy objects such as pails, crates, feed bags; work

in dusty areas such as livestock buildings, milking cows, working with other farm livestock, and applying crop herbicides were all tasks women performed. There are hazards associated with these activities. Farm women can experience allergies, respiratory problems, back pain and reduced hearing when participating in farm work.

Agricultural equipment was also a concern, as it is the single largest factor in agricultural deaths. Such equipment may be especially dangerous for women, since it was designed for men. According to Messing (1992), research in relation to work of rural women is needed in the following areas related to women's occupational health and safety: (a) effects of heavy physical and mental workload; (b) consequences of women's relationship to the workforce in terms of their health, (c) health effects of the double workday; (d) effects of work on sex-specific biology; and (e) ways to remove ergonomic barriers to women entering non traditional jobs which have been designed for the typical male body.

Stress and Psychological Health

Bigbee (1990) studied the relationship between stressful life events and illness occurrence in rural versus urban women. No significant difference in levels of stress were found, suggesting that the stereotype of rural life as stress-free is untrue. Rural women reported lower levels of illness occurrence and severity, yet the difference was not statistically significant. Bigbee suggests that the rural lifestyle might result in healthier women, but also that rural residents may under report health problems. Perhaps, because of limited health services, women have health problems which are undetected. Another study by Bigbee (1988) examined the relationships between rurality, stress, and illness. Rurality was measured by the percentage of lifetime spent in a rural area. A significant

correlation was found between stressful life events scores and illness, however, no significant relationship was found between rurality and illness. Mansfield et al. (1988) compared the psychological well-being of two groups of women -- one rural, one urban. Results indicated few differences between the groups in any of the indicators of well-being (stress, tension, strain, exhaustion, and life satisfaction), and both groups reported relatively low stress and high life satisfaction. For both groups, stress related to family and friendship matters was most significant, followed by job related stress.

When asked to assess the amount of stress in their lives, the women in Blundell-Gosselin's (1995) quantitative study reported 63% of men and women described their lives as "somewhat stressful" and 10.5% of men and 7.8% of women described their lives as "very stressful." The three top stressors for men and women were frustration with government boards and policies, too much pressure, and not enough money. Other stressors rated within the top ten for women were: fatigue from physical work, deadlines, mental fatigue from work, too much to do, difficulty with joint decisions on major farm changes, conflicting duties, injury or illness of close family member, and no reliable relief from chores.

Berkowitz and Perkins (1984) investigated the relationship between multiple work roles and stress levels of dairy farm wives. Role conflict, defined by the researchers as incompatibility between the demands or responsibilities of two different roles, was found to be negatively related to husband support and was unrelated to farm or home task loads. High levels of husband support appeared to diffuse stressful consequences of role conflict. They concluded that the degree of involvement in different roles and conflict between them may not be as important as the psychological climate in which the roles are carried out.

Self-reported psychosomatic stress symptoms of nervousness, restlessness, insomnia, fainting and shortness of breath showed no relationship to task loads, farm complexity, and intrapersonal role conflict in a study by Berkowitz and Perkins (1985). Stronger positive relationships were found for husband support and marital satisfaction, and interpersonal role conflict. These findings point to the importance of family relationships in preventing or buffering stress. Women who are able to agree with their husbands about their farm roles, feel supported by their husbands or who have happy marriages are less likely to report stress related symptoms.

Similar results were found by Giesen, Maas, and Vriens (1989) who used a Dutch sample to study stress in the family farm as a typical family business setting, specifically exploring the farm wife's contribution to farm work and the relationship of this to her own well-being. Instruments measured personal characteristics, stressors, women's farm contributions and husband support. The different aspects of the farm woman's work situation studied were classified in four groups: financial context, role aspects and role problems, quality of interpersonal relationships, and personal and personality characteristics. The results show that husband support is more important for farm women's well-being than the role related or perceived financial situation of the farm. However, other sources of support for these women were not investigated. What other factors might affect the relationship between husband support and well-being? Role overload did not have an effect on well-being. This study is rare in that women's perceptions of financial stability was a variable. In consideration of the economic stress in agriculture today, this perception should be considered in our future research.

Knaub, Abbott, Meredith, and Parkhurst (1988) investigated stress and role strain associated with conflict employed women might feel in having limited time, energy, and resources to perform adequately in all roles of mother, employee, farmer and wife. Stress, primarily related to financial concerns, was frequently reported by couples. Off farm employment was shown to contribute to higher levels of stress for employed women than for unemployed. Sharing of stress with the spouse, and receiving help from the family increase marital adjustment and life satisfaction (Knaub, Abbott, et al.,1988). Knaub et al. suggested that wives absorb most of the stress associated with their off farm employment, and that there is a need for stressed couples to talk to each other about their concerns.

Walker and Walker (1988), in a questionnaire based study of self reported stress symptoms in central Canadian farmers attending farm management workshops, found higher reporting of symptoms such as increased drinking, loss of temper, and behavioral problems in children in the farmers than the non farmers. Women reported higher incidence of stress related symptoms than men.

Perceptions of Health

Lee (1991) studied the relationship of hardiness to perceived health in rural adult farmers, and found a significant relationship between hardiness and perceived mental and social health, but not physical health, for men and women. Hardiness includes the ability to perceive change as stimulating growth (Lee, 1990). Lee (1993) writes that many rural women are 'keepers of health' for their families and communities, and suggests that health education and promotion efforts should target rural wives and mothers.

Another significant body of literature about the health and perceptions of rural women is a growing collection of photographs, stories, poetry, recollections and current perspectives as recorded by rural women themselves or researchers who invite their perspectives and commentary (Crozier, 1987; Kupfer, 1990; Martz, 1990; Ross, 1984; Canadian Advisory Council on the Status of Women [CACSW], 1987). In these sources, women share particular aspects of their lives or comment on their work experiences in light of political and social issues, and personal goals. Biographies of women such as those by MacEwan (1975) afford insights into the lives and challenges to the health of rural women. Sources such as these suggest as well as validate some theorized implications of broad economic and social issues for the health of rural women.

Stories and biographies serve as an exquisite source for understanding the experiences and perceptions of work and health of rural women: "Work . . . becomes a concrete and vivid issue through qualitative methods . . . rural women's work is associated with strong sensuous experiences that come to life in biographical episodes. Sounds, smells, pictures, sensations that accompanied hard work, seem to be as vivid in the memories of women as they were at the time" (Inhetveen, 1990, p. 105-6).

Conclusions and Future Directions

This literature review has shown that physical risks, stress, and other psychological risks characterize the relationship of health and work for rural women. However, this review has helped to identify areas where research has not been done, and led to identification of needs for future research about farm women's work and health.

A theme in the discussions and research on the health effects of work for rural women has been the critical importance of the women's relationships with others. Husband support and other family relationships have been described as particularly significant for rural and farm women's health in relation to work. More in depth study is needed to strengthen these findings, and to promote understanding of these relationships for women and health care professionals working with this group. In addition, the importance of other relationships needs assessment. For example, what is the importance of support from others outside the family? The effects of other family members' work roles on farm women's health has not been addressed. For example, what is the effect of farming men's' off farm work roles on farm women's work and health?

Future research needs to address the health-work relationships for single women farmers. The research to date has focused on married women, and no work has been found in which the health or health and work situation of single women farmers was investigated. Many of the physical and ergonomic issues are the same, but there are other social and cultural differences which need to be examined.

Other health effects of women's work need examination along with the study of the effects of women's family, social, and working relationships. In particular, emotional, mental and physical outcomes of work for farm women need to be addressed. All of the occupational health factors identified by Messing (1992) need to be addressed for women in terms of their farm related work: (a) heavy physical and mental workload; (b) the consequences of women's relationship to the workforce in terms of their health, (c) effects on health of the double workday; (d) effects of work on sex-specific biology; and (e) ways to remove ergonomic barriers to women working in non traditional jobs

which have been designed for the typical male body. Risks and hazards for women in farm work are clearly related to these categories -- for example, reproductive problems from chemical exposure and heavy workloads relate to sex specific biology. Additional important areas for future research include:

1. The health implications of work in specific types of farm operations, as the work requirements and expectations differ in types of farming operations;

2. The health implications of specific on and off farm work role combinations, as the different types of work combinations may make a great difference in the effects of the 'double work day,' as well as in the longer term effects on health;

3. Women's perceptions of their health in relation to their perceptions of financial stability;

4. Women's knowledge and management of health risks and hazards on and off the farm, and their access to this information.

Social, economic, and cultural changes in rural communities have created unique stressors for rural women. The health risks and health promotion aspects of work for rural women in light of these changes need more investigation. For example, how do these hard working women promote their health? How do they access and evaluate health information? Do these women relate lifestyle and work factors to health status? If so, what are their perceptions of the relationships between their health and work? Bigbee (1984;1988) and Bushy (1990b) urge study of the stressors on rural women in comparison with urban women to preclude the generalization of urban findings to rural women.

In summary, the perceptions of rural women themselves about their workload, worklife, risks and benefits to their health and well-being have been

little reported. The effects of work on the health of rural Alberta women have been scarcely explored. Research using quantitative and qualitative approaches will yield information in understanding and meeting the needs of rural women in the cultural, social and economic contexts in which they live.

III. Methods

Study Design

A qualitative, exploratory design was used in this study. A qualitative approach was appropriate because little is known about rural women's perceptions of their work life and their health. It was the emic perspective -- the insider's view (Boyle, 1994), or rural women's perspective of reality -- that was central to this study. Ethnography is an effective means for gaining access to the health beliefs and practices of a culture (Robertson & Boyle, 1984). Questions of ethnographic type were used to explore aspects of the culture of farm women in central Alberta.

Sample

Farm women living in central Alberta comprised the sample. The initial recruitment methods for all participants were nomination, and advertisement in several rural community newspapers in central Alberta. Excluded from the sample were women who had resided on a ranch, farm, or small holding for less than two years, and women who had not had at least two children. Women who had worked in or were working in multiple roles, including that of parent, were sought.

Initial nominations were secured by the researcher from nursing colleagues who were farmers themselves or knew farming women in central Alberta. These colleagues were provided with copies of an information letter (Appendix A) and consent form (Appendix B) so that they could provide accurate information to prospective participants. One to two weeks after nomination, the researcher telephoned all nominees to ascertain their interest, answer their questions, and make appointments for interviews. All of these women became participants in this study.

Twelve women responded to the advertisement in the paper by calling the answering service number given in the advertisement. The researcher contacted these women by telephone, and any questions they had about their involvement in the study were answered. All women who indicated interest in participating in the study were sent an information letter and a copy of the consent form. After one to two weeks, the researcher again followed up to ascertain interest in participating in the study, and appointments for interviews were set.

Not all women who responded to the advertisement were able to participate in the study, due to the time and resource constraints of the investigator. One respondent, after much description of the goals of this study, volunteered to organize a focus group interview. Despite telephone calls by the researcher to follow up on this offer, this group never materialized. This group would have been a third focus group involving women from a geographical region not well represented by other participants.

Sampling decisions were made as the study progressed. Attention was given to representation from different age groups, types of farms, and different geographical areas of the central region of the province. Participants in the study were invited to nominate other women, and they were thoughtful about their choices. Unprompted by the researcher, they gave consideration to the representativeness of the sample. For example, one woman suggested a dairy farming woman because she thought that the perspective of a dairy farming woman ought to be included. In several other cases, women suggested older women because they credited them with valuable experience and a broad perspective that they thought would enrich this study. During the first group interview, the group noted that each decade between the ages of twenty to

eighty was represented. Data analysis was concurrent with the data collection, and the emerging findings influenced the selection of further participants.

Description of the sample. A total of nineteen farming women participated in interviews. Nine individual and two group interviews were held, with one group of eight, and one group of four. Two of the women who participated in individual interviews also participated in the group sessions. The youngest participant in this study was in her twenties and the oldest woman was in her seventies. The greatest number of women were in the 40 to 50 age range, and 12 women had lived on a farm for more than 30 years of their lives. The shortest period of time lived on a farm was two years. All of the women were mothers, and seven women had children living at home at the time of the interviews.

For three of the women, the highest level of education was junior high school, and for three others, senior high school was the highest level. Twelve of the group had attended college or university. See Table 1 for the summary of the demographic and background information of the participants in this study. Five women lived and worked on livestock farms, thirteen women were from mixed farming operations, and one woman was from a farm where grain was the exclusive product.

Data Collection

Demographic Data

Participants completed a one page questionnaire to obtain information that was useful in data analysis and ongoing selection of the sample. (See Appendix C). Information from this form provided background information about participants' age groups, education levels, types of farm, length of residency on a farm, numbers of children, responsibilities they had in caring for their parents or other dependent adults, and visits to health care workers within the past six

Table 1

Participant Characteristics

Characteristic	Distribution						
Age Range (Participants)	20-30 1	31-40 4	41-50 5	51-60 4	61-70 3	70+ 2	
Years of Life Lived on a Farm (Participants)	2-5 1	6-10 1	11-15 0	16-20 3	21-25 0	26-30 1	over 30 12
Years Lived on Present Farm (Participants)	2-5 3	6-10 2	11-15 0	16-20 3	21-25 4	26-30 2	over 30 5
Type of Farm Lived on Now (Participants)	Livestock 5	Mixed 12	Grain 1				
Number of Children Living at Home (Participants)	0 12	1 1	2 2	3 2	4 2		
Education Status (Participants)	No Response 1	Junior High 3	Senior High 3	College or University 12			
Additional Responsibilities (Participants)	Responsibilities for Parents 3						
Off Farm Employment (Participants)	Full-time 1	Part-time 5	Seasonal 1				
Income Is A Factor in Off Farm Employment (Participants)	Yes 4	No 3					

months. This information was helpful in understanding and interpreting data collected.

Individual Interviews

One data collection method was the individual interview. Ethnographic interviews with nine individual farm women were held. Interviews were tape recorded and were approximately one and a half to two and a half hours long, and most were held at participants' homes at times that were convenient for the participants. The researcher toured aspects of some farms to get a better idea of workplaces that had been referred to in discussion, and to take pictures of some participants and their work settings. At the suggestion of one participant, an interview with her was held in a nearby town, in her office workplace.

The interviews were free flowing, and the researcher attempted to be responsive to the information and cues provided by the participants. Some more specific questions were used to assist participants, if necessary, to share her thoughts and perceptions. (See Appendix D for sample questions). Several follow-up phone calls were made to participants for clarification of information they had provided, and several participants telephoned the researcher with additional ideas or clarifications they had thought of after interviews.

Participants were invited to draw sketch maps of their farm or acreage, or the routes they take to travel to work, to enrich their description of other information they chose to give. However, only one sketch was drawn by a participant, and this was drawn to give a fuller description of a near accident she had experienced in a barn while involved in farming work.

Focus Groups

A second approach to data gathering was the focus group, or group interview discussion. Two focus groups were held to validate, clarify and add to

data already gathered. Women who participated in individual interviews were invited to participate in a focus group, along with participants who had not been interviewed individually. Participants for the focus group interviews were recruited after the participants for the individual interviews had been found, and the focus groups were held before all of the individual interviews were completed.

An intergenerational perspective emerged from both focus group interviews, and additional richness of participant's perceptions was garnered from the exchange of ideas and perspectives. The questions for the focus groups were similar to those asked in individual participant interviews, and were refined in consideration of the data already collected. For example, through individual interviews, the researcher learned of the importance of different types of farms in work cycles, activities, and health implications. Questions in the group interviews were asked specifically to permit collection of more data and elaboration on these themes.

The focus groups were facilitated by the researcher. A research assistant was present at the first group interview with eight participants. The assistant assisted with room arrangements, did the tape recording, took notes, kept track of time, and provided a verbal summary near the end of the session. The purpose of this summary was to provide the group with the opportunity to make additions or changes to the information they had provided (Krueger, 1994). Name cards for each participant were prepared ahead of time, and used to indicate a seating plan. As the participants arrived, the researcher made subjective observations about the quietness of some participants. The name cards for these women were placed so that they would be seated across from the researcher, to promote better attention to their nonverbal cues and eye

contact to promote their participation. More outspoken women were seated beside or nearer to the researcher (Krueger, 1994).

Attempts were made to establish a comfortable atmosphere for both sessions, with great assistance from several of the participants. The first group interview was conducted in a room in a rural neighbourhood church, at the suggestion of one of the participants. This participant acted as hostess for this group of eight women, was helpful in nominating and telephoning other participants, and brought muffins and coffee for the group. The researcher took flowers for the table, to promote a pleasant atmosphere, and these flowers were given to this participant in appreciation for her assistance and enthusiasm. One woman brought her infant boy to the session, and although this obscured some of her discussion on the tape recording, his presence was unquestioned and welcome to all.

Another participant offered her home as the location for the second focus group of four participants. This woman acted as hostess and prepared refreshments for the group. Again, flowers were taken and presented to the hostess participant in appreciation of her welcome and preparation.

Signed consents were sought from all focus group participants. (See Appendix E). Both group interviews were tape recorded. Orientation to the planned process, to the tape recording, and plans for the use of the transcript were explained to the groups at the beginning of each session. For those women who participated in both individual and focus group interviews, separate consents for each type of interview were obtained. Field notes in relation to the focus groups were kept, and were written as soon after the sessions as possible.

Photographs

Photographs of some participants and their work settings or activities were taken, with consent, to provide more contextual information and detail about work tasks and situations. Photographs can obtain holistic documentation of life events and daily routines, and point out new areas for study (Leininger, 1985). Photographs may be able to provide accurate documentation of specific on farm and off farm work settings or characteristics that participants consider to be related to their health. Photographs also serve as valuable historical documents (Leininger, 1985). Participants in individual interviews, and those in focus groups were informed of the researcher's interest in taking photographs. Consent for the taking of photographs and future use of photographs was sought, and obtained from all but one participant. This consent included permission for publication of identifiable features (Appendix F). The reason for the decline of this consent is unknown. The number and types of photographs that were taken were limited by extremely cold weather conditions during the times of most interviews.

Data Analysis

Data collection and analysis occurred together. All transcripts, field notes, sketches, and photographs were analyzed inductively using content analysis. Taped interviews were transcribed verbatim, and field notes containing contextual data were completed following each interview and focus group to add to the richness of the data and data analysis (Rodgers & Cowles, 1993).

Following complete verbatim transcription of the interviews by a transcriptionist, the researcher listened to the tapes and checked the transcription, to ensure accurate recording of the data, and to make additional contextual notes. The transcripts, field notes, and photographs were reviewed to

identify and code central ideas, themes and inferred meanings (Field & Morse, 1985). Transcripts were photocopied, using a system of color coding. One copy was placed in safekeeping, and another copy was coded, disassembled, and sorted into categories.

Data was reviewed closely to identify similar words, phrases, incidents, and events that represented concepts within the data. These concepts were grouped and assigned to categories. The names of categories emerged from the words used by participants, or from the thinking of the researcher, and changed as they were refined and reformulated. For example, what had initially appeared to be categories of "why we farm," and "drawbacks to farming life," were joined to become the category "values about farming." Categories were compared with one another and with incoming data to determine the relationships of the categories to one another. For example, concepts within the category "values about farming" were compared to concepts within the category "we have a lot to offer," and a tentative relationship between farm women's values about farming and their perceptions of the value of their contributions to farm work was identified. Further analysis of current and incoming data was carried out to establish data support for the hypothesized relationships between categories.

The grouping and regrouping of categories was a gradual and ongoing process. The review of transcripts and the review of categories continued after the completion of all interviews, until all data gathered through interviews, notes, and photographs was considered to be included in a category. Throughout the study, the researcher discussed the categories and the relationships of categories to one another with thesis advisors, and colleagues for validation of the appropriateness of these categories in relation to the data

collected. Diagramming of hypothesized relationships between categories was an effective tool for analysis and discussion throughout the process of analysis.

Methodological Rigor

Credibility and Fittingness

Within the domain of qualitative nursing research, reliability and validity issues are more commonly addressed as efforts are increasingly made to ensure rigor in the research process (Sandelowski, 1986). An assessment of credibility, rather than internal validity, is the measure of truth of the qualitative research method and process (Lincoln & Guba, 1985). In this study, individual interviews were held in participants' home settings to enhance the credibility of the data. In addition, data analysis was continuous throughout the study, and any contradictions or other puzzling features of the data were further assessed (Robertson & Boyle, 1984). Triangulation of the data occurred through multiple data collection methods: individual interviews, group interviews, and photographs. Participants were invited to verify that ongoing and final findings did represent their reality. Three participants reviewed the final explanatory diagrams, and read the case studies. These findings were discussed with participants, and their ideas and feedback were noted. These participants agreed that these findings did represent their reality, and suggested that these findings and conclusions might be presented to other farming women as a useful framework for discussion and learning about their work and health.

Care was taken to manage a possible "elite bias" by valuing and reporting the input of all participants, not only the most articulate and accessible (Sandelowski, 1986). The researcher was alert for, and analyzed, negative instances of emerging categories and themes. For example, a prominent theme that emerged in findings was a positive attitude toward farming and the farming

life. Differing perspectives were expressed, however, and these were also carefully analyzed. Attention to the audit trail for this study assisted in acknowledging and controlling biases and assumptions of the researcher. A journal, kept from the beginning of the research process, included researcher thoughts, feelings, memos, notes, and diagrams of evolving hypothesized relationships between categories of data.

Fittingness, rather than external validity, is achieved when study findings can fit into contexts outside the study situation because they are grounded in the real experiences of the group under study (Sandelowski, 1986). To promote fittingness, the researcher's observations, thoughts, and assumptions about the culture and group being studied were discussed with colleagues and thesis advisors periodically to minimize researcher bias. Peer review of the coding and categorizing of data was sought, because of the highly subjective nature of the content analysis.

A particular concern with focus groups is the potential impact of censoring and conforming (Carey, 1994). In conforming, group members tailor their responses to agree with those of other group members, and in censoring, responses may be withheld because of mistrust of the facilitator, other group members, or future use of data. Attempts to minimize this impact were made by providing participants with a clear description of the research and plans for the data, and observing individual group member's patterns of responses (Carey, 1994). Attempts were made to encourage participation from all group members, by using a 'round table' approach, inviting each woman to respond, to introduce herself by giving her name, farming background, and type of farm at the beginning of each session. The researcher facilitated discussion and inclusion of all members by paying close attention to facial expressions, and other non

verbal cues that indicated women might want to speak but needed an opportunity or assistance to do so. The ability to do this was enhanced by having a second person available to manage the recording.

Auditability of the research process was accomplished by clear identification and documentation of research methods, and sampling and other decisions made throughout the study. The researcher kept an ongoing journal of personal ideas, reflections, thoughts, reactions, and decisions made throughout the study as an important part of a clear audit trail (Sandelowski, 1986).

Ethical Considerations

The consent form for participants included the study purpose and methods and explained the freedom of respondents to withdraw from the study or to refuse to answer questions. Following initial response to the advertisement or after nomination, potential participants for individual and group interviews were sent an information letter and copy of the consent form. Written consents were obtained at the time of the first interview. Consent for taking of photographs was also sought at this time, and participants were made aware that photographs that identify participants or provide identifying information about participants would not be published without the permission of the participant involved.

A benefit of participation was the opportunity for women to talk about their thoughts and concerns about their work life and health with the researcher, and with other women in focus groups. The privacy and confidentiality of participants was protected. Audiotapes and transcripts were kept in a locked cabinet and are accessible only to the investigator, and they will be stored for at least seven years. Any information that could be used to identify the participants was kept in

a separate code book to protect their identity. Several women, although they signed the consent form, indicated particular concern that their words and thoughts should be kept confidential. These women were assured of confidentiality, and special care has been taken in reporting study findings to protect the identification of particular women from identification of their work locations or situations. Names of participants have not been included in this document, and will not be used in any published reports. A summary of the final report will be made available to all interested participants.

IV. Findings

The women who participated in this study spoke readily and with interest about farming, their lives, and issues that affected their work and health. Participants welcomed the opportunity to explore their ideas about their work and health, and were appreciative of the interest of someone from outside of their communities. In the two group interviews, there was ready discussion about individual perceptions and perspectives, and willingness to work together to identify important issues and ideas in relation to their farming work and health. The women perceived their health to be "not bad," to "excellent."

This chapter includes descriptions of farm women's perceptions of their work, of themselves as workers, about health and being healthy, and the relationships between their work and their health. The women shared many stories, recollections and perspectives, and many of these are used to report the findings from this study. All names appearing throughout this report are pseudonyms.

An initial model of factors that appear to influence farm women's perceptions of their health has been developed. Four case studies drawn from the interviews with participants will be used to explain the model, by illustrating the relationships proposed in the initial model framework in the lives of four farm women.

Farm Women and Their Work

The perceptions of farm women about their work and health are inseparable from the social and cultural aspects of being a farm woman. Historical roles played by farm women on the Canadian prairies are influential in determining contemporary roles, responsibilities, and activities of farm women. Farmers have traditionally been viewed as staunchly independent and

resourceful, and women in particular have been regarded as strong, resourceful, and hard working on the family farm.

Farm Women

Farm women's work has been critical for the survival of the farm family business. Closeness of home and farm workplace has meant that women have been available to work as needed in both places. The women in this study described changes they have seen in farming, in the farming family, and in roles for men and women, yet they still described the roles of contemporary farm women to be critical for the survival of the farm family, and the farm family business. Laura shared her perspective on the effort that she saw being given by farming women: "The woman, period, takes the major role . . . so I think that farm women -- you have to give 120% all the time. You just have to in order to make it work."

As in urban and rural families, farm women were seen to strongly influence the life and health of the family. The women frequently referred to expectations that farm women should anticipate hardships, unexpected events, and will not only cope but will assist others to cope -- to somehow make sense of events. Clare, for example, saw farm women this way: " . . . farm women, I think, they're like a pillar of strength for that farm family. They have to deal with all this. They deal with all the ups, the downs and I think -- and how they deal with it, you'll see the health of the family from them." Helen agreed: ". . . and I do think that most women, they are the center of the family. I know in our household I'm the center of the family."

A difference between the role of women in farm families and that of most urban women might be seen in the extension of the farm woman's role to close daily involvement with the family business: the farm operation. The geographic

closeness of the farm worksite and the home greatly influenced work roles and expectations for work activities. Rachel summarized this expectation: "Women are just expected to be all around. They're expected to know how to do everything . . . . Run all the machinery -- work with the animals." Women's descriptions of their work verified that they were indeed "all around" workers.

Farm Work

The women were invited to describe the activities in which they were involved that they called work. In thinking about their work life, the women were encouraged to consider all aspects of their life, not only their life on the farm. Background data forms revealed that five of the women were employed part time off of the farm, and one was employed off the farm in full time paid employment. Of those who worked off the farm, four of the six women worked several days a week, one woman worked several days a month, and one woman worked only seasonally. Five of the women indicated on the background information form that they worked off the farm because this income was important for their family; two were working for reasons other than income, and two did not respond to this question. Husbands of four of these women also worked on and off the farm.

However, most of the work activities described in interviews were those activities undertaken on the farm or relating directly to farm work. Major themes in descriptions of farm work were work with animals, field work, running errands, doing farm 'books', making crop and farm management decisions, caring for children, preparing meals and running the household. A summary of the work activities described by the women in this study is found in Table 2. A detailed summary of the work activities of non farm work is not available, as this information was not offered by participants in their discussion of their work and

Table 2

Summary of Work Tasks Described by Farming Women

assisting with branding of calves	keeping crop production records
assisting with dehorning and tagging of new calves	landscaping
assisting with delivery of new calves	loading and transporting animals for market
babysitting	loading seed drill
bookkeeping for farm business	maintenance on apartment building
building and repairing fences	making marketing decisions
butchering and dressing chickens and turkeys	meeting needs of elderly parents
canning and freezing food	moving, positioning and running grain auger
caring for newborn calves	night checking of cattle
cleaning grain bins, barns	nursing employment
community work	operating a combine during harvest
coordinating family and farm activities/plans	operating tractor and baler to bale hay
driving and operating septic tank cleaning truck	painting and maintenance of buildings
driving grain truck	plumbing
driving tractors	preparing meals
farm and crop management decisions	raising children
feeding and watering pigs, cattle, horses	raking hay with tractor and implement
freezing colostrum	running errands
gardening	taking meals to field for workers
hauling water and fuel	tractor repair
herd management and breeding decisions	trapping moles
housekeeping	treating/observing sick animals

work roles. The off farm work activities described were working as health care professionals, driving and operating a 'honey wagon,' or septic tank cleaning truck, assisting husbands with custom farm work, caring for older parents, participating in community organizations, and babysitting for others.

A typical day's work. A typical day of work for farm women in this study varied because the women lived and worked on different types of farms. The type of farm made a great difference in the kinds of activities undertaken, as well as the types of stressors and health hazards perceived by participants.

Annual cycles of work differed, according to types of farm. For example, some women lived and worked on grain farms, where the intense periods of work were during seeding of crops in the spring, and harvest in the fall. Others worked on livestock farms where the intense periods of work were during calving in the very early spring, and haying season in the summer. The farm type influenced the structure of off farm work as well. For instance, holidays were sometimes taken around the cycle of farm work. Janice, for example, worked with her husband and father in law in the operation of a cow-calf livestock farm. She also worked off the farm and took her vacation over calving season, so that she was available to help. Janice loved farming, and said there was "nothing else she would rather do," than farm. She saw no hardship spending her vacation time this way.

For farmers like Janice, typical activities during calving season, would be attending to expectant cows, assisting with calving, feeding cows and new calves, and health surveillance. Newborn calves require protection from the cold, ear tagging, feeding when required, and observation. Janice described a typical day during calving season:

> . . . take yesterday. . . we decided we'd catch up on the de-horning, the tagging. . . . I'm holding the calves and he's putting the de-horning (substance) on . . . we both catch them and throw them down and do it. . . If a cow is having problems I go down and help him bring it up. And cold weather we do lots of feeding colostrum (to newborn calves) . . . and we'd go down and dry the ears off and warm them up . . . we were putting these moo muffs on their ears (little ear muffs for the calves) . . .

In contrast with livestock farming, grain farming involves intense periods of work during crop seeding in the spring, and harvesting in the fall. Grain farming typically involves the use of large machinery: tractors, combines, grain trucks, and other implements. Typical work activities for grain farming participants were filling seed drills, cleaning grain bins, transferring grain from trucks to bins by the use of augers, combining, and driving grain trucks during harvest time. Many grain farmers also raised livestock, usually cattle or pigs.

Pig farming requires continuous programs of feeding, breeding, farrowing, and transporting pigs to markets. Florence described a steady output of effort all year round: "See, with pigs you don't have your calving or your little ones born once a year as you do with cattle. They come every day. And so that means you have a continual cycle, right, with baby pigs right on up to finished pigs all the time. And so it's a continuation." Much of the work with pigs is done indoors, in large ventilated barns. Typical activities were injecting piglets for immunization, feeding, weighing, observing for health problems, and cleaning barns.

Farm Women's Perceptions of Work and Themselves as Workers

As the women described their daily work activities, and the cyclical and seasonal changes in work on the farm, they shared many perceptions of their

work, and of themselves as workers. Both categories of perceptions were related to women's descriptions of the value they placed on farming and the farming life, and to their perspectives on their personal relationship to farming.

Farming: Differing Values

Participants shared different ideas about the value of farming and the farming life, and these perspectives colored their perceptions of their work. For some, even with hard work, stress, and uncertainty, farming provided an ideal and loved setting for their work and family life. For others, farming life was seen as unhealthy, lonely, dangerous, and foreign, although they thought they had manageable workloads and good relationships with their husbands and family.

Valuing farming more. For those who valued farming, the independence of the farming life was a strong theme. This was particularly mentioned by single farmers, and married women who took an active role in farm work, and could easily describe their work activities. Single participants, in spite of descriptions of hard work and risks in farming alone, praised the independence they enjoyed in being farmers, and in farming their own way. Florence, who established a pig farming operation after her husband left her with their three children, expressed the relief she felt: "He was a poor manager . . . I got along a lot better because I didn't have anybody to argue with. And I just did whatever I wanted to do as long as it was viable."

Important advantages of rural living over urban living were identified. An urban lifestyle was perceived to be one where one's work, personal and family life would be compartmentalized, resulting in a fragmented, disconnected life. However, rural living was seen to provide a sense of wholeness, and personal connection with the natural environment and an extended community. Patterns

of continuity of life, birth, planting, and harvest were personally meaningful, and valued by women. This was described by Ellen:

> "I like the cause and effect of farming. I don't like to be as far away from cause and effect as a city person sometimes is. . . . And farming is . . . total. If it's a good day or a bad day on a farm, it's still the farm. Where in the city, it just doesn't happen. If it's a holiday, you don't go to work. That part of your life isn't even happening. . . . here I know the land and people and the community . . . everything matters."

The beauty of nature, love for animals and birds, and the lifestyle of being involved closely with the land were also reasons for love of the farming life. Sue valued working with animals as well as working with the land: ". . . working with the animals is something special. . . . working with the land is, too. It gives you the same feeling, almost, as watching kids grow."

"Homegrown" food was identified by some women as an advantage of farming. It was considered to be healthier, and the knowledge that the family had its own beef or poultry, and vegetables was seen as "security" for times when income was scarce.

Those who described a real enjoyment of outdoor work disliked housework. However, work preferences were not all together organized along what might be seen as typical masculine-feminine dimensions, where women's work centers in the household, and men's work is centered in farm work and the outdoors. In fact, those with children seemed to see roles in production related farm work to be compatible in many ways with the roles of mother, and homemaker. The women felt able to move quite easily between aspects of their work environment, when they were not worried about the health and safety of their children. For Rose, farming was compatible with child raising because of

the opportunity for her to be at home when the children were home: ". . . this (February) is really quite a relaxing time of year. The kids . . . come home from school and you spend time doing homework and doing music and by then it's supper . . . then we go out and do chores in the evening." Joan agreed:

> "That's what I like about farming, we can all work together as a family . . . I would not like to raise my family, not even in a little town . . . there's that -- the evil drawing them . . . if they want to go out and chase a frog, (on the farm) well, that's fine. It's a healthy place to live and work."

Valuing farming less. However, farming as a lifestyle was not seen by all to be comfortable, fulfilling, or even healthy. Rachel expressed ambivalence about her place within farming. Although she did farm work daily, she seemed unsure of her farming ability, and felt anxiety in relation to her competence. She placed little value on the contributions she did make, and expressed admiration for female farming neighbours whom she saw as working competently and as making important contributions to their farm business. She stated that she felt self conscious about being interviewed about her work roles as a farmer, because she felt that she did not "do enough", competently enough, to "deserve attention" drawn to her because of these roles.

Laura felt disappointment in the farming life. Drawing from a traditional conception of farming as an idyllic country life, Laura's expectation for the farming life had been:

> . . . romantic . . . that it (farming) was a lot different than it actually is. I thought it would be . . . that old family unity and you'd go and you take the men their supper in the field and you sit around and eat. It's not like that. You throw them their meals and if they actually have two minutes to stop. There's nothing. . . they're so pressured because of the weather . . .

Feelings of guilt accompanied the expression of ideas about farming that were not positive. For example, Laura, stated that she saw the farm as an unhealthy place to live, and said "all the farmers would shoot me for saying that!"

The Personal Self in Relation to Farm Work

Although most of the participants found some fulfillment in farm work, their identities were not entirely contained with the roles of farm worker, mother, and homemaker. Women spoke about their own ideas, needs, and goals, but often found that these did not always receive their attention because "the farm comes first."

"The farm comes first". The women described expectations held by others, usually husbands and farming relatives, that farm women ought to place farm interests first in their lives. Sometimes their expression of interests beyond the farm was regarded with suspicion. For example, Ellen was working part time off the farm when she married, and her mother in law feared that her daughter in law would abandon her husband and the farm:

> His mom particularly didn't want me to keep on working because she had said to him -- 'if she's got her own income she's never going to stay with you on the farm.' I'd be off doing my thing. . . . It would split up our marriage is what she felt. And I thought it's not going to.

Most of the participants thought that their personal self was often subsumed by their work, and personal needs and aspirations were subjugated to the needs of the farm and the demands of work. These women felt that their individuality could be easily absorbed by the constant presence of work to be done, mundane chores, and the tyranny of the farm work. Laura, in speaking of her goals in relation to her art work, said "you have to be disciplined in order to

get ahead. And, on the farm, I think there's always something, especially at busy times, that no matter how disciplined you are, something comes up that takes you away from it."

Personal cost. Satisfaction with farm work and off farm work roles was related to having chosen those roles. This was true for Hazel: "But the big thing too is that you chose to do it. I found as soon as I choose to do (something) I feel much better about it because it's my choice."

For some who chose the farming life through marriage, the choice was seen clearly as a personal choice, but this choice was made with a high personal cost. This was true for Laura: ". . . I mean in this world you're supposed to love yourself first. But I think farm women have to love their husbands first . . . I think that's the real truth of it . . . maybe it's just me, but it seems . . . you have to give up a whole lot to be here." For some women, independence, having a career and opportunities for education were lost, at least temporarily, because of living on a farm.

For some, entering into a farming family and farm business through marriage was stressful. There was culture shock, little support, and a feeling of being an outsider, or stranger:

> It was their farm first. And that kind of made some difficulties. . . I was the stranger that came in. And I sort of felt like that. And to start with, R. would sell cattle or grain or whatever and he'd roar over to their place and tell them what he got for the prices on every thing. And I felt . . . I'm supposed to be part of this. . . the truth was that I was less part of it than he was. Like I could certainly see his side and their side but I said, you know, this sort of hurts my feelings.

The mothers in this study frequently acknowledged and respected their own children's preferences and dislikes for participation in farm work. They referred to some children's natural affinity for farming, and the avoidance of farm work by others.

"The work's never done." A strong theme about work was that work was "never done"; "you're on the go constantly." The amount of work to be done was viewed in different ways. Florence worked hard, usually alone, but thought never ending work was a characteristic of an interesting and useful life: "I don't have any regrets . . . I think mentally, we're better off . . . cause when you get up in the morning you don't think, now, what am I going to do today? You just think, which thing do I do first?" Farming women wanted to know what was going on in their farm businesses, and to have input on their farm. This took effort, as described by Joan:

> For myself, I find I have too many things to do. I can't keep up, but I don't want any help. And maybe I have to give in and, say, get a housekeeper, get a bookkeeper. But I want to do it myself cause I want to know what's going on.

The constancy of work was not always related to farm work. Visiting, checking on, and caring for parents was a responsibility of some women. This responsibility was sometimes shared by men. Volunteer work, such as teaching Sunday school, or reading to schoolchildren, and community work were activities for women in this study. One criterion for determining whether these activities were work or not seemed to be enjoyment of the activity. Some women took part in these activities because they thought it was important to take one's turn in helping out in their communities.

Off farm work. Work off the farm was enjoyed by some because of the break from farm work and farm concerns, enjoyment of the type of work, and the income created by their off farm work role. For married women, off farm work roles were seen to be compatible with their farm work and the daily pattern of life on the farm when their husband helped with care of children, did household tasks, and paid attention to the wife's needs for help or rest. For Clare, this worked well: " . . . if I'm working the weekend I'm working evenings, he'll let me sleep in and he'll come and get me and he's got breakfast all made. And the floor has been swept . . . ."

Off farm work brought satisfaction for some because of the opportunity for involvement with others, away from the farm, and this brought a sense of "balance" to their life. For other women, off farm work was enjoyed because it was farming related work, as with Janice, who helped her husband in custom hay cutting and baling for other farmers.

"We Have a Lot to Offer"

The women gave thoughtful consideration to the contributions that they saw themselves making to their families and farming businesses. They described key roles in coordination of family life and in the relationship of family life to the farm: ". . . I guess I make things run smooth . . . You have to be available for the silliest of things. For, you know, bringing out water or rags or whatever." Their role involved management skills. Rachel said that she tried to "keep everything pulled together. Try to keep a step ahead and knowing what needs to be done next." Although the women recognized the value of these roles, and the effort they took, Rachel expressed the thought that to others it "might not seem like much. There's a lot more behind the scenes."

"Third man in." For those who were married, the husband was regarded as the primary farmer, and most of the women described their role in relation to farm production to be one of helper, or being 'on deck', just in case her help was needed. If women's husbands or other farm workers had emergency or seasonal responsibilities, such as haying or harvesting, then the women filled in by feeding animals or doing other work to make sure all routine work was done. Amy, from a mixed hog and grain farm, described this helping role as "third man in": "There's always mowing to do . . . painting and keeping buildings up. . . . I tend to fill in and do the odd jobs. I'll do the tractor driving . . . go to town for parts. . . . my role really is the third man in." However, the "third man in" description of work might permit an underestimation of the value of farm women's work by others. In fact, the adaptability and flexibility of the women in this study permitted farm operations to meet objectives and deadlines, for example, commitments for milk production and grain sales. Amy, like many other women in this study, considered herself a farmer.

Women's particular skills. Women also brought particular skills and talents to the production aspects of their farming operations. For example, women talked about the ability of women to make keen and accurate observations about the health of animals, or to intuitively recognize problems unnoticed by men. Helen, a grain farmer, talked about this:

> "Well -- actually women they say are quicker to notice problems in the feed lots or with animals. Quicker to detect an animal that maybe is not feeling well. And maybe hear little noises too in the tractor or the combine or whatever. . . . Sometimes I can pick up those kinds of things quicker than he can. Sometimes I'll mention something about an animal and I'll

say look at it and he'll say, no, it looks okay. But then you give it a day and a problem probably would show up."

These women also saw themselves to have a different and effective approach to working with animals. They felt that many men take an aggressive approach to working with animals that is upsetting to the animal. Florence, a pig farmer, described her approach: "Really, they're (pigs) very gentle. And it depends how you treat them that's how they're going to react . . . if you're gentle and you talk with them . . . tell them little stories every day and this sort of thing . . . they don't fight."

Farm women were seen as generalists. Clare saw farm women to have a "wealth of knowledge," which was largely "self taught," and described a plethora of areas in which farm women were informed: " . . . farm women really know the market . . . what crops should go in . . . they know fertilizers, they know a lot of veterinary medicine. A lot of them know a lot about banking, grant systems . . . how to deal with government. . ." Farm women's knowledge in these areas seems to be learned and used in informal roles, usually associated with supporting and helping others.

"We're Farmers, Too"

Although the theme of "helper" was prevalent, most of the participants regarded themselves as farmers, and thought that they ought to call themselves 'farmers,' instead of 'farmer's wives.' They thought that attitudes by farming women themselves have changed. Farm women have begun to acknowledge their skills, interest, and hard work, as seen in the following excerpt from a group interview:

Amy: But even calling ourselves farmers -- its now coming that women are calling themselves farmers. They used to be farmer's wives. And yet

they did the turkeys and the chickens and they milked. Now they're saying, 'I am a farmer.' So, I think the attitudes are changing now and we're taking pride in what we do.

Hazel: Taking ownership in who we are and what our work is.

It appeared that the title of farmer would raise the status of their work in the eyes of others, as well as in their own eyes. Rose: " . . . being acknowledged (by) others . . . does a great deal to how you stand up to others."

There was a perception that non farmers thought the idea of a female farmer was laughable. Rose shared an incident in her life:

Well, if you've never had anybody say to you, what do you do? And you say, I live on a farm. I raise children. And, they say, yeah, but do you work? (Laughter) . . . one time I put down that I was a farmer on a form at the hospital and they laughed. They thought it was funny. And I said I am. And that was before my husband died. But I felt I was as much a farmer as he was and he did too.

The title of farmer was not reserved for only those women that work with machinery, and in other traditionally masculine roles. Louise: "I think the woman who even just stays in the house and cooks for the hired men and cooks for the family and probably raises a garden has -- she should call herself a farmer as well." Hazel agreed: "Because she's just as important a partner. If they didn't have three meals a day they wouldn't last very long!"

There was recognition that not all women were considered as partners in their farming operations, and Gladys noted that women who were partners were "lucky": "It takes everybody to make a go of it. You're among the lucky ones though if it is a partnership because you can bet there's a lot of farmers and the wife is not treated as an equal." Several women who were ambivalent about

farming and their place within farming, did not or had not considered calling themselves 'farmers.'

Role changes women have noticed. As the women reflected on their decision making and their roles as farmers, they made comparisons between the way things used to be and the way they are now. Change in the work roles of men and women in caring for a farm and family was an important theme.

The women acknowledged an increased willingness of men to share in household work and child care, and more acceptance of women's participation in production roles usually occupied by men. It appeared that, perhaps because of a slowly changing regard for women as farming partners, it has become more acceptable for married women to even be seen working alone outside, as described by Betty: "I've noticed in the last three years . . . my husband is more ready to go in if I want to finish up something. He'll go in and start something or whatever -- more so than he had -- like, ten years ago." Helen agreed: "It's more accepted. Like, you don't feel like if anybody caught you doing anything outdoors, it was like he'd (husband) died or something."

Technology was seen to have been an important factor in changes in work roles for men and women on the farm: "And I think years ago because the farming was so physically hard and you didn't have the washing machines and the running water, so the jobs were very differentiated. Now that isn't so much." The technology that has permitted modernization of farming methods and mechanization has increased women's agricultural work activities, as well: "Women are taking the farming jobs and the men, I think, are much easier at coming and doing the other . . . it's changed because of our modern conveniences."

Younger farming fathers were seen to be taking on and occupying very different roles than their fathers, in relation to running of the household and child care. The women took a broad view of these changes, and saw role changes for farming men to be a reflection of larger societal change, as expressed by Gladys: "But that's not so different from an urban or town person. The men are changing too. Society has changed them." During one group interview, the women joked about needing a 'wife' to care for them, make supper, and so on, because they were so busy, and Gladys noted the same point of view expressed by an urban woman: "And when you said that you could use a good wife, I have a friend in town that works as a teacher and she said that she would just love to have a wife, too!"

It appeared that needing a "wife" was a comment on a widely accepted view that men, as primary farmers, have a legitimate need for support, while women carry major responsibilities but are not seen to need specific support in their work roles. Within this view, farmers are seen to have a more legitimate need for support because their work is primarily directed toward economic production, and so has more status. These women noted changes in work roles for men and women, with mechanization as a major influence in permitting women to participate in farm production work. However, these women recognized women's needs for support and help in farm production work, and in traditional work roles in house and home. They perceived that women's ability to balance home, housework, and farm production roles has not been matched by a similar ability in men.

Perceptions of Health and the Relationship Between Health and Work

Perceptions of Health

Perceptions of health and being healthy were strikingly multidimensional. A strong theme was the interrelationship of mental, emotional, spiritual, and physical aspects of one's life. Central themes were having a sense of balance, having a well rounded life, the importance of mental attitude, and personal responsibility for health.

A balanced life. A healthy person was considered to be one who lived a full life with different interests. If one was healthy, they would have energy to participate in all aspects of their life, not only work. For Ellen, being healthy was having "balance . . . time to enjoy my kids and my mountains and my calves and my everything . . . It's a rounded life is what health is to me."

Health was described to be deeply personal, in that it was related to locating one's own values and beliefs, and reaching a 'fit' between values and beliefs and circumstances outside of oneself. Happiness within oneself, and finding congruence between the inner, personal self and one's circumstances and environment was important in descriptions of health. Eleanor described this:

> Well, I think it (health) comes from inside. I think that a person has to be happy within themself . . . And then your outside conditions can contribute to that happiness . . . you have to develop a certain amount of spirituality within yourself. You have to develop your . . . belief system and your value system. And then your outside.

This idea of health as a good fit between 'who' one is and 'where' one is was expressed differently by Janice: " . . . a healthy person involves not only physical health, being well . . . but also a mental attitude. And in my mind if I'm

healthy, then I'm feeling good about where I am and who I am." Self esteem was very important for personal health.

Mental attitude. Mental attitude was seen as a primary factor in being healthy, as expressed by Laura: "I think your health, number one, evolves around your frame of mind. So there's that and then your physical health." The prominent theme of the importance of mental attitude as a determinant of health recurred in descriptions of personal health. Ellen shared her self understanding: "I'm basically a healthy person . . . I know that I kind of stack things up and I'm the kind of person that wants to smooth everything over and make the kids run smoothly with dad, with the neighbours, with everything. So, I keep stuff inside and I -- it's just me."

"When you're busy, you don't notice." Several older women remarked that they had not given much thought to their ideas about health. For Helen, health was primarily "mind over matter," and "when you're busy, you don't notice." When asked what makes a person healthy, Helen responded: "Oh, it's attitude. Mental. Your mental outlook also affects your physical. . . . I probably could be -- have myself sitting around all day doing nothing because I have arthritis. But I just ignore it and carry on." Helen had arthritis in her joints, particularly her hands, but she did not connect this condition with work she had done in the past.

For some older women, being healthy was being busy, and it appeared that if one was industrious, one was healthy enough. Florence:

> I don't have time to think about it. . . . But I'm healthy. . . . people would ask me, what happens when you're sick? I don't get sick. I think positive. There's no time to be sick. And most of it, a lot of it, (pointing to head), is in there.

For these women, enjoyment of independence was central, and it was important to be continuously looking ahead to the next activity. Florence felt that her energy level was decreasing, and that advancing age, not work, was responsible.

Personal responsibility for health. The ideas of personal responsibility for health and internal control were prominent in perceptions of health. Being healthy was a decision. To be healthy, one needed to decide to find meaning and happiness within oneself and one's life: "Your life is what you make it, whether you're a city person or a farm person."

Health seemed more likely to be achieved when women had a hardy, "courageous" attitude toward the unique circumstances of their lives. Hazel: "So each one of us has these certain things that we have to, well, I guess accept, and then overcome." The following exchange from a group interview describes this hardy approach in another way:

"If you hit your finger with the hammer you still got to milk the cow!"

"Even if it hurts!"

Self care, and paying attention to oneself were important ideas as the women elaborated on their ideas of what people need to do in order to be healthy: "Health is taking care of yourself. Fresh air. Good eating. Try to reduce stress in your life, which is getting to be too much for everybody." However, caring for themselves was difficult for some because of constant demands on their time, and little or no time to assess and plan how to meet their own health needs. Frequent comments women made about putting others' needs before their own health needs were summarized by Sue's comment:

> . . . you're used to putting everything aside and making sure that all the bills are taken care of first before yourself. It's really not a healthy state of

> mind or body. . . . You're always draining yourself to see that everybody else is supplied with everything. It's physically and emotionally and mentally draining.

A prerequisite for such self care, however, seemed to be self confidence in one's place within farming, and within one's farming operation. This knowledge of self worth gave women confidence to recognize that their personal health and health promotion were important, because their contributions -- mental, physical, emotional, large, or small, -- were important.

Women's descriptions of their own health at the time of the study ranged from "not bad", to "fair", to "good" and "excellent." One indication of participants' health care seeking behaviour was sought by asking the women to indicate, on the background information form, visits they had made to health care professionals within the last six months. Results from this questions were that they had consulted doctors, dentists, a nurse, massage therapist, reflexologist, herbalist, physiotherapist, and counsellor. Table 3 shows the numbers of visits to each category of health care worker. Six of the visits were made for short term problems, and five were made for ongoing problems, and two for both types of health concern.

When the multidimensional descriptions and beliefs about health were considered, the relationship between health and work was very significant for the women in this study. A healthy life was described as one that was active, enjoyable, and balanced. For women in this study, there was a close interweaving of farm work, home work, and social life. Health was more likely to be found when a woman decided to find meaning and enjoyment within current

Table 3

Summary of Health Hazards and Risks Identified by Farming Women

accidental injection/needle punctures with preparations intended for animals	lifting heavy objects
agricultural equipment overturns	noise from pig barns
air quality	noise from tractors
augers	pesticides and other chemicals
back, neck, and shoulder problems related to tractor driving	poor lighting
climbing up grain bins	poor road conditions in winter
cold weather	power lines
exposure to hantavirus	power take offs
exposure to methane gas	propane used to heat branding irons
falls	risk of injury from bulls, and newly delivered cows
fatigue	risk of injury from cattle during de-horning
gases from manure pits	slippery footing -- ice outdoors, wet floors indoors
grain, yard, and barn dust	sun exposure
heat and sun exposure	unfamiliarity with machinery operation
isolation	working alone

work and relationships The women who valued farming perceived themselves to be healthier than the women who valued farming less than they did.

Perceptions of the Relationship Between Health and Work

Participants perceived that their health was or could be promoted through their work roles and activities, yet the health-work relationship was also seen to be fraught with stressors, health risks, and hazards. For the purposes of this research, hazards were considered to be factors that had the potential to cause physical harm, and stressors regarded as worrisome factors over which women had little control, such as the unpredictability of weather and market conditions.

Working relationships were a third important influence in how women perceived relationships between their work and their health. The most influential aspects of working relationships were communication, perceptions of respect and recognition, and participation in decision making.

Health Benefits of Work

Farm work was often seen as health promoting because of opportunities for fresh air, physical activity, fitness, sunshine, and companionship with family and others. Such opportunities were seen to promote physical strength and fitness, but also promoted the sense of "balance" the women described in their ideas about being healthy. For example, in a walk to the field to check the cows, Janice saw an opportunity "for a walk, fresh air and just time together." Clare, a nurse, found comfort in "just walking among the cows, knowing them, it's comforting . . . and stress relieving especially after a hard shift . . . ". Many of the women thought that their outdoor work made their muscles strong, and some noted cardiovascular fitness from their work. However, the need for purposeful health promoting activities was not disregarded. For example, Louise asked the

group: "I wonder how many of us do something deliberate, on a regular basis, to promote our health?" Few women were involved in physical exercise programs that were independent of their work.

Health Hazards

Different types of farming work and different environments gave rise to different hazards. However, the work environments for these women were not static, as farm work and farm related work took place in barns, sheds, fields, corrals, trucks, and, even, in town. The women in this study described many risks and hazards they saw in their work environments, and also shared a perception that women's bodies are particularly disposed to particular hazards and work related health problems. A summary of the risks and hazards identified by the women in this study is found in Table 3. Predominant themes in discussion of hazards were work with animals, working with machinery, exposure to chemicals and toxins, dusts, and air quality.

"A woman's body is different." Observations were made about differences between a woman's body and a man's which place particular risks and stresses on women in the course of their work. Although the engineering and manufacture of machinery has begun to change in ways that accommodate the female body, this group of women considered agricultural equipment to be dangerous for women, since it was designed for men. The attachments were too heavy and the controls out of reach. Rose commented on the height of her tractor: "I have to *jump* into my tractor. It's way too high for me to just get in like a long legged man. . . ." Design of machinery by women, for women, was suggested as a solution.

A serious concern was damage to joints and muscles by lifting weights that were too heavy for them. Carrying two five gallon pails full of 'chop', or feed

for cattle (See Figure 1), or machinery attachments were two examples of heavy weights. Several women connected lifting and carrying activity in the past with joint pain and arthritis they were experiencing at the time of this study, as expressed by Florence: "Work doesn't hurt a person but the lifting does." Sue worked physically very hard in farming for eleven years, and her experience prompted her to compare women's physical capacities with those of men: "Women's joints are different than men's anyways. And, so that physical weight, like, it has, it's deteriorated the joints and pulled on muscles. Like, you just don't have that masculinity like men do . . ." Sue connected painful back, hip, and knee problems with past treatment of her body as if it were a machine with replaceable parts: "It's like wearing down a piece of machinery, when the pulley breaks or the U-joint breaks you replace it. But you don't do that with your body."

Work with animals. There were health implications for the family and for women in seasonal bursts of work, as for cow-calf operations, when much of cold February and March were spent in helping with calving, caring for newborn calves, and observing new mothers. Some of the hazards for women involved in this work were sleeplessness and interrupted sleep because of the need for round the clock checking on expectant cows, exposure to freezing temperatures, and possible injury from attacks from protective bovine mothers. (Figure 2). There was strong agreement about the need for caution in working around bulls, and cows with new calves, and many women had sustained back and chest injuries from cattle. Janice shared such an incident in which she sustained broken ribs: " . . . she (cow) just instantly turned on me . . . she had me down in a second . . . and she just kept butting her head on my back and whatever . . . and she would circle me . . . I could feel her breathing down my neck."

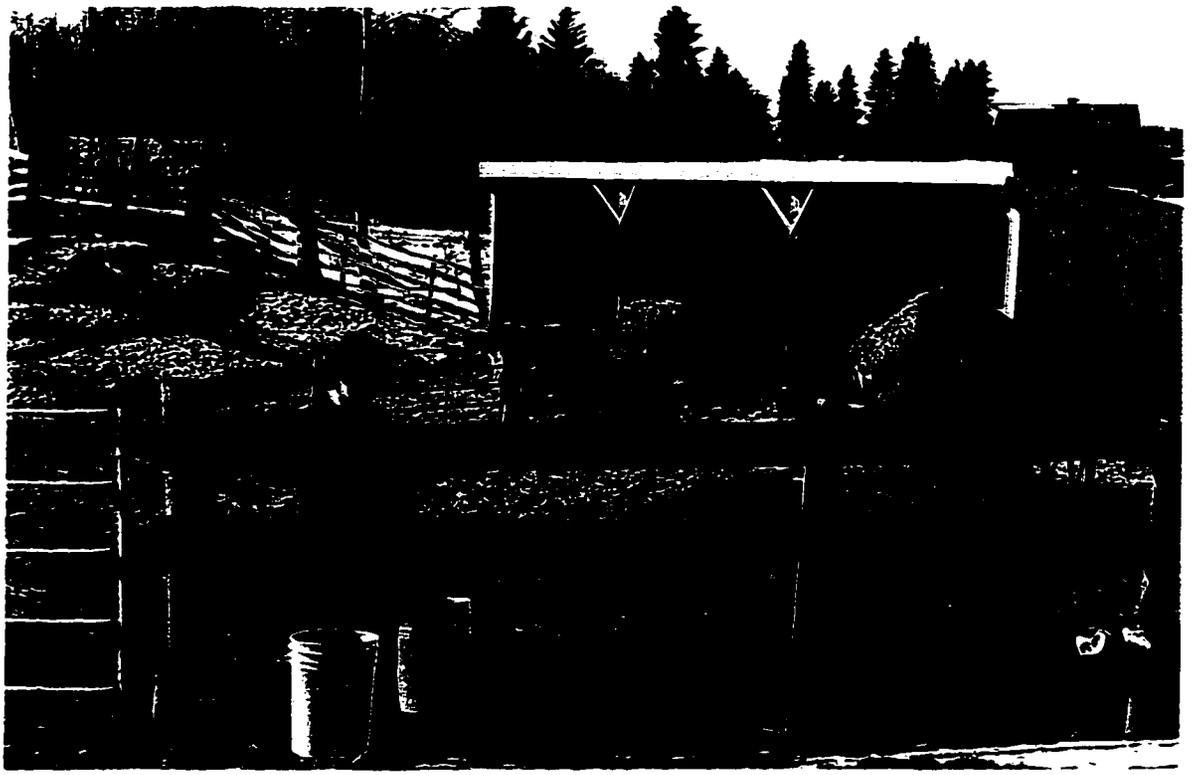


Figure 1. Five gallon pails are heavy when filled with feed or water.

Figure 2. Cattle are larger and stronger than people. Bovine behaviour is not always predictable.

Women told of incidents when they thought they had made good decisions, as well as poor decisions in relation to their health and safety. They spoke earnestly about the need to learn from mistakes. When Clare, working alone, approached a bull who was worrying a new born calf, she went over and 'swatted' him. She thought the bull would stop; but, instead, he turned on her, butted her with his head, knocking her into a fence post. Her back was injured, causing pain and some disability for some months. Common practice for the women in this study was to obtain help before entering situations they perceived as dangerous.

Machinery. Grain farmers use more machinery more often than other types of farmers. Particularly in field work, grain farmers are at risk for machinery related accidents, such as machinery tipping or rolling over on hills or uneven ground. Women in this study were well informed about these risks, and managed by having another more experienced operator drive over uneven terrain if they felt unequal to the task. Grain farming women described activities such as cleaning grain bins, filling seed drills, operating tractors, combines, balers, grain trucks, and climbing up and down grain bin ladders to position augers. Figure 3 depicts different sizes of grain storage bins. These activities brought dangers of falling, inhalation of grain dust, and being caught in spinning shafts of augers and power drivelines that connect implements to the power source of the tractor. Figures 4 and 5 depict the use of a grain auger in moving grain from a truck to a feed bin, and Figure 6 pictures the dangerous spinning shaft.

The harried business of seeding and harvest brought particular health and safety risks, as well. Women who were assisting with seeding and harvest often operated machinery that they had not operated for a year, since the last

Figure 3. Grain storage bins with ladders that farmers climb for access to the top for positioning augers.

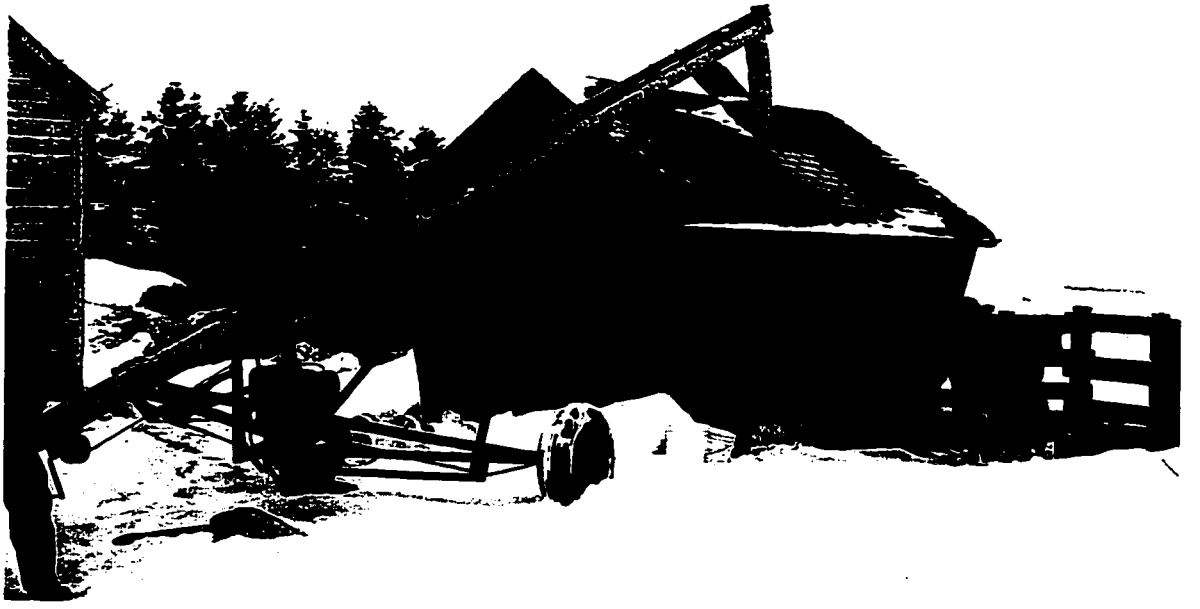


Figure 4. A grain auger transfers grain to a feed bin for cattle.

Figure 5. Grain is transferred from a truck to a storage bin by an auger.

Figure 6. An auger is powered by a motor, and the spinning shaft can be extremely dangerous.

seeding or harvest time. This unfamiliarity posed a hazard for Ellen, and for other travelers, when she was moving grain across a busy highway: ". . . I'm not very good on a standard shift so I have to . . . practice . . . then go like a bat out of wherever to get across (the highway) . . . I'm always scared I'm going to stall in the middle of the road."

Women used machinery in other types of farming as well, to transport animals to market, move animals' feed and bedding, transport equipment and supplies, to cut and bale hay, and do other work around the farm. A related concern was muscle strain, tension and stiffness from maintaining uncomfortable positions for long periods of time. For example, Hazel experienced serious neck, shoulder, and back stiffness and pain from sitting looking behind, over her shoulder, while driving the tractor in field work. Another concern was noise from machinery, particularly from tractors.

Dusts. Dusts differ on farms. Pig farmers expressed concern about dust and air quality in pig barns, and dust from hay was a concern for those with livestock. Zoonoses are infections of animals that can be communicated to humans, and were another concern for livestock farmers.(Figure 7). Grain farmers were at risk for respiratory disorders caused by grain and other dusts, chemicals, and moulds. Several women were limited in their work on the farm because of allergies. Interestingly, several women had allergies as children on the farm, and participated little in farm work. Yet, as adults, they have found the allergies more manageable.

Chemicals. Few of the women were involved in use of pesticides and fertilizers, as they did not have the expertise to handle this work or this task was done by husbands or professional sprayers. One woman felt she should be more vigilant in taking precautions such as wearing a mask when working with

Figure 7. Pig farming is often done in large barns. Zoonoses, animal infections that can be communicated to humans, are a health risk for livestock farmers.

Figure 8. An isolated road in winter.

herbicides, and thought taking care with chemicals is a problem because " it's one of the hazards that's invisible . . . you can't see the results of a herbicide so you tend to be not as cautious as you should be . . .".

Concerns about poisonous gases were expressed. Florence, a single pig farmer, described an instance when she was exposed to methane gas from a manure pit, or lagoon: "I pulled the plugs . . . the wind was blowing just right that day that the gases from the lagoon were coming back up the pipe and into the barn . . . I started getting weak. You don't smell anything." There was additional concern because she was alone, and thought that no help would have arrived for hours if she had become unconscious. Working alone was a safety concern for single farmers, as they worked long hours in varying circumstances, and others did not necessarily know their work schedules. If they were ill or injured, there would be long delays before receiving help.

Air quality was a concern for several women who farmed near gas plants or 'flare pits.' Janice noted an increased number of dead trees, and occasional "yellow ash" that would float through the air onto hay for the cattle. She reported an increase in the abortion rate in their cows, and stated that she and her neighbours had noticed and increase in the tubal pregnancies experienced by women in the community since the establishment of a nearby gas plant. She was not hopeful in doing anything about it: "Those businesses are just too big. We have no control over it."

Women, in routine tasks as well as in their coordinating, helping roles were exposed to diverse and numerous physical, chemical, and biological hazards. In addition, the farm environment as home and workplace meant that exposure to many hazards continued when the 'work day' was over.

Stressors Associated with Farming Life

Farming has been described as one of Canada's most stressful occupations (Walker & Walker, 1988), and this stress is largely a product of the occupation itself and of the environments in which farmers work. Stress is intensified by the fact that many of the stressors are largely beyond the farmer's sphere of influence. For example, environmental variables such as weather conditions are part of the competition for fair prices and profit (Ellis & Gordon, 1991). These stressors and others were identified by participants in this study.

Pressure of work. These women integrated their roles on the farm with roles in the home, and for some, an off farm workplace. These multiple simultaneous roles were carried out with differing amounts of stress, yet the women did not seem to regard the number of roles they carried as a significant factor in the stress they experienced. Those who valued farming, and saw compatibility between the roles they occupied experienced less stress.

However, pressure was increased for all women during the rush and pressure of work at peak times of year, such as harvest. The uncertainty of weather was a continuous stressor for many women, as weather conditions are critical for fundamental farming activities -- seeding, haying, and harvest, for example. During peak times, "watching the weather" and coping with consequences of severe weather, such as hail or wet weather, added stress.

There was a perception that women became more careless and took more risks in work roles when they were hurried, and when their husbands and other farming partners were hurried: " . . . we're called on to do more than physically we probably should. And we get rushed." Amy expressed a perception that women may take more risks than men do:

> There's -- you tend to be very careless especially when the men get in a hurry and need to get the crop off. So I think in terms of safety and health, I think probably a lot of the women take that burden on themselves. Or (think they) should be the ones at risk. The men don't tend to.

In some situations, women were apparently more willing than men to take health risks than men. This willingness to take risks might have been related to a desire to contribute in meaningful ways to farm production work, or, perhaps, to fulfill traditional 'expectations' for farm women's behaviour. At times women felt they did more than they could handle, because there was no one else to do the work: "you just do what you have to do." Part of the rush and pressure of work in busy seasons resulted in women's assumption of unfamiliar tasks and roles, which increased stress and risks of injury.

Unfamiliar tasks and work roles. Many women used machines only during seeding and harvest when time was short: " . . . because I (had) a teaching career off the farm, I didn't really have a lot of on hands experience . . . we've been called on to fill in pretty quickly. Like, running the combine one fall was just, well, here, you run it." Under pressure to get the job done, they may not have time to become familiar with the location of levers and controls, or potential hazards. Increasing the stress level for some were the brief, hurried, and stress filled lessons in machine operation, and Joan described the anxiety this brought:

> I know I had to learn how to operate the swather in a hurry. And I was just about in tears to learn this. It was do this, do this, do this. And it was about that fast. I managed, but, you know, I was in a panic for a while. 'Get out of here -- I can learn it on my own!'

Another concern related to unfamiliar roles was fear of damaging expensive equipment, as expressed by Rachel: "I'm always afraid I'm going to wreck something that's very costly. . . . I just haven't done it enough because I'm only called on when we're short handed. If I did it regularly. . . "

Responsibility for health and safety. Frustration and stress were described by some women in knowing that their husbands, in particular, did not take safety or health precautions. The group were knowledgeable about hazards and potential health risks, and frequently reported observations they had made about the health status and safety behaviours of others around them. For example, Laura observed that: ". . . all the men around here in their forties . . . they're not healthy. They work hard. They put, all of them have bad backs. The physical strain on them . . . I mean, if you could see what they do during harvest and the grain dust. It's just unbelievable." There was stress in trying to encourage healthy habits like rest breaks during periods of intense work, and occupational health precautions for their husbands, while at the same time trying to respect their husbands' autonomy.

In addition to the physical risks and hazards, women spoke of the stress of their husbands and other farm workers, and the concomitant rise in the anxiety and stress levels for the entire family. When a husband was stressed, this created stress and tension for his wife and the rest of the family. Machinery breakdowns, difficult weather, and the pressure to complete tasks within short time frames were common stressors for men. These women felt that this anxiety for the health and safety of their husbands was, in itself, a health concern for themselves: "So how can the women be in overly good health because they have concerns about loving and caring for their husbands?" Anxiety about the

health and safety of others was a reason for losing sleep and worry for many women.

Sue raised a concern that she felt exists for farm women: " . . . men have a tendency, I think, I don't know of any women really, but I know men have a tendency to become more aggravated and violent with the added amount of stress . . ." The implication was that women and children may suffer abuse from farmer husbands and fathers who are severely stressed. One woman identified alcohol use as a stress reliever for male farmers.

An acute concern was for the safety and health of children. There was agreement that women need to be more assertive in promoting health and safety on their farms, particularly because children are asked to take on responsibility for their own safety when parents are busy or tired. Amy shared her perspective:

> But I think sometimes we need to be more vocal about saying 'no, this isn't safe.'. . . I think we need to be much more vocal about what we see as a hazard and teaching the kids is a very, very important safety issue on the farm. There's so much equipment and you're tired and you have to put some responsibility on the children to watch . . . I think women, probably that's a role women on a farm tend to take, or should take, is knowing safety issues.

This was a role that many women did take on their farms, although several married women identified their husbands as very safety conscious farmers. Another stressor related to children's health and safety was the lack of child care resources or assistance for farming people.

Child care. Another area of concern to farm women was child care. The need for child care is closely tied to farm safety as, on the farm, children have

access to the outdoor environment, with the dangers of large equipment, animals, lagoons, dugouts, and chemicals such as fertilizers and pesticides. In contrast with urban women, there are very few child care facilities or programs for rural people. Many women needed child care on an irregular basis -- usually at odd hours, and for short periods of time. For example, Janice was often called on to help in delivering a calf, and she was able to call on her mother in law, who lived in the same yard. Yet others had no child care options that they felt were safe for their children, or comfortable for them. Some women managed by taking their children with them on equipment, encouraging their husbands to take them with them in their farm work, or relied on older children to care for younger children. This, too, was a stressor for some, like Amy: "you put responsibility on the children. You're not there all the time to look after them. You rely on their -- hopefully their maturity to deal with some of these situations."

If child care programs were available in nearby towns, the travel time to and from the facility was not considered feasible or realistic as this time would decrease time for doing the work. While acknowledging the difficulties of planning child care for farming people, many of the women suggested that child care programs structured in ways to meet these particular needs would decrease their stress level significantly.

Social isolation. The traditional ethic of hard work which many women admired, also brought problems for some women who valued social connections with others. For these women, social relationships brought opportunities to explore other aspects of themselves, to relax, and to broaden their horizons. Time with other women was very important. Yet some, like Ellen, felt guilt when they were not working, possibly because their husband's needs for interaction and social time were different their own:

> . . . about five of us farm ladies went to town, went to a concert, had supper together. And it was positively wicked to waste half a day! But for us it was a nice treat . . . but he (husband) doesn't seem to need the social stuff that I do.

Clare and Amy suggested that social isolation of farming families might be deliberate. The independence of farming life was seen to be satisfying and health promoting; however, this independence seemed to carry the implication that farmers ought to handle their problems alone. Amy:

> . . . there's still a feeling that you have to handle all the problems yourself . . . I think sometimes farmers feel that . . . maybe they're the only ones that feel this way, so we'll just be quiet. We can cope. I think that's the big thing -- we can cope. Because we've always coped, so we'll do it.

Some problems seemed to be more legitimate to share, while others were regarded as private: "unless it's something obvious like your barn burns down, someone comes to help you. If its . . . a financial issue, farmers won't reach out. They don't seem to have any avenue of expressing this stress or talking about health issues." There was a perception that reaching out, for a farmer, might be seen as an acknowledgement of weakness. Another perception was that a family is never anonymous in a farming community. This was perceived by some to be reassuring and welcome, yet others suggested that some families avoided contact with others so that "others would not know their problems."

Another possible explanation for families' coping on their own was one of limited social skill: ". . . maybe they don't know how to reach out. If they hadn't had to deal with a lot of other people, they'd never worked out of home, the skills for dealing with other people aren't there." Most participants did not

consider themselves to be geographically or socially isolated, because they had adequate transportation, telephones, and most felt some connection with others in their community, but they expressed concern for other women who they felt were isolated. For example, Laura expressed concern for a neighbour: "I have a friend up the road who has three children who absolutely, positively will not drive or anything. Now, here's a 40 year old woman that, she's you know out 10 miles further. . . . Boy, you sure are wasting your life."

Several women commented on the value of an interested outsider, and opportunities like those presented by this study, to get together with other men and women to discuss issues that " . . . go beyond the obvious." Amy commented:

> . . . studies like this, when you get people to think about it, get together to talk about issues that you may not talk about unless someone asks you the question. . . things like this that coerce farm women and farmers to go outside their realm of daily living is very valuable . . . knowing that somebody outside the community is interested or aware of what's going on, makes a big difference."

Finances. For several women, married and single, financial issues were a main concern. The solitary responsibility for making decisions about spending large amounts of money was stressful for single farmers. For most farmers, income is received only two or three times a year with the sale of grains, animals, or other products. Amy thought the situation for farm women was stressful, in a way that was different from urban women because "Money on the farm is still so much different -- because you're dealing in thousands of dollars instead of tens and twenties. . . . So I lie awake sometimes at night." The need to

budget for a year was stressful, as was the need for large outlays for machinery and crop related chemicals.

Poor road conditions. Poor road conditions, especially in winter, were a particular daily challenge for some women who travelled to town to work. Winter travel in the country involves risks of vehicle breakdown, freezing temperatures, being stuck or sliding off the road, poor visibility in "white-outs," and being alone on infrequently travelled roads (Figure 8). Laura described such a stressful situation when her car seized up: "I . . . started to walk . . . tears were pouring down my face freezing . . . I was just about ready to lay down and a farmer came along . . . they took me to a farmhouse . . . but those things you don't forget. And that's, it is stressful."

Working Relationships

The personal expectations, values, and beliefs about communication, decision making, and respect and recognition in working relationships were significant themes in perceptions of work and health.

Communication. Differences in men's and women's expectations for communication were identified. One concern was unclear communication from husbands or others when women were helping in tasks. This was a concern particularly because the women felt much more confident and competent in their work when they were clear about what was expected. Laughter accompanied a group discussion about the use of hand signals by men in working out in the field with their wives:

> Rose: But they seem to expect you to know a lot more about running . . . this equipment. And if you didn't, then they'd yell or wave their hand and you have no idea!

Andrea: But they'll wave at you and yell you know. Well, I obviously did something wrong. So you do the opposite, and if they don't yell, you figure, well . . .

Amy: "Well, I have a whole monologue that's to do with hand signals . . . it can mean about twenty different things!

Norms for working relationships among men were also recognized. Yelling and impatience seemed to be common elements. Rose noted: " . . . my husband farmed with his brother. And that's how they worked. They hollered back and forth all the time!" Gladys added: "Or they just grunt!" Although they attempted to explain or understand 'normal' traditional communication behavior, the women still had an emotional, personal response to being criticized or "yelled at" : "I've got . . . women, don't they get hurt. And they walk away." Another agreed: "I know. And then you brood about this which really is not good for mental health."

They perceived that many men who had farmed all their lives did not recognize or respond to women's anxiety in learning and performing new skills. " . . . the expectation was that you would *know* how to operate. So they (men) didn't tell you how -- give you some instructions. They didn't have a lot of patience in dealing with you." Men who weren't raised on a farm were seen to have a different understanding of what it is like to learn to farm -- an understanding closer to women's own: "So, now, if I need to learn how to use some equipment, I ask my husband because he didn't grow up on a farm and he's learned all this. So, I know that he'll understand that, you know, I'm a little nervous, or don't understand." An explanation seemed to be that many men raised on the farm had "never done anything else", and this made a difference in their communication styles and interpersonal relationships.

"They've never done anything else." Value was placed on having life experience away from the farm. Most of the women had experience in working in town, going to college, or working overseas, and their husbands did not have this experience. A frequent comment was "they've (men) never done anything else." While they admired the steadfastness and work ethic of their husbands, they seemed to see this lack of experience as at least a partial explanation for some behaviors that caused them (women) to feel undervalued or disrespected. Gladys: "And I think part of it is because they often -- they'd never worked anywhere else other than on the farm. So they had no interpersonal skills."

On two generation farms, women more frequently initiated discussion about problems or issues, as Amy explained: "Mom and I are the ones that do the communicating. If there's a problem, we will go and figure out what the problem is and get the communication started." The relationship of the women involved was seen to make a difference as well -- Amy thought "it might have been harder if I was a daughter in law getting along with the mother in law." For women who married into farming families, the feeling of being a stranger and feeling poorly understood by in-laws were common concerns. For some women in this position, authentic communication about any issue was difficult. Closely intertwined with communication issues were those of respect and recognition.

Respect and recognition. Close family relationships that are also collegial relationships were perceived to bring special stress. At times the women felt their genuine efforts to help were not appreciated. They often felt unappreciated when farming partners made no effort to provide orientation or help when women were engaged in new or unfamiliar work, or when they were "yelled at" or "got heck" when they made a mistake. Some men's view of the marriage relationship was seen as an explanation for what they perceived to be

disrespectful, insensitive behaviour: "And because you're married to them or their kids, they can yell at you. They wouldn't do it to a hired man." It appeared that fathers in law communicated in the same way toward daughters in law as they might have toward their own wives.

Recognition for work done was important. Ellen explained how she felt when her husband did not acknowledge her contributions to others:

> Well, there's still times he'll be on the phone and he'll say *I* did this. *I* did that . . . and I think, *we* did it. Because I've been out chasing cows with him, too. But I realize he's just falling back into the old habit. And he doesn't mean it. But it's also part of a strong, male thing for him that he doesn't want to say I needed help from her to do it.

Ellen went on to say: "But I know it would get me more if I stayed home and never worked (off the farm)." Her contribution was significant in day to day farm work, even on the days when she worked off the farm. Her off farm work was an opportunity for balance in her life, and an opportunity to meet personal goals.

Participation in decision making. All of the women in this study participated in decision making about their farming operation, although types of input, and degrees of involvement differed. For married women, these differences appeared to be dependent on perceived knowledge levels, personal beliefs, and preferences of women and their husbands. Single farmers made their own decisions, yet they needed support and opportunities to discuss decisions with others -- experts, as well as friends, and family.

However, with one exception, on farms where there was a male farm operator, he was considered the major decision maker and was in charge of overall farm planning. Helen saw her involvement in some decision making

with her husband to be only a kindness or gesture, because there was no real expectation on either side for her authentic participation:

> Well, sometimes, he lets me think that I'm helping him make decisions. But sometimes there are some plans that he has in the back of his mind he's going to do them anyway (Laughs) . . . but he always asks me which is nice. . . ."

Not all women wanted to be involved in every decision. Some women felt they did not have the knowledge base for making some decisions, or left farm production decisions to men, as primary farmers:

> I guess in the long run he makes most of the important decisions. Especially about fertilizers and sprays. I don't even want to think about it. That's not my department. And I'm not -- really haven't learned to decide when it needs swathing or when it needs cutting the hay or when it needs to be baled. I haven't really even tried to learn those little points. I figure that's his department. If I had to learn it, I would.

Although Helen saw most of the farm production decisions to be her husband's, her responsibilities were clear : "I do all the field work . . . one of our sons wants to come home to farm . . . and I say 'don't. Why are you coming? You can make meals and bring the coffees out, but you're not getting my tractor!' " Ellen, too, felt satisfied with her secondary role in farm production: "We need his brains whether we need my muscle here every once in a while is sort of the way we farm. It's his brains that does the farming and my contribution is muscle, rather than brains."

Several married women, like Janice, were involved in all decision making: "(We make decisions) always together. . . cost, machinery is always

discussed together. Cattle and which cows we're going to get rid of and which ones we're going to keep . . . we do a lot of talking about it."

There was a perception that having personal income afforded more power or influence in decision making. Farmers were perceived by many to hold a lot of the power in farm families, and a significant source of this power was seen to exist in financial control. Laura described this: "Farmers, for sure, nobody can tell me any different about this one, they . . . rule the financing. And that doesn't sit well with me because I've always been independent. . . . If they want to buy a tractor, or they want it, they'll go do it, "and "if the women want something they ask for it." Having control or influence in financial decisions was valued, and having this control influenced self esteem: "My girlfriend . . . works off the farm full time. So she has a lot more control over finances . . . and I think that's so important to your self esteem, your everything." Personal independence was seen to be closely tied to financial independence.

The structure for decision making was different in two generation farms because more people were involved. However, the theme of power in financial control or ownership appeared to be operative, also: "We're basically the bosses and dad just gives us a hand or whatever . . . we've bought the farm from him and we're taking over." On another two generation farm, Amy was closely involved with farm production work, and described her input: "I tend with Dad to make the cropping decisions. What we'll put in. What field we'll put it in . . . I keep track of the herbicides. . . he's slowly turning stuff over . . . I also help Mom do the farm books. . ."

It appeared that the women who were most closely involved in day to day farm production work, and who also valued farming, participated the most in

farming decisions. However, other factors such as preferences and perceived need for their input were also contributing factors.

Factors That Appear to Influence Perceptions of Self as Healthy or Unhealthy

Given health hazards, stressors, and conflicts in values and expectations, how did these women manage their health? The health status of participants was not measured in this study, however, the following factors appeared to influence women's perceptions of their personal health. Some of these factors worked to push self perceptions of health in an unhealthy direction -- for example, the presence of uncontrolled health hazards made women feel vulnerable, and experiencing the effects of injury made them unhealthy. However, other factors, such as women's successful efforts to control risk exposure, pushed women's perceptions of their health in a more healthy direction.

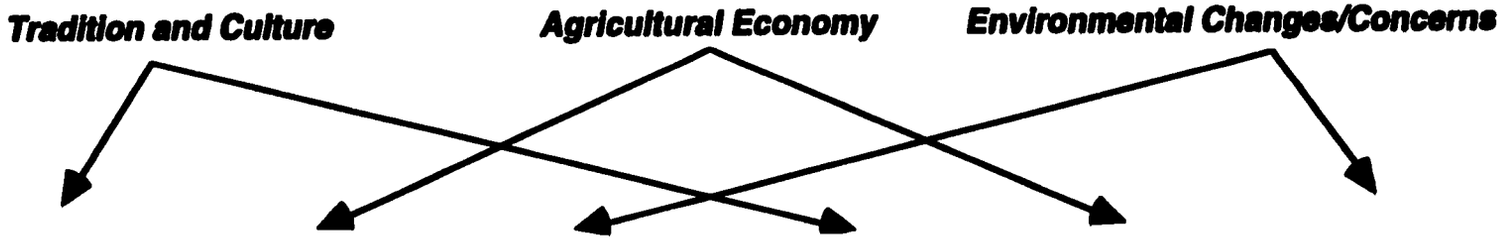
These factors appeared to be the (a) quality of fit of personal values, beliefs and goals with those that they saw to guide the farming operation, including valuing of farming; (b) perception a woman had about her preparedness to do farm work; (c) presence or absence of support; (d) respect and recognition for contributions; (e) control over exposure to health hazards; (f) assertiveness; and (g) attention to personal self and personal goals, and (h) attitude or personality factors. These factors affected a woman's perception and management of stressors, as well. Each of these factors will be discussed in more detail.

Fit of Personal Values, Goals, and Expectations With Those Perceived to Guide the Farming Operation

A recurrent theme arose from participants' comments about their perceived relationships between their work and their health. This theme relates to the quality of 'fit' between a woman's personal beliefs, goals, values, and expectations about life and farming, and the values, beliefs, and expectations that they saw to be guiding the farming operation. For example, a male farmer may choose to farm twelve hours a day, seven days a week. He may pay little attention to health or lifestyle issues, because his economic goals take priority. He may have little social life, or time with his children, because he is preparing for a secure future for his children. However, his wife may have different goals and expectations for their farming life. She may value family time, expect only a reasonable living from farming, and become stressed with worry about her husband's health and safety when he works long hours. When the descriptions of health offered by the women in this study are considered, such a 'poor fit' of values and goals would likely influence perceptions of poor health. There might be a better 'fit' in some areas of belief or expectation than in others, and the perceptions of personal health vary over time, with circumstances, personal behaviours, and changes in personal goals, values, beliefs, and expectations.

A summary of the particular aspects of such a conceptual 'fit' is found in Figure 9. This figure depicts a 'good fit' as a solid, continuous dovetail joint, secured when a farm woman's personal values, beliefs, expectations, and goals fit with those they see to be guiding the farming operation. Of course, the values seen to be guiding the farm operation are influenced by the values and beliefs of husbands, other family members and farming partners. The values, beliefs, goals and expectations of women and all those within farming

Figure 9. Conceptual fit of farm women's personal values, beliefs, goals and expectations with those of farming operation.



Personal Values, Beliefs, Goals, and Expectations of Farming Women	Guiding Values, Beliefs, Goals, and Expectations for Farm Operation
Values about farming and the farming life	Values about farming and the farming life
Beliefs about roles for men and women	Beliefs about roles for men and women
Beliefs about interpersonal relationships	Beliefs about interpersonal relationships
Beliefs about natural environment; relationship of this to farming	Beliefs about natural environment; relationship of this to farming
Expectations for participation in work	Expectations for participation in work
Expectations for respect and recognition for contributions	Expectations for respect and recognition for contributions
Expectations about communication	Expectations about communication
Personal goals, dreams, aspirations	Personal goals, dreams, aspirations
Goals for farm and in farming	Goals for farm and in farming

operations are influenced by traditions, culture, the agricultural economy, and prevailing farming practices and environmental issues.

The 'quality of fit' for participants in this study differed. When a farming woman's perceptions of the value of the farming life, and her expectations for working relationships were congruent with corresponding values and expectations of others involved in the farming operation, she was more likely to perceive herself to be healthy. General descriptions of their own health at the time of the study ranged from "not bad", to "fair", to "good" and "excellent."

For example, Rose, a widow who was farming with her husband's family, felt she had the support and assistance of her husband's family in this endeavor. She shared the goal to continue farming with her children, enjoyed her work, felt it made her physically fit, appreciated the freedom, autonomy, and self respect from what she has learned and accomplished. Despite high levels of stress and the loss of her husband and farming partner, she described herself as very healthy.

The quality of this fit seemed to be more important than the types of work performed or the number of roles played by a woman. The women interviewed in this study seemed willing to do almost anything to help out, and to see new situations and problems as challenges, but they expressed the needs to be free of anxiety due to unknown, unclear expectations, and to have knowledge about hazards and how to do tasks. They also perceived themselves to be healthy when they had support, particularly by other women, felt respected and recognized for their work, were assertive, particularly in areas of health and safety, and attended to their own personal needs and goals.

Consequences of a poor 'fit.' When there was a poor fit of personal values with those seen to be operating in the farm business, how did women

perceive their health? A poor fit of expectations about one's involvement in a farming operation, not being treated as a partner, for example, could result in low self esteem, unhappiness, and perceived poor health. One woman noted that the number of divorced, separated, or single parents living on the farm was much lower on farms than it is in town, and wondered " . . . why a lot of these people haven't up and left long ago?" Participants thought that a farming partnership was not the case for many women. In light of the situation of inequality for many farm women, the women asked: ". . . why we do have such persistence for being a farm wife? I guess maybe it's because there's no place to go." Although many of the women had a high school or post secondary education, there was a perception that farm women were not as versatile as they needed to be to make a living if they left the farm: "they have to have something more in order to exist in today's -- cause you have to be so versatile."

Participants thought the options might be few, particularly for older farm women, "who . . . have no other skill than doing housework and being a helper and being a gopher." They thought that older women were more likely to have little power in working relationships than younger women, and would have few options if they wanted to leave the farm: Gladys: ". . . if they haven't been paid . . ." Rose: "They have nowhere to go." Hazel: "And no money to go away."

Depression and overwhelming stress appeared to be two consequences. It appeared that hard work was tolerated better when help, effective working relationships, support, and opportunities to attend to the personal self were also present. Sue, who eventually left farming, stated she ". . . had a nervous breakdown when we left the farm and that's why we left it. . . . And it was from the physical going, going all the time. And never putting anything back inside of

myself -- always being, you know, everybody's maid, everybody's cook, everybody's everything."

Preparedness to do Farm Work

Knowledge. Many of the participants in this study were raised on a farm, and had spent many years of their life on a farm. For some, this meant that farming skills were learned early, particularly if time was spent with their father. For others, living on a farm did not teach farming knowledge and skill. Learning to farm at home was very dependent on the parents' points of view and ideas about the role of young women on a farm. Gladys said that her parents' plan for her was to educate her so that she would not live on a farm:

> I was raised in a family of girls and we did a lot of things around the farm. But I think our parents' expectation was that we never would farm. They hoped we wouldn't. I was the one that was never going to farm and I'm the only one who's living on a farm . . .

In more than one case, women lived on farms but did not participate in farm production activities because of allergies to dust or animals. Rachel: "I didn't do much. I didn't learn much. So when we got married and moved on to this farm it was like starting over." Although she grew up on a farm, Amy commented on how little understanding she had about farm management and theory, and how much she has learned about farming as an adult:

> . . . until you actually have to make the decisions you don't pay any attention . . . you fed the chickens because your mom or dad told you to. Then when you have to do it yourself, you think, why am I doing this?"

Discussion about farming revealed some of the reasoning and knowledge base that women used to make choices about their work. For example, Hazel was a graduate of an agricultural college. She and her

husband "used to do it all" (mixed farming), and, when she found herself alone with children to raise, she used her knowledge of farming to make new choices:

> . . . I chose to put it all in to hay and pasture and have cattle unlike what was going on before. . . with children to raise . . . I chose to do it a different way. If you're grass (cattle) farming there's not that same pressure to get that crop off, you know.

An appreciation for a need for formal education in agriculture and farming was frequently expressed. The women thought farming requires commitment and education. Rose: "If I had known I was going to be farming, I would have gone to school. I've just learned from experience." For most of the women interviewed, education was a continuing goal, and they had attended seminars on farm accounting, communication and interpersonal relationships, and courses on specific topics like calving. However, the ongoing requirements of their work was often a barrier to continuing education.

Much of the training for farming for the women in this study took place "on the job.' Rose saw this as typical, but potentially frustrating and hazardous: "Quite often when you're being trained on the farm, you're actually doing it . . . nobody says . . . we're going to go out and learn how to run the tractor. You're told, get on the baler, get on the tractor, go baling." When women felt informed about how to do work and why, their confidence was increased.

Confidence. Confidence in work roles was clearly related to having knowledge to do the work. The following exchange during a group discussion highlighted the perceived connection between knowledge and confidence:

> "I have nephews and they have girlfriends and both of them went to agricultural college. The girls, . . . they are going to be good farmers. Like, they're just very knowledgeable. They stand up for their rights."

"They know what they want."

"And they're confident."

"And they're allowed to be partners."

An expectation for partnership was seen to characterize newer female farmers, which might have been based on having knowledge, or, was perhaps a reflection of women's expectations for equality in the larger society. The women in this study saw a difference in the younger female farmers. Hazel, for instance, said " . . . they would make sure that they were equal partners. And it's good for me to see how they are because sometimes I'm not very sure of myself . . . they're going to be much different farmers than we are, I think."

Support of Others

Most of the husbands offered a good deal of support to the married women in this study. This support was offered in different ways: through provision of teaching and supervised practice in farming skills, encouragement to try new things, participation in household tasks and child care, respect for their wife's ideas, and attentiveness to their wife's needs.

Other family members, particularly children, gave support to single farmers. Although single women farmers are increasing in numbers, the single farmers in this study spoke about concerns and doubts their families and others had about their farming alone. Eleanor stated that her daughter provided the most support for her, once she realized that Eleanor "could do it."

The support of female friends and other family members, particularly sisters, mothers, and mothers in law was critical. Ellen's mother was a support to her because "she's been a farm wife, too . . . and Mom knows the answers aren't easy." Ellen's husband was also supportive, but in speaking of an emotionally difficult time in her life, Ellen said "his is a more bread and butter

world, that if it needs fixing, fix it and get on with it. But he couldn't understand why I was coming apart." The women in this study spoke about needing to spend time with other women, and the women who felt they were well supported perceived themselves to be healthier than those who felt they had little or no support.

Respect and Recognition

Being respected for knowledge, commitment, and work was important for self esteem, and was therefore important in the health of these women. Self respect -- "taking pride in our work" -- was also important.

Responding to perceived disrespect was difficult at times, because, for some, being a farm woman meant carrying on in the tradition of prairie farm women; being strong, hardworking, resourceful, and capable of keeping things running smoothly, whatever happened. Women did not object to taking responsibility for keeping things running smoothly, by permitting others to lead, and being quietly helpful to anyone who needed their help. However, this seemed to be seen as merely obedience if the woman did not choose these roles, or if her values and expectations were of no consequence in these roles. The obedient role seemed to be one of carrying the load and stress for the family with a minimum of fuss, and seemed to carry an element of self sacrifice. For example, the perception that women knowingly took health risks when helping in times of extreme busyness and stress, might be seen as self sacrifice. Being obedient was different from having the respect of others.

Respect seemed to be present when the women felt they were working cooperatively with others, within a mutually valued role. Gaining respect was a personal responsibility, as expressed by Gladys: "It all gets back again to taking control of your life and yourself. And being assertive enough to deal with some

of these things. This is why you need to learn to yell back once in a while." Being respected brought confidence; confidence was expressed in assertiveness, and being assertive, in turn, increased confidence.

Assertiveness

Assertiveness was imperative for health, because being assertive was an important strategy for increasing control over risks and hazards: "So, I think we have to learn to have the courage just to do it. To think that this is an unsafe thing . . . think through things a little bit before we jump into it. . . . and not be afraid to say to someone, no I'm not going to do that because it's not safe." Being assertive was important not only in safety issues, but also in asserting ideas: "Being able to say, perhaps, to your husband, maybe we should try it this way. There's a different way of doing it -- not your way."

For some of the women, it took time to develop confidence in order to do what they needed to do for their own health and self respect. This was true for Gladys: "Well, it took me a lot of years to learn this. But part of my keeping my own mental health up was to learn to yell back or get off and walk home or whatever. And a lot of years I was timid about doing that -- but I'll yell now!"

Control Over Risk Exposure

Assertiveness in communication was only one strategy for controlling risk exposure. Having knowledge, too, was important, for Amy: "Knowing what machinery is capable of and having the courage to say -- 'no, I'm not going to do this' to your husband. Or if you're working with someone or even to yourself. Turn the tractor off. It takes seconds to do that."

Education and experience were used in overall approaches to farm planning, particularly by single women. Several women chose not to "calve out" their cattle, that is, they only bought cows that had delivered a first calf, because

of the risks of injury, stress, and limited available help. Eleanor said ". . . somebody else can calve out the heifers. So my herd will be second calvers. But if I have problems, I do have a fellow that lives not far from here that I can call." Also, for Rose, planning farm layout and design to prevent injuries was another strategy: "I always have bought a lot of equipment. Crowding pen and things like that to minimize what will happen."

Attitude

Almost all participants talked about the need for farm women to have a strong, accepting attitude toward circumstances that arise in their lives. Laura thought that "you have to be a very positive, uplifting person just to keep on going and to take that stress." Clare questioned the origination of such a capable, accepting attitude, asking if farm women are basically strong or if being a farm woman encouraged strength: "And I really find, like, farming women are -- they're there for everyone. . . . And I don't know if you just have to be -- you know, if they're strong because they have to be or this life nurtures that. I'm not sure."

Humour was a theme throughout interviews, and the women seemed to enjoy the opportunity to laugh at themselves. Seeing humour in their lives, circumstances, and relationships seemed to promote a perspective that life was good, and manageable.

Attending to Personal Self and Personal Goals

Women in this study expressed a need for recognition of aspects of their individual self as separate from the farm and work. This need might be seen as part of the balance identified as a component of health. Attending to one's body and personal self was discussed most often in relation to personal health promotion, when women described the activities and behaviours that they felt

promoted their health. For example, "walking for the joy of walking," eating nutritious food, and recognizing stress in one's emotional and physical self.

Personal goals and plans. Personal goals were seen to be important for personal fulfillment. Putting effort toward personal goals and plans contributed to the balance perceived to be an essential component of health. Louise, an older woman, advised others in a group setting to acknowledge the need to pay attention to their own personal needs and interests:

> . . . farm women . . . can be bogged down by day in and day out work. Chores -- always the same thing. A little more that you can never get done. And I think it's important to save a little time for yourselves just to keep your mind functioning a little bit above the work that has to be done. And make plans and think about yourself.

Laura expressed concern for the quality of life on the farm for women once their children were grown:

> They want more than just the hard work and rearing their kids . . . so many women that have left and they're just 38, 39, 40 or older and its because their children leave and they look at themselves and they think well now what? I mean, what do we do? Do we just work? Or what have I done with my life?"

Most of the women in this study felt their lives were balanced and well rounded. It appeared that, without attention to their own personal selves, their bodies, and their goals and dreams, they might be asking these questions in the future. For some, their goals and dreams were closely involved with farming; others, content in their farm work roles, needed to attend to other aspects of themselves, as well. For example, Amy took painting lessons, and described the benefit of this for her: "I took painting lessons. And I really liked it. . . . That

helped me be a separate person. I wasn't a mom and I wasn't a wife. It was just something for myself."

Adjusting personal goals and expectations was a strategy for achieving a more harmonious fit between personal goals and those of other farmers in the farming operation. Gladys decided to alter her expectations, and experienced less stress as a result:

> . . . you can't fulfill all these expectations that you set up . . . I finally decided that my career is dealing with the interruptions that other people put upon me . . . like 'will you come and hold this flashlight for five hours while I'm working on the combine?' I've finally learned that when I've dealt with all the interruptions and then I could get on with . . . other things it was much easier, you don't put as much pressure on yourself.

Gladys was able to 'get on with other things,' as she worked full time off of the farm for years, and now, still on the farm, is pursuing a graduate degree.

Recognizing stress. Recognition of stress was an important aspect of being healthy: "And listening to your own body and knowing if there's something wrong. And listening to it and realizing, well, this is stress or, you know, there's other things. Sometimes we don't take the time to listen to ourselves." For women whose conception of being healthy was "mind over matter," recognizing stress might be more difficult. Rose described her realization of the importance of identifying stress in her own life:

> . . . (it) is very, very important to recognize stress and to learn how to deal with it. Because I've been balking it. I've been under a lot of stress for the last two and a half -- well, probably, the last five years. My husband was ill for two years before he died . . . Now I see that even taking the evening off can make a big difference. The work will still be there.

An Initial Model of Factors Which Affect Farm Women's Perceptions of Their Health

An initial model of factors which affect farm women's perceptions of their health has been developed to show possible relationships between these factors, and the resulting perceptions of health as healthy or unhealthy (Figure 10). The format of this framework was suggested by the model of force field analysis of social psychologist Kurt Lewin (1947).

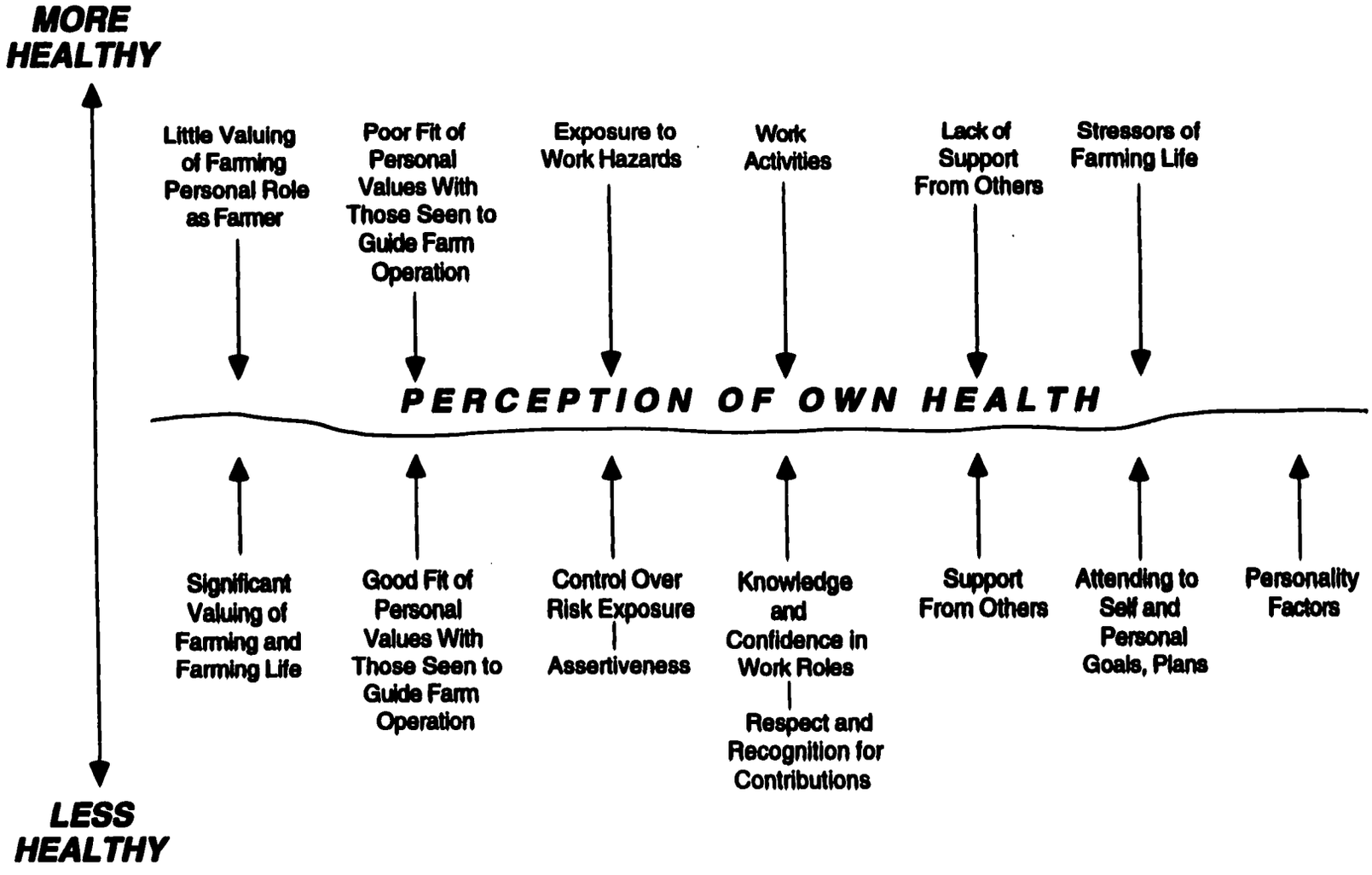
Some factors, particularly the ones that promoted healthy perceptions of health, might be seen as buffers for the effects of other factors, such as lack of support, or work hazards. The notion of buffers is similar to nursing theorist Betty Newman's description of buffers in her model of nursing (Marriner, 1989). Newman's flexible line of defense is also similar in some respects to the flexible 'line' in this framework that represents a woman's perception of herself as more or less healthy.

Four case studies have been drawn from interviews with participants in this study. These studies illustrate the influence of hazards, stressors, presence or absence of support, 'fit' of values, and the influence of women's behaviours and efforts to manage these factors. Each case study is followed by discussion of factors that influenced women's perceptions of their health.

Case 1: Sue

Sue felt the cold water up to her knees. She had taken off her boots because the mud was so deep and sticky she couldn't keep them on. She tried to hurry, in moving the irrigation pipe a few hundred yards, and wished she had some help. She wondered how the kids were doing back at the house, several miles away. Not for the first time, she wished her husband could stay and work

Figure 10. An initial model of factors which affect farm women's perceptions of their health.



with her on the farm. Sure, she knew they had to have steady income when they could, to pay for the second hand machinery, but this was hard.

She stood and straightened her back for a moment, enjoying the relief of stretching, leaning back. This was really hard on a person's back. These pipes were heavy. And the cold water . . . Oh well, better hurry on. Sue thought about the new heifers; hoping that had been a good decision. They were beautiful -- maybe they could make a little money on these ones. Sure, her father in law had loaned them money, but she hated owing anybody. Good thing she knew how to get along with almost nothing. Wouldn't it be great if his grandfather would sell them a little more land; last fall she had gone out with him to a distant quarter to find some cattle that were missing; she remembered he said he hadn't been out there for probably ten years! Imagine having that much land! And we're having so much trouble on the bit we've got . . . Oh well, heifers still need to be fed when I get back.

Okay -- better get in the truck and bounce back over the tracks to get back to the kids. Sheena, the oldest, was such a good girl -- taking care of the baby and the other little ones. Sue worried, though, that this was too much responsibility; wished the kids had neighbours to play with; wished she had neighbours, for heaven's sake. And time just to have coffee with another woman.

Better hurry. Sue still flinched when she remembered the incident last week. When she got in the house, she found the kids with a little mound of flour on the floor; in it were some eggs and some butter -- she gave them all a licking, sent them to their room, cleaned up, made supper. Later, she realized they were only trying to help -- they were trying to make a cake! Tears smarted once again in her eyes; if only I didn't feel so stressed; and if I didn't ache all over -- I would

have seen what they were doing; said, "thanks, you guys", instead of having a heart attack.

Sue valued farming highly. She valued animals, a close connection with the land and growing things, as well as the challenge of doing hard work. Sue was proud that she could work "like a man," but the work was too physically hard and demanding for her body. She had little farming experience or knowledge to call upon in work planning, organization and farm management. From the beginning, her husband was absent from the farm, and, although there may have been a partnership, there appeared to be no teamwork. A poor fit between her need to be involved with people, and the isolation of the farm may have contributed to the depression and anxiety Sue felt, when, later on, she decided she had to leave the farm. Sue missed having time for herself, and longed for friendships and social time with others, particularly other women. She valued parenthood highly, and was constantly grieved by not being available to parent in the way she wanted. Sue's reflections about the early years with her children reflect the emotional pain she felt then and the guilt she now feels. She did manage to assert herself, and left the farm to escape the constant toil, and, eventually, follow her dream of going to college.

At 37, Sue has some arthritis with back and joint pain, and sees herself as moderately healthy. Sue no longer farms, but would like to ranch with her husband in the future. Sue's desire to farm in the future with her husband may not be realistic, in terms of remaining healthy. Sue values her own abilities to work with animals, to work hard, to work with people, and to manage with "nothing". Sue now works full time in town, and money is still scarce.

Case 2: Amy

Amy picked up the phone and called her mother, asking her to come over for coffee later . . . Busy. Try again later. Or walk over there -- it's only a hundred yards away. Amy walked over to the computer, switched it on. She just had to check those grain estimates once again; be sure she was right. University had taught her a lot, but that didn't help with this kind of thing. Dad is the one who knows; I really appreciate the confidence he has in me to do the estimating, and help with the cropping decisions. Actually, I'm really the one doing those decisions, now. But I'm sure glad to have Dad so close by to help.

It's surprising that a man who has farmed as long as he has, and has so much knowledge would -- like yesterday -- work with 220 volts of electricity and not turn off the power source, though! I said, "Dad! Do you realize what you're doing?" He even listened -- he's still my Dad, and sometimes I hate to question him, but . . . sometimes you just have to speak up!

Amy glanced at the clock. Eric said he would need her about now to help load the pigs, so she better get going. Eric was doing really well, only being a farmer for three years, since they moved back to her home farm to incorporate the farm with Mom and Dad, and gradually, take over. He loves the pigs -- but he can have them! Give me the grain and cattle any day. People might not believe it, but I really love working with them, and they're - comforting, somehow. Amy put on her boots and overall, went outside. What a beautiful day. Eric wants to go on a holiday in the spring, but I can't get too excited about it. I love to be here - I'm strong and in pretty good shape with the work I do. And there's outdoors, field work, animals, grass, room for the kids to play; Mom helps with the kids -- but, I guess going somewhere would be nice. I know my

neighbour can't wait to get away from her farm. She really does need a break. I wish she could be as content as I am.

For Amy, there is an overall good fit of her personal values and beliefs with those that she sees to be operational in the farm business. Amy has always valued farming, and has chosen, with her husband, to farm full time. Choice in work activities permits Amy to exercise her preferences. Amy has a sound knowledge base about farming, and she had plans to continue her education, but sees that she still has a lot to learn from her father and mother, as well as from formal courses. Amy sees challenges for herself in farming work, and is gaining confidence in her ability to make farm management and marketing decisions. Emotional and instrumental support from her parents and husband is present and important, and Amy acknowledges that this support has been very important in her perceptions of satisfaction with her life on the farm. Assistance from her mother with child care has permitted her to see farm work to be compatible with being a good mother. She and her mother work cooperatively on projects like butchering and preparing chickens and turkeys, and the farm accounts. In addition, Amy remarked on the importance of having the support of other women, and stated that she and her mother really appreciate having each other so close. Amy loves to be outdoors and prefers farm work to housework, and her husband works with her in caring for the children and in housework. Amy sees herself to be abundantly healthy and strong; would like to work somehow to help other farm women feel this way, too.

Case 3: Laura

A voice on the two way radio called from the kitchen -- Laura turned back from the doorway. She was on her way down to her studio, across the yard. She just had to get some work done. She hurried over and answered: 'Yes, okay; yes -- I'll go . . . right" in agreement to go to town to check to see if that new part for the -- manure spreader, was it? had come in yet. Always something more important than her own work! She knew the machine part was important, but knew little about machinery, she'd thought of taking a course at the college, but not yet. So much to do, with helping out, running errands, cooking . . . Okay . . . maybe I can make this work. If I go now, I can also make a few stops, then, for sure, when I get back, I'll get some work done. The deadline for my show is in a month, and I've got to be ready. Calm down, I will be, I will be.

Maybe I'll stop to see my Mom for a minute; see if she needs anything. She wants to see more of me, and I need to see her. My mother in law lives next door, but we don't visit much. She doesn't seem to understand me. Maybe because I'm a city girl. And an artist. They just don't understand that other side of me. Well, they're different, too. Just look at how they live --work, work, work! -- no holidays. And they're not healthy, either, even if they do live on the farm. Bad backs . . . grain dust -- well, they wouldn't listen to me. What do they think I know about farming?

She ran her finger over the counter. Look at that dust, already! It's everywhere. I know it makes me sick, too. Laura went outside into the warm air, walked over to the car, kicking up puffs of dust as she went. That dust is everywhere; I'd like to put in more grass and wild flowers, or even pave part of the yard. But if I suggested that to my husband, he'd think I was crazy! He's been here all his life -- doesn't see the same things I do.

Sometimes I think if I didn't love him so much, I wouldn't be here. Things are so different than I thought they'd be; so much has changed. If some of my friends could see me now. Well, maybe I wouldn't want them to. There I was, an independent business woman, and now I've gained weight, and I'm not as fit as I want to be - and walking for exercise is hard. The roads are rutted, it's cold, and the neighbour has this fierce dog! Anyway, I do better with a friend to help motivate me. Sometimes, I'm lonely. I don't know anyone around here - they know each other. Imagine that -- me, lonely. Who'd have thought?

But I still make my own money. I'd go crazy if I couldn't --if I had to ask for every little thing I wanted. That's so important in feeling good about yourself. As she pulled out of the yard, she glanced at the birdhouses along the road. Her heart lifted -- was that a bluebird?

Laura acknowledges that her expectations of farm life have not been met. Laura admires the characteristics of people who farm, yet does not value farming and the farming life. She is disappointed that the "happy, stable part of our world" that she thought farming represented is, to her, a dusty, unhealthy, and somewhat lonely world. To cope, Laura seems to have tried to improve the 'fit' of her values with those of the farm family she married into by working hard, and being helpful, and available. She thinks she ought to know more about machinery operation than she does. She has little knowledge about farming practices and farm management; does not do the "farm books", or participate in decision making about farming financial or production decisions. She has little confidence in her preparedness to participate in farming work: "My husband is threatening to get me on the machines." She does have knowledge about health hazards for herself and others, but does not see herself to be in a

position to influence health and safety practices of her husband and other farming relatives.

Support was provided by her husband, and by a girlfriend, but there was no one else in their families that she saw as supportive to her in this role. She had been hurt by the cool indifference of others toward her when she married and moved into the farm community. Love for her husband and for nature, the animals and birds that roam into her yard keep her on the farm. Laura sees her health to be poorer than in the past, and sees her health as fair.

Case 4: Eleanor

Eleanor crunched back over the hard snow from the field. Under the blue sky, the air was clear and cold, very cold. The truck was stuck in the snow -- she'd used it to take feed down to the cattle. Oh well, she knew the girls in the trailer would be up; together they could use the tractor to get out. That tractor had been a good investment, Eleanor thought. I'm really getting the hang of running it! and even servicing it, some. Too bad I don't know more about mechanics. The mechanics in town and down the road never seemed to get around to repairing her machinery till last; she even wondered if they didn't want her to succeed, alone out here. People looked at you funny, sometimes, if they knew you, a woman, were farming on your own. Next winter, when I get more time, I'll take a course - they offer one over at the college. Those courses are good, the one on ladies and cattle was really instructive.

Having the hay cut by a custom outfit last summer had really helped to reduce the stress of the machinery issue. And a good crop it was, too! Beautiful! Sold some. Fertilizing that old hay field had been a good decision, too.

And the girls were working out very well as help on the farm. Eleanor looked over and admired the new post and rail fence they were building -- it was a good looking fence; nice and straight. Her daughter was coming out to visit tonight -- I want her to see how much we've done on that fence. She knew her daughter had confidence in her ability to succeed, she'd done that before, with the business in the city, but she's relieved now she's seen I can really do it on the farm! Both kids wanted me to move into an apartment in town! Well, gracious! Oh well, they're supportive now, and I don't know what I'd without them to talk to.

Eleanor crawled through the fence, arriving at the trailer. All this activity seems to have done my back some good -- hardly ever feel it now. And cross country skiing around the property was fun, as well as exercise. I'm in better shape. She banged her hands together to help keep them warm; stepped up her pace. Well, you never know what's going to happen, on the farm. But it's always interesting. Something to learn. This is what I dreamed about - having my own farm. And it's a great life. She banged on the door. "Come on, you two! Can you give me a hand down at the field? Stuck. Dress warm! I'll go get the tractor . . ."

Eleanor had experienced success in setting goals and achieving them in work before she undertook farming. She acknowledged that this had taken courage, determination, planning, knowledge and assertiveness. She enjoyed challenges.

In farming, Eleanor had the experience of researching to prepare to make decisions, and had called on the knowledge of others to advise her. She had used her knowledge to make decisions, such as designing her barn,

fertilizing her hay field, and deciding which breed of cattle to buy. Eleanor had the resources to hire help for specific tasks, and to have two women living on the farm to help in day to day work. This reduced stress, and also helped in unanticipated or emergency situations -- she would not be alone, and could share decision making.

Eleanor had the support of her children, particularly her daughter, whom she sees quite often. This support was tentative, at first, as both of her adult children thought the farming life would be hard and difficult for their mother. Although very busy, Eleanor paid some attention to her personal needs for social time, physical exercise, and recreation. She skiied around her property, and spent time with her daughter. She felt she was healthy, though she felt stress at times in relation to financial planning and decisions. A plan to build a poultry barn was one of her many goals.

Conclusion

In this chapter, the perceptions of farm women about their work, about themselves as workers, their ideas about health, and the influences of work on their health have been described. A healthy person was one who had a sense of balance, had a well rounded life, and took responsibility for their own health. Mental attitude was an important theme. Health hazards and stressors, heavy workloads and conflicting expectations were identified as factors which put health at risk. However, it appeared that congruence between what a farm women valued and believed about farming, the farming life, communication, interpersonal relationships, and what she perceived to be true in the farming operation was influential in determining perceptions of her self as more or less healthy.

Knowledge and confidence in work roles, control over exposure to hazards, respect and recognition for contributions, support of others, particularly women, assertiveness, an accepting attitude, and attending to personal needs and goals were important factors that influenced perceptions of self as healthy.

V. Conclusions, Limitations, Discussion, and Implications for Nursing

The purpose of this research was to explore and describe the perceptions of farm women about health, their own health, and the influence of their work on their health. The research questions were: What do farm women perceive to be their work activities? Do farm women relate their work activities to their health? What are farm women's perceptions of and beliefs about health? What are their perceptions of their own health? What are their perceived effects of work on their health? What activities do they undertake to promote their health?

Conclusions

Analysis of the findings of this study led to the following conclusions:

1. For farm women, health is having contentment within oneself, and having the personal resources (time, energy) to fully participate in work and other chosen, valued activities. A positive mental attitude is seen as a major determinant of health, and self esteem is a characteristic of health. Work hazards, stressors, and issues of respect and recognition, communication, and decision making in working relationships are all factors which influence farm women's perceptions of personal health.

2. A farming woman is more likely to perceive herself as healthy when she values farming and the farming life, and her values, beliefs, goals, and expectations for working relationships and from farming are congruent with the corresponding values, beliefs, goals and expectations she sees to be guiding the farming operation.

3. Other factors that influence farm women's perceptions of personal health are the (a) levels of knowledge and confidence in farm work; (b) presence or absence of support; (c) presence or absence of respect and

recognition for contributions; (d) stress; (e) degree of control over exposure to health hazards; (f) assertiveness; (g) attention to personal self and personal goals, and (h) personality factors.

4. Factors which influence farm women's perceptions of health either promote or detract from perceptions of self as healthy. The tension between the degrees of influence of each of the factors results in women's perceptions of personal health as more or less healthy.

Limitations of Study

A limitation of this study is that, with one exception, the data gathered has been limited to the perceptions of women of similar socioeconomic status. The income level of one woman was lower than the other participants. Although the perceptions gathered are valid for the participants in this study, they may not represent the perceptions of the wider group of farm women in the central area of the province. The recruitment method of newspaper advertisement may have drawn the interest of women who had confidence to speak to a stranger about their farming experiences and health. Perhaps women who had less confidence did not respond. The snowball sampling technique gathered women of similar circumstances, as, in making nominations, the women made some assessment of their friends' and neighbours' willingness to share with a stranger (the researcher).

Twelve women in the sample had college or university level education. This may have influenced the findings in this study, in that skills in communication, problem solving, and life management may have been acquired to promote successful adaptation to farming and the farming life. Exposure to different lifestyles and career options may have meant that women who valued farming and their place within farming made this choice over other

careers. In addition, fourteen women had lived on their present farm for sixteen years or more. During these years the women may have adjusted to work roles, gained experience, and achieved a fit of personal goals and values with those of others involved in the farming operation.

The method of focus group interviews may have influenced the findings in this study. The groups might have presented a unique opportunity for women to share and discuss ideas and perspectives about themselves as workers and farmers, and in this way served to raise consciousness and stimulate new thinking. However, similar ideas about the work and health of farming women were expressed in individual and group interviews.

Discussion

Perceptions of Health

Health is equated with the ability to work for many rural persons (Lee, 1991; Long, 1993; Weinert and Long ,1987). Certain views of health are considerably more prevalent among rural people than urban. For example, urban dwellers more readily focus on the comfort, cosmetic, and life prolonging aspects of health, and rural dwellers tend to determine health needs primarily in relation to work activities (Long, 1993). A theme in the descriptions of health given by the women in this study was health as a resource for active involvement in one's own life. Health seemed to be regarded as a basis from which one drew energy for accomplishing work, for enjoying one's environment, taking control over what one could, and for coping with forces outside of one's sphere of influence.

Older women, in particular, viewed health as a necessary resource for accomplishing work. Within this view, there may have been a perception that thinking about health was actually thinking about being sick or being unhealthy.

Perhaps this was seen as a weakness; if health is viewed as an issue of "mind over matter," some women may regard thinking about health to be weak, or unnecessary. Hibbard and Pope (1987) remark on this approach to health. They suggest that some women may regard an interest in health, evidenced by keeping informed about health issues, as behaviour entirely apart from concern with health expressed through thinking about one's health.

Stein (1982), in a study of wheat farmers in Oklahoma, noted that too great a concern for health was viewed as "doting on oneself instead of making oneself useful (p. 97)." Lee (1993) suggests that an implication of the extreme of this point of view could be that a lack of concern about one's health might be destructive. For example, if a farmer is ill or injured and delays treatment because of urgent work to be done, complications could develop that may have serious short and long term effects, in terms of personal health. An emphasis on work and self reliance, coupled with distance from health care services, could place women at special risk for premature death, long term illness, or disability (Long, 1993). This emphasis would also have implications for farm women's engagement in health promotion behaviour.

Bushy (1990) reports that mental health was not included in rural people's definitions of health in studies about rural determinants in family health. The women in this study recognized a major role of mental attitude as a determinant of health, and identified mental health as a characteristic of a healthy person. They identified depression as a possible consequence for women who find a poor fit between their goals and aspirations, and those of others in the farming operation.

Younger women easily made connections between work and physical and emotional health. They expressed concern for the health of other women

who were not treated as equals in their farming operations, and were living on more isolated farms. They shared with older women an idea that health and happiness resulted when a person decided to make the best of the circumstances in which they found themselves.

The health perceptions of the older women in this study are similar to perceptions and definitions offered by other rural seniors in Canada. Keating (1991) points out that there are discrepancies between seniors' definitions of health and those of health policy planners and health workers. Seniors tend to define health in terms of being able to work, or otherwise participate in chosen activities; and to maintain a sense of competence and a sense of meaning. Like the women in this study, rural seniors do not seem to define health in terms of reaching optimum functioning, and perceptions are tied to personal values and experiences. For example, physical health might be a strong predictor of health for a person, such as a farm woman, whose work involves physical activity. Models of health promotion for senior farm women will need to include attention to self assessments and ideas about health, because self rated health is generally more closely related to use of health services, functional abilities, life satisfaction and needs for support, than is morbidity (Keating, 1991).

Perceptions of Personal Health Status

The personal perceptions of health for the women in this study were similar to perceptions of other farm women in Alberta. Of the 136 female respondents to a survey of the health behaviours of farmers in southern Alberta, 69 % reported their health to be very good to excellent, and only 6.1 % perceived their health to be fair or poor (Blundell-Gosselin, 1995).

Connections between past work and current health status were not always made easily by older participants in this study. Aging was suggested as

a reason for fatigue or problems such as arthritis, and these women did not attribute health problems to past work. They also thought that technology, and in some cases, more help from husbands, had made their lives much easier than those of their older female relatives.

Perceived health status has been shown to have an effect on response to health promotion efforts (Pender, 1987). The health definitions of a number of women of all ages in this study were oriented toward being productive, and health promotion with these women must address the issue of work (Weinert & Long, 1987). For example, the benefits of maintaining health as a resource for active living and working should be emphasized. Health care delivery must also fit within work schedules. Health care programs or clinics offered during peak times in the farming economic cycle, such as haying or calving seasons, would not be effective.

Personal responsibility for health was a strong theme in health for the women in this study. Brown, Muhlenkamp, Fox, and Osborn (1983) found that people who believe they have little personal control over events that happen to them would have little reason to engage in health promotion activities. The findings from this study suggest that farm women are well prepared to consider and engage in health promotion activity.

Farm Women's Values, Beliefs, Expectations, and Goals

A conclusion in this study is that perceptions of personal health are influenced by the degree of congruence between a farm woman's expectations, values and beliefs about farming, the farming life, working relationships, and the values, beliefs, and expectations she perceives to be operational in the farming operation. In this study, beliefs are seen to be any propositions held to be true, which may be inferred from what a person says or does, and which may

predispose a person to action. Values are abstract ideals, and are not tied to any specific situation. Values represent beliefs about ideal modes of conduct (e.g. to be honest and truthful), and goals (happiness, security) (Rokeach, 1968).

Value systems stem from ethnic, religious, and geographic factors, and rural people tend to be traditional and conservative in their views (Bushy, 1993). The health need for a good fit of personal values and goals with those operating in other important spheres of one's life is likely true for non farming women. The impact of a good or poor fit may take on even more importance in this setting because there is potential for conflict of personal beliefs and values with others that reflect strong traditional and cultural factors in farming and rural life.

Value orientations of farm women. Differing values and beliefs about farming were described in this study, and possible relationships between these and perceptions of health have been proposed. In discussing stress as a health problem for farm women, Gallagher and Delworth (1993) relate values to health, and state that a woman's value orientation is related to her experience of stress in farming and other roles. A woman's value orientation refers to "what she hopes for and expects of herself and her own sense of priorities (p. 31)." According to Gallagher and Delworth, women have a traditional, conflicted, or emerging orientation. A fourth orientation is one of synthesis, where women feel they have a sense of balance between their values and roles they occupy.

The idea of personal values in relation to perceptions of health for the women in this study is similar, in that women's preferences and choices influence work roles and satisfaction; however, there is also an acknowledgement of the important influence of other farming partners' values and beliefs on those of farming women.

Keating and Munro (1988) studied the rates of women's involvement in farm work in differing age groups, and they suggest that variations in work roles and amounts of work done might be reflective of a farm career process. Throughout such a process, the values, beliefs, and expectations that women hold for farming and farm work would vary with age, stage in the family cycle, and past experiences.

Gasson (1973) studied the value orientations of farmers and outlined four differing value orientations of farmers of differing sizes of farms in Britain:

> An instrumental orientation implies that farming is viewed as a means of obtaining income and security with pleasant working conditions. Farmers with a predominantly social orientation are farming for the sake of interpersonal relationships in work. Expressive values suggest that farming is a means of self expression or personal fulfillment while an intrinsic orientation means that farming is viewed as an activity in its own right (p. 527).

This thinking provides some support for the need for a fit between women's values and those operating in the farm business, as suggested by the findings in this study. Some members of a farming family, such as parents in law, may have different goals for farming than those of their children. These goals would in turn be affected by cycles in farming (Gasson, 1988; Keating & Munro, 1988).

Reid, cited in Gasson (1988), suggested that continuation of the farm family business depends on satisfying the needs and objectives of family members which may not coincide with those of the farmer:

> As long as a farmer owns 100% equity in his business he may set his own objectives. He can work as long and as hard as he likes for as little

financial reward as he likes. The limiting factor is the extent to which other family members are willing to accept his objectives.

Support for the need for a good fit of values, and opportunity for personal goal achievement for farm women is given by Reid's acknowledgement of the situation in which many women find themselves. It is a conclusion in this study that the health of the family members, particularly women, is affected by the willingness of family members to accept the "farmers' objectives." Some women in this study were part of family farms run as corporations; in these farms and in other organizations, other farm workers and family members participate in decision making about farm goals, and influence the goals and values that guide the operation.

In this study, women shared an interest and awareness of trends in the larger society, for example, they noted changes in roles for men and women that were a reflection of changes in society. This awareness and interest relates to Reid's suggestion that the survival of a business may also be subject to satisfaction of family members' rising expectations in line with the rest of the population. Women seem to be less willing to accept men's farming objectives, or to accept husbands or fathers in law as 100% owners of family farm businesses.

Work and Working Relationships

Perceptions of work and selves as workers. The women in this study who valued farming had previous positive experiences in farming -- often by growing up on a farm. Lyson (1981) found that women oriented toward farming, and planning to undertake formal agricultural education, were much more likely to have had prior agricultural-related work experience than their counterparts with non-production oriented agricultural ambitions.

Most of the participants in this study regarded themselves as farmers, and not farmer's wives. Support for this trend in identifying themselves as farmers is found in farming women in Canada: "we are farmers . . . definitely not farmerettes (Smith, 1987, p. 130)." Twenty years ago, Joyce and Leadley (1977) suggested that the term "farmer's wife" would be as outdated as the term "lady doctor." At that time, Joyce and Leadley reported farm women's desires to be recognized for their productive roles as far back as 1922: "The women desired recognition of the value of their work, to be classed as 'women,' not 'farm' or 'rural' women, to be recognized as women of ability and understanding and as a viable social force (p.1)."

The women in this study pointed out that agriculture in Canada is a male domain. Progress has been made in terms of regard for women's total contributions to agriculture -- housework, farm work, and off farm work. However, many women report their roles to be helping roles, and attention has rarely focused on women as producers or partners in production (Joyce & Leadley, 1977; Keating & Munro, 1988).

The women in this study noted that it took the labour of the woman in the family, along with other family members, to make a success of farming. One reason that many farm people live in family settings is that many single people do not stay in farming (Keating, 1992). In case of divorce, farms may be sold; child care is not available for those who want to farm alone, and widowed women often leave the farm after their husband dies. Married women in this study also expressed a need for financial independence for reasons of self esteem, and autonomy, as well as for being able to carry on farming if left alone.

In this study, some women perceived that income from off farm work secured increased share of power within the farm household. Symes, cited in

Gasson (1992), points out that this is not necessarily true, and suggests that greater hope for improved status for farm women will come from their increased participation in the wider labour market and roles which are unrelated to the farm business. McCall (1995) addresses the barriers for farm women in achieving social, economic, and legal equality in Canada, and states that increased power for women in the running and profit of their farms will be brought about by systemic and local changes in approaches to farming:

> Public recognition of farm women's labour and contributions to agriculture and to Canadian society is not enough, and that systemic barriers, based on the assumption that men are farmers and women are farmer's wives, must be eliminated from all legislation, programs and practices (p.3).

As pointed out by women in this study, increased power, lived out in significant participation in decision making and economic security, results in perceptions of increased health, because of increased self esteem, and satisfaction in work roles.

Bushy (1993) noted that associated identity rather than being recognized for one's own worth contributes to the invisibility of rural women, and a poor self concept. For the women in this study who married into farming families, this might help to explain the feelings of loss and loneliness felt by these women.

Work preferences. Some women in this study preferred outdoor work to housework, and this preference for outdoor work is also noted by Pearson (1980). Some women reported assistance from husbands in household tasks, yet still found that they bore responsibility for this work. Smith (1992), reports a similar finding in a survey of four farm community households in Saskatchewan. Responsibility for preparing meals, doing dishes, washing and ironing, and

housecleaning was overwhelmingly female. Men participated more in child care and house repairs. However, the hours per week spent by women in all of these tasks were more than the hours spent by men in these tasks. The invisibility of farm women's work applies to their farm production related work, as well as domestic work. There are health and safety risks that accompany household work, as well (Rosenberg, 1984).

Off farm work. Women in this study enjoyed off farm work roles. Some of these roles were linked to income for the family, yet these roles were seen as an opportunity, for some, to be independent of the farm. Apparently women who value farming also value off farm work roles. Patterns for farm and rural non farm women's work in the paid labour force are increasingly similar to those for urban women (Ollenburger, Grana, & Moore, 1989).

The women in this study noted changing roles of farm men and women, that is, women's participation in farm production work, and men's increased participation in some aspects of work in house and home. Joyce and Leadley (1977) questioned if women's roles have really changed or is there increasing acknowledgement of the productive part women play in farming? They suggest that a more appropriate description of what is happening may be "the changing consciousness of women and men about the role of women on farms."

Family farms. On the prairies at the turn of the century, farming was the focus of economic rural life, and the prairies were settled by men and women who worked long hours together on their farms. Farming families worked together to build communities and institutions, yet geographical isolation necessitated a "strong, independent, family-oriented rural spirit . . . family networks were not just a matter of sentiment, but of survival (Keating, 1992)." In this study, the women stated that family networks are still important on prairie

farms. Prairie farms employ less outside labour and rely more on family help than ever before. The increased family help comes primarily from farm women who are more and more central to labour and management of their farms, a finding similar to that of Shaver (1990).

Regardless of the debated outcomes of increased capitalism and farm modernization for family farms (Shaver, 1990), women continue to work hard on farm (Gasson, 1988; McLean, 1987). The women in this study thought that all farm women work hard, and this hard work would not prepare them financially, or socially, to manage if they were left on their own. They thought that few married farm women were in partnerships with their husbands. Ninety seven per cent of farm women in Alberta work on their farms (Keating, 1992), and approximately one third of women are formal partners with their husbands in the farm business (Keating, 1992).

How farmers and the farming business interact has consequences for each individual involved in a family farm. For example, decisions to hire labour or not might depend very much on the availability and skills of family members to do the same work (Hedley, 1981). Bushy (1993) suggests that rural economic structures can contribute to feelings of worthlessness, helplessness, hopelessness, and depression in women.

Cultural expectations. The strong influences of cultural expectation and difficult economic times might interact to affect the health of farm women. For example, Gasson (1988) suggests that the crisis of repayment facing agriculture since the mid 1980's has its own repercussions for women, built on a traditional view of women as a family member rather than an individual: "Women are expected to work long hours for low return on behalf of the family enterprise and

will be able to generate additional income by small enterprises within the farm household (pp. 303-4)."

In the same way, women may be counted on to care for elderly relatives. A number of women in this study indicated that they had responsibilities in caring for older parents. Although in some cases husbands were involved, particularly when their own parents needed help, women usually assumed the role of caregiver for parents in their older years. This holds implications for the health of farm women, particularly as a "substantial proportion of rural residents (37%) providing day to day care to an ill relative use no relief services, even though the majority (68%) say that caregiving has affected their health and . . . has meant that they could not go away for a vacation (Keating, 1991, p. 73)."

Support

The support of husbands was important for married women in this study, and this finding is well supported in the literature (Berkowitz and Perkins 1985; Giesen et al., 1989). In these studies, strong positive relationships were found for husband support and marital satisfaction, and interpersonal role conflict. These findings point to the importance of family relationships in preventing or buffering stress. Women who are able to agree with their husbands about their farm roles, feel supported by their husbands or who have happy marriages are less likely to report stress related symptoms.

In this study, the women found that spending time with other women promoted their health. Tevis (1979) indicated that for a woman to be in touch with another woman who has felt the same way can have marvelous curative results.

Hazards Related to Farm Work

Perhaps the idea of the farm as a healthy place to live has limited attention to the farm as an industrial worksite. Despite the many risks farming families are exposed to every day, provincial health and safety legislation and regulations do little to protect agricultural workers, particularly those who work on the family farm. In Alberta, there is no regulatory control over any aspect of farming work or activity. Participants' concerns about health hazards in their work addressed nearly all of the major categories of health concern outlined by Engberg(1991), and Werner and Olson (1993).

Musculoskeletal and soft tissue disorders. Musculoskeletal and soft tissue disorders are associated with heavy lifting and carrying, repetitive movements, whole body vibration, and working in cold or hot climates (Engberg, 1992; Werner & Olson, 1993). Farm equipment is involved in almost one-half of all permanent injuries (Engberg, 1992). Fatal machinery related injuries for women have been rare in Alberta (Alberta Agriculture, Food, and Rural Development, 1995).

As the women in this study pointed out, women's bodily dimensions factor into physical work performance as well as machine design and operation (Engberg, 1992). Agricultural machinery is usually designed for the physical dimensions and capacities of men. Heavy workloads, and tasks such as carrying filled five gallon pails, throwing hay bales, and "throwing calves" may result in problems such as joint and back injuries, and degenerative diseases of the hand, knee, and hip joints (Engberg 1992; Werner & Olson, 1993). A high proportion of older male farmers have been found to require hip replacements after years of activities such as heavy lifting, carrying, and vibration from sitting on tractors (Successful Farmer, 1992). One participant in this study mentioned

"waterbucket hips," a condition described to her by a physician, which refers to arthritic hip joints experienced by farm women after years of hard work on the farm. No research about arthritis or other chronic disorders in farm women has been located.

Whole body vibration, experienced by farmers particularly in tractor driving, is associated with spondylotic, osteochondrotic, and arthritic changes in the spine (Engberg, 1992; Murphy, 1992; Werner & Olson, 1993). Thus, the back and neck pain, experienced by the women in this study, has been related to tractor work. The assumption of a twisted posture for long periods of time, such as that of a tractor operator who drives while looking behind to monitor field work, is a major cause of back, neck, and shoulder problems (Werner & Olson, 1993).

Chemical exposure. Shaver and Tong (1991) suggest that farmers may not even be aware of the dangers from chemicals that exist on farms, and that it is difficult for individual farmers to be knowledgeable about all potential dangers from chemical hazards on a farm. Some examples are fertilizers, pesticides and herbicides, fuels, solvents, paints, engine exhausts, and gases generated from stored products such as silage and manure. Overexposure to commonly used pesticides can result in acute systemic poisoning with abdominal pain, ataxia, nausea, dizziness, vomiting, headache and malaise (Engberg, 1992; Shaver & Tong, 1991). Chronic health problems from exposure to pesticides are dermatitis, fatigue, headaches, sleep disturbances, anxiety, memory problems, cancers, sterility, blood disorders, and abnormal kidney and liver function (Engberg, 1992; Shaver & Tong, 1991). Some authors have proposed that increased incidence of allergies is related to use of herbicides, pesticides, and insecticides (Bushy, 1992).

Fewer women than men are involved in chemical applications, yet chemicals may also pose a risk during handling and storage. Women, because of higher proportions of body fat to lean substance, may be at higher risk for illness from chemicals because many of them are stored in body fat once they enter the body (Engberg, 1992). The diversity of chemicals used every day in farming may not be recognized by women, particularly if they are not directly involved in the use of chemicals. The women in this study reported some concern about the risk of injury or illness related to chemicals. However, if women regard themselves as secondary farmers, they may not identify risks for themselves or inform themselves about risks. Without this information, women may not know symptoms of injury or exposure, or how to recognize when help is needed for themselves or other farming colleagues. Women who farm alone are particularly at risk.

Noise and hearing loss. Crutchfield and Sparks (1991) report that it is very difficult to assess the extent of hearing protection use among farmers. The noise of machinery, in particular, necessitates hearing protection. Some farm equipment operators have resisted the use of 'quiet' cabs on equipment, because they must be able to hear in order to detect problems that develop with their equipment.

Women in this study were exposed to noise exposure in modern pig breeding facilities. During feeding, noise from the squealing and shrieking of the pigs usually lasts about 45 minutes twice a day. Pressure washers used to clean pig and dairy barns are also noisy, and machinery used for mixing and grinding feed can produce noise induced hearing loss (Crutchfield & Sparks, 1991).

The women in this study were involved in all of the above activities, and some women used hearing protection some of the time. This finding is in line with Blundell-Gosselin and Thurston's (1995) finding that women do not consistently use hearing protection. There are no hearing conservation programs for farmers in Alberta, which increases farming women's challenge in protection their hearing. The closeness of home and farm means that family members are at risk for noise exposure.

Confinement buildings. The pig farmers in this study would be particularly at risk for hazards that accompany work in confinement buildings, such as pig barns. In such buildings, the generation of large quantities of animal wastes create toxic gases and bacteria (Engberg, 1993). Women in this study were involved in cleaning grain bins, and working with grain. Respiratory problems such as farmer's lung, a hypersensitivity pneumonitis from inhaled antigens (Wright, 1993) is a health risk.

Almost all of the women in this study reported 'close calls' or injuries they had sustained in farm work. Farmers who have already been injured or acquired a farming-related disease may find themselves in very difficult financial circumstances (McCall, 1995). Farmers themselves are only eligible for worker's compensation programs if they are also employees. In this case, the farm would have to be incorporated. A deterrent to farmers participation in this plan is the high cost of premiums, which are based on the levels of risk in occupations. Women and other family members who work on the farm would not be covered unless they are paid for their work. Married women in this study were involved in some aspects of finances in their farm business, but left some aspects entirely to their husbands. These women may not be prepared for events such as injury to themselves or farming partners.

Control Over Risks and Hazards

Having control over risks and hazards in work increased women's perceptions of health in this study. Increased control was accomplished through assertiveness, problem solving, influence in decision making about work, and having knowledge and confidence in work roles.

Knowledge and confidence in work roles. Women in this study reported that much of their farming skill and knowledge was self taught. Even when confronted with new situations or unfamiliar equipment, there was little supervision or teaching. This was stressful for participants, and posed health and safety risks as well, because common hazards and risk were not known. Wright (1993) suggests that a problem with unfamiliarity is that a wife, for instance, who is not familiar with a particular piece of machinery may not know the "secret combination" to make a machine run or stop running (p. 255). Cordes and Foster Rea (1992) agree that this is a common risk for female farmers.

Farm women are generally better educated than are rural men (Bushy, 1990; Early Results, 1993; Ross, 1984; Statistics Canada, 1994). Ross (1984) discusses women as a valuable and unrecognized resource for agriculture in Canada, and suggests that one reason for women's better education is because "they are encouraged to become so. After all, sons become farmers, daughters do not (p. 41)." This observation is similar to those of several women in this study, who, although raised on a farm, had been expected to leave farming as an adult.

Confidence in work roles was important in this study. Keating (1987) also found that farm women may suffer stress from lack of practical farm knowledge, and that self confidence in problem solving decreased the severity of stress.

Stress

There is agreement that farm women are subject to unique factors and stressors that place them at risk for particular health problems (Bigbee, 1988; Bushy, 1993; Ellis & Gordon, 1991; Mansfield et al., 1988). Social isolation, unpredictable events, the pressure of work, lack of child care, road conditions, concern for family health and safety, and financial concerns were identified as stressors by the women in this study. Other stressors for farm women identified in the literature have been described as the traditional role of women as nurturers, seeking and starting a new job, stages in the family life cycle, and role conflicts (Ellis & Gordon, 1991; Gallagher & Delworth, 1993; Knaub et al., 1988).

Social isolation. Women in this study described a tendency of farmers to keep to themselves, particularly when there are problems. In a study of the health perceptions of rural people, Lee (1991) described a tendency of rural women to be quiet about their concerns, and suggested that this is a product of upbringing in the individualistic rural tradition. Preventive strategies for health risks of rural women include dealing with the effects of isolation and low income the use of "women to women" contacts aimed at reducing isolation, the evolution of self help groups, and national advocacy initiatives (Dosman & McDuffie, 1994).

Concern about family health and safety. The women in this study were not alone in their concern for the health and safety of their families. There is widespread agreement that farming is a dangerous occupation, and the magnitude of the problem is difficult to determine (Cordes & Foster Rea, 1991; Engberg, 1992; Werner & Olson, 1993). In a survey of the occupational health and safety needs of farmers in southern Alberta, Blundell-Gosselin (1994) found that 58.8 % of male and female farmers perceived farming to be more

dangerous than other occupations. The farmers surveyed were primary beef and grain farmers, and 94.4 % of the women were married, and 1.3% were single. Men and women were more concerned about their family's health than their own, particularly in the areas of accidents/injuries, chemical exposures, and breathing problems. Women were significantly more concerned about accidents and injuries, stress related problems, and back trouble for their families.

Lee (1993b) discusses the role of rural women as the keeper of health for their families. Women manage day to day health problems, such as colds, cuts and bruises, and assess needs for medical help for their children and husbands. This role in family health may not be different from the role of urban women, however, Lee writes that frequently women need to wait until their husbands and sons are ready to seek health care, when the farm is at a state where they think they can leave for a short time.

Pressure of work. Although the repetitive nature of much of their work was acknowledged, work was seen as meaningful and fulfilling for most of the women. Stress from multiple roles was identified by several women in this study; however, emotional and instrumental support in those roles, control over risk exposure, and opportunity to work toward personal goals seemed to diminish the stress. Increased stress during peak times in the economic farming cycle has been noted by many authors (Bushy, 1990; Bigbee, 1988; Keating, 1987; Mansfield et al, 1988; Lee, 1991).

Gallagher and Delworth (1993), identified different stressors for women with different value orientations. Women with a traditional orientation are stressed by work outside the home, and work only for economic necessity. Women of a conflicted orientation are ambivalent about new roles; would like

opportunities to grow but do not want to redefine their values. Women of an emerging orientation are most stressed by trying to do justice to all 'three shifts' and by lack of support in these roles. A fourth value orientation of synthesis describes a 'balance,' in that women who have come to terms with necessities and choices. The idea of balance appears to be similar to the idea of balance in healthy people described by the women in this study. For the women in this study, numbers of tasks and hours worked did not appear to be as important as having knowledge and confidence to do the work, support, and a sense of balance in their lives.

Lack of child care. The need for tailored child care programs, not duplications of programs found in larger centers, was identified in this study, and much support for this need is described in literature about the unique stressors experienced by rural women (Bigbee, 1988; Bushy, 1993; Boivin,1987; Mansfield et al., 1988).

Attending to Personal Self and Personal Goals

Women in this study identified the importance of finding or making time to attend to personal needs, such as those of privacy, exercise, and leisure. Economic and cultural structures may make it difficult for an individual woman to assert her own rights and needs (Gasson, 1988; McLean, 1987). Gallagher and Delworth (1993) affirm the importance for farm women to be regarded as individuals, and point out that the 'invisibility' of a farm woman might be maintained by always treating her as part of a family or couple.

The notion of a 'third shift' for farm women points out the difficulties women encounter in finding time to plan and think about their own goals, and work toward them. Regardless of the number of roles they occupy, farm women are often seen as 'available' to lend a hand in all types of circumstances,

whether or not they have knowledge, skill, or information to bring to the task. In addition, many women are working off the farm, and are trying to manage family and home responsibilities as well as cope with farm work.

Personality Factors

The concepts of hardiness (Lawler & Schmeid, 1992; Lee, 1983) and resilience (Fine, 1991; Wagnild & Young, 1990) are discussed in the literature, and seem to capture, at least in part, some of the participants' ideas about the need for farm women to be accepting of untoward circumstances, and to problem solve for themselves and others. Kobasa (cited in Lee, 1991) originally defined hardiness as a resistance resource for managing stress. 'Hardiness' is frequently used to describe rural people who manage in adverse circumstances (Lee, 1991). Lee found that rural adults, mostly men, with higher levels of hardiness had a better perception of their mental and social health, but not physical health.

Initial Model of Factors That Affect Farm Women's Perceptions of Health

A unique contribution of this study is a model of factors which appear to influence farm women's perceptions of their health. Within the model, factors are organized to show an apparent interplay between factors that push women's perceptions of health in an unhealthy, or less than healthy direction, and those that appear to push perceptions of health in a healthy or more healthy direction. The tension between the degrees of influence of each of the factors results in women's perceptions of personal health as more or less healthy. The 'line' representing a woman's perception of her health at a given moment, is not rigid, but flexible. At any given time, the influence of each of the factors varies, and these will vary over time and with circumstances.

Some of the older women in this study perceived health and the relationship of health to work differently than the younger women. One reason for this might be that women's participation in farm work appears to change throughout the stages of the development and stabilization of the farm business, and throughout the stages of life of the family (Keating & Munro, 1988). As a woman moves through personal life stages, and stages in family and farm life, her goals and expectations change, and there will be variations in work participation, and in the 'fit' of goals, values, and expectations during these stages. Although there may be differences between age groups in perceptions of health and work, this does not detract from the need for a congruent fit of goals and values for all age groups.

The model of factors which appear to influence farm women's perceptions of personal health may serve to assist nurses and other professionals with interest in the health of farm women to work with farm women in identifying factors that are particularly important for their health. Health status is one indicator of individuals' perceptions of health (Long, 1993).

Although there appear to be themes within farm women's definitions and perceptions of health, each woman is unique, and defines health in a unique way. Great diversity exists in types of farms, farm work, and the particular risks, hazards and benefits that accompany these. This model may assist in the identification of particular aspects of women's work and personal lives that may need development or modification so that their health, and their perception of their health, will increase.

Implications for Nursing and Other Health Care Workers

Greater understanding of farm women's perceptions of health, their own health, and the relationships between their work and health, has implications for

nurses and others who work with farm women. The findings in this study suggest that farm work environments are extremely important because of the closeness of home and workplace, and culture directly and indirectly affects women's health in the ways shown in the model. Those who are concerned with farm women's health and health promotion need to understand the impact of economic and other factors for farm women's health, and observe for the effects of interaction between factors.

The following recommendations are made to assist nurses and others to address the health needs and concerns of farm women:

1. Occupational health and safety issues for farm women must be addressed in a variety of ways so that all farm women have access to needed information and resources. Prevention of work related illness and injury must be the goal of widely disseminated educational programs. Such programs could be offered through agricultural college credit and extension programs, community groups, the government agriculture programs, distance learning, television, and computer programs. More isolated farm women must be included in education and research programs. Informal networks, church rosters, mail routes, and geographic boundaries might be of assistance in identifying these women (Bushy 1993).

2. Farm women's definitions and perceptions of health, illness, and health promotion need to be integral to the planning of meaningful approaches to health care and health promotion with farm women.

3. The diversity of farm type and farm work needs to be considered in planning for dissemination of information about hazards, stressors, and solutions, and in work with individual farm women to identify factors in their unique work situation. Education or other health related sessions need to be

planned around the annual economic and work cycles of farm women in the group being targeted.

4. Female bodily dimensions and characteristics must be considered in the design and manufacture of farm machinery. Women must be involved in machinery design and engineering.

5. Community development approaches for identifying health needs, and solutions would be effective with farm women, who are resourceful and highly motivated to take responsibility for health. Partnerships with women in farming and rural communities should actively involve formal as well as informal leaders and organizations in planning and implementing programs for women (Bushy, 1993).

6. Efforts to provide social support for farm women need to include facilitation of women to women contacts, as the support of other women has been identified as an important factor.

Farm women appear to have a high motivation to care for themselves, and this must be recognized by nurses and others who work with farm women. Bushy (1993) suggests that the sociocultural changes being experienced by women in farm and rural settings might be seen as windows of opportunity, and that nurses are in a position to assist women to recognize their inherent strengths, and to successfully work through life events.

Implications for Research

Many implications for research arise from the findings and conclusions of this study. A broader knowledge base for understanding of farm women's health problems, risks, and barriers to health in relation to work is important for farm women, nurses, other health workers, and researchers. In particular, the

occupational health factors for farm women's health must be explored. Research is required in the following areas:

1. Epidemiological study of risk factors and long term effects of work on farm women's health; within this, the health implications of work for women in specific types of farm operations must be investigated, as the work requirements, expectations, hazards, and stressors differ;

2. The effects of heavy physical and mental workload, and the health implications of specific on and off farm work role combinations, as the different types of work combinations may make a great difference in the effects of the 'double or triple work day,' as well as in the longer term effects on health;

3. The effects of farm related work on female biology; and ways to remove ergonomic barriers to women working in farming work which has typically been done by men, with equipment designed for the male body;

4. Assessment of the health status of farm women, and the relationship(s) between perceived health and health status for farm women;

5. Farm women's perceptions of their health in relation to their perceptions of financial stability;

6. Validation of factors included in the model; the types and degrees of influence of each of these factors for farm women's health, and establishment of relationships between the factors;

7. Exploration of farm women's perceptions of health, and the relationships that they perceive to exist between their work and health;

8. Farm women's knowledge and management of health risks and hazards on and off the farm, and their access to this information.

Measurement of women's contributions to agriculture in Canada is difficult for many reasons. Without information, women's enormous contribution

to agriculture in Canada is frequently ignored by politicians, policy makers, and by the economists who measure and quantify inputs to Canadian agriculture (Smith, 1987). When gender issues in agricultural labour are studied, a narrow concept of labour is commonly adopted which only recognizes farm production work which generates income, excluding the host of necessary reproduction activities done on a daily basis (Whatmore, cited in Gasson & Winter, 1992). A great deal of this labour is women's work, as noted by the women in this study. Farm women's work has been minimized so often that the challenge to describe the ways in which women contribute to agriculture cannot be avoided (Smith, 1992). Smith (1992) calls for a feminist review and analysis of Canadian literature in relation to rural and farm women.

Greater measure and understanding of women's roles in agriculture are critical for greater understanding and measure of the actual and potential costs, and benefits, for farm women's health. Working with farm women to generate more and better information about their health in relation to farming will provide a basis for understanding health risks, problems, outcomes, and potential preventive and health promotion measures.

References

Alberta Agriculture, Food, and Rural Development: Farm Safety Program. (1995). 1994 Farm Fatalities. Edmonton, Alberta: Author.

Auer, L. (1989). Canadian Prairie farming, 1960-2000: An economic analysis. Minister of Supply and Services Canada. Cat. No. EC22-161/1989E.

Berkowitz, A. D., & Perkins, H. W. (1984). Stress among farm women: Work and family as interacting systems. Journal of Marriage and the Family, (February),161-166.

Berkowitz, A. D., & Perkins, H. W. (1985). Correlates of psychosomatic stress symptoms among farm women: A research note on farm and family functioning. Journal of Human Stress 11(2), 76-81.

Bigbee, J. L. (1984). The changing role of rural women: Nursing and health implications. Health Care for Women International 5, 307-322.

Bigbee, J. L. (1988). Rurality, stress, and illness among women: A pilot study. Health Care for Women International 9, 43-61.

Bigbee, J. L. (1989). The effects of consumer education on women's health: A pilot study. Women & Health 15(1), 57-70.

Bigbee, J. L. (1990). Stressful life events and illness occurrence in rural versus urban women. Journal of Community Health Nursing 7(2), 105-113.

Blundell-Gosselin, H., & Thurston, W. (1995). Occupational health and safety needs assessment of farmers in South Central Alberta. Unpublished master's thesis, University of Calgary, Calgary, Alberta, Canada.

Boivin, M. (1987). Farm women: Obtaining legal and economic recognition of their work. In Canadian Advisory Council on the Status of Women, Growing Strong: Women in Agriculture (pp. 49 - 91). Ottawa: CACSW.

Boyle, J. S. (1994). Styles of ethnography. In J. M. Morse (Ed.), Critical issues in qualitative research methods. (pp. 159-185). Thousand Oaks, CA: Sage Publications.

Brown, E. R. (1991). Community action for health promotion: A strategy to empower individuals and communities. International Journal of Health Services 21(3), 441-456.

Brown, N., Muhlenkamp, A., Fox, L., & Osborn, M. (1983). The relationship among health beliefs, health values, and health promotion activity. Western Journal of Nursing Research 5(2), 155 -163.

Bushy, A. (1990a). Rural determinants in family health: Considerations for community nurses. Farm Community Health 12(4), 29-38.

Bushy, A. (1990b). Rural U. S. women: Traditions and transitions affecting health care. Health Care for Women International 11, 503-513.

Bushy, A. (1992). Rural nursing research priorities. Journal of Nursing Administration, 22(1), 50-56.

Bushy, A. (1993). Rural women: lifestyle and health status. Nursing Clinics of North America, 28(1), 187-196.

Bushy, A. (1994). Women in rural environments: Considerations for holistic nurses. Holistic Nursing Practice, 8(4), 67-73.

Buttel, F., & Gillespie, G. W. (1984). The sexual division of farm houehold labor: An explanatory study of the structure of on-farm and off farm labor allocation among farm men and women. Rural Sociology 49 (2), 183 - 209.

Canadian Advisory Council on the Status of Women. (1987). Battered but not beaten: Preventing wife battering in Canada (Cat. No. LW31-27/1987E). Ottawa: Author.

Carey, M. A. (1994). The group effect in focus groups: Planning, implementing, and interpreting focus group research. In J. M. Morse, (Ed.), Critical issues in qualitative research methods, (pp. 225-241).

Cordes, D. H., & Foster Rea, D. (1991). Preventive measures in agricultural settings. In Occupational Medicine: State of the Art Reviews 6 (3), 541-551.

Crozier, L. (1991). Time to praise. In J. Martin (Ed.), Alternative futures for prairie agricultural communities. Edmonton, AB: University of Alberta Printing Services.

Diaz, P., & Gingrich, P. (1992). Crisis and community in rural Saskatchewan. In D. A. Hay & Basran, G.S. (Eds.), Rural sociology in Canada (pp. 36-50). Toronto: Oxford University Press.

Dosman, J. A., & McDuffie, H. H. (Eds.). (1994). Toward human sustainability in agriculture: Policy strategies for agricultural safety and rural health in Canada. Saskatoon: University of Saskatchewan.

Draugn, P. S., Little, L. F., Wozniak, P., Knaub, P. K., Weeks, O., & Smith, C. (1988). Multiple roles, lifestyle satisfaction, and marital happiness among farm wives. Home Economics Research Journal, 17(1), 63-76.

Early results on farm women's work and health. (1993). Farm Family Health1(2), 1, 5.

Ellis, J. L., & Gordon, P. R. (1991). Farm family mental health issues. Occupational Medicine: State of the Art Reviews, 6 (3), 493-502.

Engberg, L. (1993). Women and agricultural work. Occupational Medicine: State of the Art Reviews 8(4), 869-882.

Fast, J. E., & Munro, B. (1991). Value of household and farm work: Evidence from Alberta farm family data. Canadian Journal of Agricultural Economics 39, 137-150.

Field, P. A., & Morse, J. M. (1985). Nursing research: The application of qualitative approaches. Rockville, MD: Aspen.

Fine, S. B. (1991). Resilience and human adaptability: Who rises above adversity? American Journal of Occupational Therapy 45(6), 493-503.

Folk, K. F., Nickols, S. V., & Peck, C. J. (1989). Social-psychological factors related to work status of rural women. Lifestyles: Family and Economic Issues 10(4), 325-343.

Gallagher, E., & Delworth, U. (1993). The third shift: Juggling employment, family, and the farm. Journal of Rural Community Psychology 12(2), 21-36.

Gasson, R. (1973). Goals and values of farmers. Journal of Agricultural Economics 24 (3), 521 - 542.

Gasson, R. (1988). Changing gender roles: A workshop report. Sociologia Ruralis 28(4), 301 - 305.

Gasson, R. (1988). The farm as a family business: A review. Journal of Agricultural Economics 39 (1), 1 - 41.

Gasson, R., & Winter, M. (1992). Gender relations and farm household pluriactivity. Journal of Rural Studies 8(4), 387-397.

Gasson, R., Crow, G., Errington, A., Hutson, J., Marsden, T., & Winter, D. M. (1988). The farm as a family business: A review. Journal of Agricultural Economics 39(91), 1-41.

Ghorayshi, P. (1989). The indispensable nature of wive's work for the farm family enterprise (case study of St. Charles, Quebec). Canadian Review of Sociology and Anthropology 26(4), 561-595.

Giesen, C., Maas, A., & Vriens, M. (1989). Stress among farm women: A structural model approach. Behavioral Medicine. (Summer), 53-62.

Hay, D. A. (1992). Rural Canada in transition: Trends and developments. In D. A. Hay & Basran, G.S. (Eds.), Rural sociology in Canada (pp. 16-35). Toronto: Oxford University Press.

Hedley, M. (1981). Relations of production of the "family farm": Canadian prairies. Journal of Peasant Studies 9 (1), 71-85.

Hibbard, J. H., & Pope, C. R. (1987). Women's roles, interest in health and health behaviour. Women & Health 12(2), 67-84.

Inhetveen, H. (1990). Biographical approaches to research on women farmers. Sociologia Ruralis, 3(1), 101-114.

Ives, Edward D. 1974. The tape-recorded interview: A manual for field workers in folklore and oral history. Knoxville: The University of Tennessee Press.

Jevne, J. (1984). Perceptions of farm women: Final report. Alberta: Women of Unifarm.

Joyce, L. M., & Leadley, S. M. (1977). An assessment of research needs of women in the rural United States: Literature review and annotated bibliography. University Park: Department of Agricultural Economics and Rural Sociology, The Pennsylvania State University.

Keating, N. C. (1987). Reducing stress of farm men and women. Family Relations 36(4), 358-363.

Keating, N. C. (1991). Aging in rural Canada. Toronto: Butterworths Canada Ltd.

Keating, N. C. (1991). The future of the farm family in agricultural communities. In J. Martin (Ed.). Alternative futures for prairie agricultural communities (pp. 53-83) Edmonton, AB: University of Alberta Printing Services.

Keating, N., & Munro, B. (1988). Farm women/farm work. Sex Roles, 3-4, 155-168.

Knaub, P. K., Abbott, D., Meredith, W. H., Parkhurst, A. (1988). Perceptions of stress associated with wives' off-farm employment. Home Economics Research Journal, 17(1), 86-94.

Knaub, P. K., Draughn, P. S., Wozniak, P., Little, L. f., Smith, C., & Weeks, O. (1988). Wives employed off the farm: Impact on lifestyle satisfaction. Home Economics Research Journal, 17(1), 36-46.

Krueger, R. A. (1994). Focus groups: A practical guide for applied research, (2nd ed.). Thousand Oaks, CA: Sage.

Kupfer, L. (1990). Through the eyes of women: Discussions with women in the rural regions of southern Alberta. Canadian Mental Health Association.

Lawler, K. A., & Schmeid, L. A. (1992). A prospective study of women's health: The effects of stress, hardiness, locus of control, Type A behavior, and physiological reactivity. Women & Health 19(1), 27-41.

Lee, H. J. (1991). Relationship of hardiness and current life events to perceived health in rural adults. Research in Nursing and Health 14, 351-359.

Lee, H. J. (1993a). Comparison of selected health behavior variables in elderly women with osteoarthritis in different environments. Arthritis Care and Research 6(1), 31-37.

Lee, H. J. (1993b). Health perceptions of middle, "new middle," and older rural adults. Farm Community Health 16(1), 19-27.

Leininger, M. M. (1985). Audiovisual methods in nursing research. In Leininger, M. (Ed.), Qualitative research methods in nursing (pp.331-341). Orlando, FA: Grune & Stratton.

Lewin, K. (1947). Frontiers in group dynamics: Concept, method and reality in social science: social equilibria and social change. Human Relations1(5).

Lincoln, Y. S., & Guba, E. G. (1985). Naturalistic inquiry. Beverly Hills, CA: Sage Publications.

Little, L. F., Knaub, P. K., Wozniak, P., Draughn, P. S., Smith, C. W., & Weeks, O. (1988). Impact of women's off-farm employment on marital adjustment. Home Economics Research Journal, 17(1), 47-62.

Long, K. A. (1993). The concept of health: Rural perspectives Nursing Clinics of North America 28(1), 123-130..

Lyson, T. A. (1981) Some plan to be farmers: Career orientations of women in American colleges of agriculture. International Journal of Women's Studies 2(4), 311-323.

MacEwan, G. (1975). . . . and mighty women too: Stories of notable western Canadian women. Saskatoon, SK: Western Prairie Producer Books.

Mansfield, P. K., Preston, D. B., & Crawford, C. O. (1988). Rural-urban differences in women's psychological well-being. Health Care for Women International, 9,289-304.

Martz, S. (Ed.). (1990). If I had a hammer: Women's work in poetry, fiction and photographs. Watsonville, CA: Papier-Mache Press.

McCall, M. (1995). Economic security for farm women: A discussion paper. Ottawa: National Association of Women and the Law.

McKenry, P. C., & Hamdorf, K. G. (1985). Family and job influences on role satisfaction of employed rural mothers. Psychology of Women Quarterly, 9, 242-357.

McLean, E. (1987). World agricultural policy and its effect on women's health. Health Care for Women International 8, 231-237.

Morse, J. M. (1991). Approaches to qualitative-quantitative methodological triangulation. Nursing Research 40(1), 120-123.

Murphy, D. J. (1992). Safety and health for production agriculture. St. Joseph, MI: American Society of Agricultural Engineers.

Ollenburger, J. C., Grana, S. J., & Moore, H. A. (1989). Labor force participation of rural farm, rural nonfarm, and urban women: A panel update. Rural Sociology 54(4), 533 - 550.

Pearson, J. (1980). Women who farm: A preliminary portrait. Sex Roles 6(4), 561-574.

Pender, N. J. (1987). Health promotion in nursing practice (2nd ed.). Norwalk, CT: Appleton & Lange.

Perrault, E. (1992). Farm women and the census -- everyone counts! In Statistics Canada: Canadian Agriculture at a Glance (Catalogue 96-301). Ottawa: Minister of Supply and Services.

Robertson, M. H. B., & Boyle, J. S. (1984). Ethnography: Contributions to nursing research. Journal of Advanced Nursing 9, 43-49.

Rodgers, B. L., & Cowles, K. V. (1993). The qualitative research audit trail: A complex collection of documentation. Research in Nursing & Health 16, 216-26.

Rokeach, M. (1968). Beliefs, attitudes, and values: A theory of organizations and change. San Francisco: Jossey Bass.

Rosenberg, H. G. (1984). The home is the workplace: Hazards, stress, and pollutants in the household. In W. Chavkin (Ed.), Double exposure: Women's health hazards on the job and at home. New York: Monthly Review Press.

Ross, L. L. (1984). Prairie lives: The changing face of farming. Toronto: Between the Lines.

Sandelowski, M. (1986). The problem of rigor in qualitative research. Advances in Nursing Science 83(3), 27-37.

Sawer, B. J. (1973). Predictors of the farm wife's involvement in general management and adoption decisions. Rural Sociology 38, 412-426.

Shaver, C. S., & Tong, T. (1992). Chemical hazards to agricultural workers. In Occupational Medicine: State of the Art Reviews 6(3), 391-413.

Shaver, F. M. (1990). Women, work and transformations in agricultural production. Canadian Review of Sociology and Anthropology 27(3), 341-356.

Smith, J. A. (1983). The idea of health: Implications for the healh professional. New York: Teachers College Press.

Smith, P. (1987). What lies within and behind the statistics: Trying to measure women's contribution to Canadian agriculture. In Canadian Advisory Council on the Status of Women (CACSW), Growing strong: Women in agriculture. Ottawa: CACSW, 123-204.

Smith, P. (1992). Beyond 'add women and stir' in Canadian rural society. In D. A. Hay, & Basran, G. S. (Eds.), Rural sociology in Canada (pp. 155-170). Toronto: Oxford University Press.

Spradley, J. P. (1979). The ethnographic interview. Ft. Worth: Holt, Rinehart and Winston.

Statistics Canada. (1992). Agricultural profile of Alberta: Part 2 (Catalogue 95-383). Ottawa: Minister of Supply and Services.

Statistics Canada. (1994). Canadian agriculture at a glance (Catalogue 96-301). Ottawa: Minister of Supply and Services.

Stein, H. (1982). The annual cycle and the cultural nexus of health care behavior among Oklahoma wheat farming families. Cult. Med. Psychiatry 6,81-99.

Tevis, C. (1979). Farm wife is family's escape valve: Where does she go to let off steam? Successful Farming 77, 22-23.

Tevis, C. (1995). Why veteran farmers fall victim to ag injuries. Successful Farming (mid-February), 24-26.

Vezina, N., & Courville, J. (1992) Integration of women into traditionally masculine jobs. Women & Health, 18(3), 97-118.

Wagnild, G., & Young, H. M. (1990). Resilience among older women. Image: Journal of Nursing Scholarship 22(4), 252-255.

Waldron, I., & Jacobs, J. A. (1989). Effects of multiple roles on women's health: Evidence from a national longitudinal study. Women & Health 1(1), 3-19.

Walker, J. L., & Walker, L. J. (1988). Self perceptions of stress in farmers. Journal of Clinical Psychology 44(1), 10-16.

Webster's New Riverside Desk Dictionary. (1988). Boston: Houghton Mifflin.

Weinert, C., & Long, K. (1987). Understanding the health care needs of rural families. Family Relations 36, 450-455.

Werner, M. A., & Olson, D. K. (1993). Identifying sources of disease in agriculture: A role for agricultural health nurses. AAOHN Journal 41(10), 481 - 490.

Wilson-Larson, L. (1991). Farm women's experience of work: A look at their definition of work and factors affecting task participation. Unpublished master's thesis, University of Alberta, Edmonton, Alberta, Canada.

Woods, N. F., Laffrey, S., Duffy, M., Lents, M. J., Mitchell, E. S., Taylor, D., & Cowan, K. A. (1988). Being healthy: Through women's eyes. Advances in Nursing Science 11(1), 36-46.

Wright, K. (1993). Management of agricultural injuries and illness. Nursing Clinics of North America 28(1), 253-266.

Appendix A
Information Letter

Date

Dear _____,

Thank you for your interest in my research study about the work and health of farm women. I am writing to give you more information about this study and how you might be involved.

I have become interested in farm women's work and health in the last few years, especially as I have listened to news and talked to farming friends about changes and problems in agriculture and farming today. I am a student in the Master of Nursing program at the University of Alberta, and I have chosen this topic for my thesis.

My purpose is to gain a better understanding of the health needs of farm women in central Alberta, as women's own ideas and concerns are important in planning health care for farm women.

I plan to have one or two interviews with individual farming women about their ideas about health, their work, and their ideas about how their work (on and off the farm) affects their health. These interviews would be about one to one and a half hours long, at women's homes, if possible, and at a time that is good for them.

I will also hold two group interviews with interested farm women. Women that I interview as individuals will be invited to attend these, along with women who will be new to the study. The groups will have 6 to 8 members, and the questions I ask will be very similar to the ones I ask women as individuals. Both kinds of interview will be tape recorded, with the permission of those in the study.

I am also interested in taking photographs, with permission, of the places women work, and the women themselves if they agree. I would like to do this to get more details about health and work situations than might be given only in words.

For your information, I am enclosing a copy of the consent forms that will be used. I hope that you will be a part of this study. If you would like to be in this study, or would like more information, please call me. If I have not heard from you in several weeks, I will call you.

Yours sincerely,

Jennifer Young, Master's Candidate
Faculty of Nursing, University of Alberta
R.R. 4
Red Deer, Alberta
T4N 5E4 Phone: 886-5360

Appendix B

UNIVERSITY OF ALBERTA FACULTY OF NURSING

Informed Consent Form

Project Title: Farm Women of Alberta: Their Perceptions of Their Health and Work

Researcher: Jennifer Young
MN Candidate, Faculty of Nursing
University of Alberta
Phone: 886-5360

Thesis Supervisor: Dr. P. A. Field
Professor, Faculty of Nursing
University of Alberta
Phone: 492-6248

Purpose: My purpose in this study is to increase nurses' understanding of farming women's ideas of health, their work and the effect(s) of work on their health.

Procedure: If you decide to be in this study, I will meet with you once or twice, when I will ask you questions about your work activities, your ideas of health, and your ideas about how your work affects your health. These interviews will be about 1 to 1-1/2 hours long, and will be held at times that are good for you. Our conversations will be tape recorded, and a secretary will type word for word copies of the tape recordings.

After our first interview, I will invite you to attend a group interview with other farm women, where I will ask the group questions about their health and work. In this group, you can discuss your ideas with the other women. They will hear your ideas, and you will hear theirs. It will be up to you if you want to be in the group or not. If you do not, I may ask to meet you for a second interview to make sure that I understood your first answers clearly. If you choose to join this group, I will ask you to sign a consent at the group meeting time.

Participation: You do not have to be in this study if you do not wish to be. You may drop out at any time by telling the researcher. You do not have to answer any questions or discuss any subject if you do not want to. You may not gain anything from participating in this study. There will be no expected harm to you if you participate in this research study. If you wish, you may contact my research supervisor, Peggy Anne Field, to discuss the study.

Your name will not appear in this research study. The copies of our conversations will be typed without names on them, and they will not be shared with anyone other than myself and perhaps my supervisor. All tapes, typed copies and notes will be kept in a locked cupboard, separate from consent forms for seven years after this study is finished. My record of your real name, address and phone number will be kept in a locked cupboard, and destroyed after the study is finished. A summary of the final report will be available to you at the end of the study.

Consent: I have read this consent form and my questions have been answered. I know that I may call the researcher or research supervisor if I have questions now or in the future. I agree to be interviewed and for these interviews to be tape recorded.

I understand that the information and findings of this research may be published or used in teaching. My name or information about my personal identity will not be used unless I give permission for photographs (taken by the researcher) to be used. I understand that information from this study may be used in future research. I agree to let this information be used, if an ethics committee approves the planned research. I understand that I am free to stop interviews at any time, and that I do not have to answer questions if I choose not to. I also understand that I am free to drop out at any time. I have been given a copy of this form to keep.

_____ _____

Signature of Participant Date

_____ _____

Signature of Researcher Date

Consent for Photographs to Be Taken:

I agree to having the researcher take photographs of myself and/or the places I work. I release all rights to the photographs and negatives, and agree that any photographs and negatives would be the property of the researcher, although I may have a copy if I like.

I understand that these photographs may be used in teaching and may be published. If a photograph shows my face or other information ahowing my identity, this photograph will not be published without my permission.

_____ _____

Signature of Participant Date

_____ _____

Signature of Researcher Date

Appendix C

Background Information

Please check the response that applies to you:

1. Age in years:

   ❑ under 20 ❑ 20-30 ❑ 30-40 ❑ 40-50

   ❑ 50-60 ❑ 60-70 ❑ 70 or more

2. Education: Please check the level you have completed:

   ❑ Elementary ❑ Junior High ❑ Senior High

   ❑ College or University ❑ Graduate Studies

3. How much of your life have you lived on a farm?

   ❑ 2 - 5 years ❑ 5 - 10 years ❑ 10 - 15 years ❑ 15 - 20 years

   ❑ 20 - 25 years ❑ 25 - 30 years ❑ over 30 years

4. How long have you lived on the farm you live on now?

   ❑ 2 - 5 years ❑ 5 - 10 years ❑ 10 - 15 years ❑ 15 - 20 years

   ❑ 20 - 25 years ❑ 25 - 30 years ❑ over 30 years

5. What type of farm do you live on now?

   _____

6. If you have a job away from home, how often do you work in this job?

   ❑ daily ❑ several days a week ❑ several days a month

   ❑ seasonally (please describe): _____

7. Is supplementation of farm income a major factor in your working off the farm? _____

8. Does your husband/partner also work off the farm? _____

9. If you have children living at home, please indicate how many and their ages: _____

   _____

10. Do you have responsibilities in caring for others, such as parents or adult children? If so, please describe: _____

    _____

11. Please indicate if you have consulted one of the following health workers in the last 6 months:

    ❑ doctor ❑ nurse ❑ dentist ❑ chiropractor ❑ herbalist

    ❑ massage therapist ❑ physiotherapist ❑ reflexologist ❑ other: _____

12. If you have checked one of the above, was this for an ongoing problem or need, or for a shorter term need? ❑ ongoing ❑ short term

Thank you for providing this information.

Appendix D
Sample Interview Questions

I am interested in finding out what farm women see as their activities, their work activities in particular. It would assist me if you would describe your activities during a typical week day (and weekend day).

Where do you do most of your work?

What takes up most of your work time?

What farm work do you do?

What kinds of work do you do off the farm?

What do you think a healthy person is like?

How do you describe your own health?

How do you know when you are healthy?

Tell me how you think your work affects your health?
- What physical effects do you notice? (positive/negative)
- How do you feel at the end of a work day?
- What do you find the most physically challenging?

What kinds of things do you do to keep healthy?

How would you describe your husband's supportiveness to you in your farm work? In home and house work? In your off farm work?

Appendix E

UNIVERSITY OF ALBERTA FACULTY OF NURSING

Informed Consent Form - Focus Group Interviews

Project Title: Farm Women of Alberta: Their Perceptions of Their Health and Work

Researcher: Jennifer Young
MN Candidate, Faculty of Nursing
University of Alberta
Phone: 886-5360

Thesis Supervisor: Dr. P. A. Field
Professor, Faculty of Nursing
University of Alberta
Phone: 492-6248

Purpose: My purpose in this study is to increase nurses' understanding of farming women's ideas of health, their work and the effect(s) of work on their health.

Procedure: I will meet with you and other women in a group (6-8 members including you). The other group members will be farm women who have volunteered to be a part of this study. One or two group interviews will be held, and each group meeting will last approximately 1 to 1 - 1/2 hours. I will ask you and the other group members questions about your work activities, your ideas of health, and your ideas about how your work affects your health. In this group, you can discuss your ideas with the other women. They will hear your ideas and you will hear theirs.

Participation: You do not have to be in this study if you do not wish to be. You may drop out at any time by telling the researcher. You do not have to answer any questions or discuss any subject if you do not want to. You may not gain anything from participating in this study. There will be no expected harm to you if you participate in this research study. If you wish, you may contact my research supervisor, Peggy Anne Field, to discuss the study.

Your name will not appear in this research study. The copies of our conversations will be typed without names on them, and they will not be shared with anyone other than myself and perhaps my supervisor. All tapes, typed copies and notes will be kept in a locked cupboard, separate from consent forms for seven years after this study is finished. My record of your real name, address and phone number will be kept in a locked cupboard, and destroyed

after the study is finished. A summary of the final report will be available to you at the end of the study.

Consent: I have read this consent form and my questions have been answered. I know that I may call the researcher or research supervisor if I have questions now or in the future. I agree to be interviewed and for these interviews to be tape recorded.

I understand that the information and findings of this research may be published or used in teaching. My name or information about my personal identity will not be used unless I give permission for photographs (taken by the researcher) to be used. I understand that information from this study may be used in future research. I agree to let this information be used, if an ethics committee approves the planned research. I understand that I am free to stop interviews at any time, and that I do not have to answer questions if I choose not to. I also understand that I am free to drop out at any time. I have been given a copy of this form to keep.

_____ _____

Signature of Participant Date

_____ _____

Signature of Researcher Date

Consent for Photographs to Be Taken:

I agree to having the researcher take photographs of myself and/or the places I work. I release all rights to the photographs and negatives, and agree that any photographs and negatives would be the property of the researcher, although I may have a copy if I like.

I understand that these photographs may be used in teaching and may be published. Ifa photograph shows my face or other information ahowing my identity, this photograph will not be published without my permission.

_____ _____

Signature of Participant Date

_____ _____

Signature of Researcher Date

Appendix F

UNIVERSITY OF ALBERTA FACULTY OF NURSING

Consent Form for Publication of Photographs

This form provides opportunity to choose any or all of the following alternatives in relation to publication of photographs. Even though your identity is included in some photos, your name or places where you live and work will **not** be identified. Please sign under any or all of the following to which you agree:

I give permission for photographs of myself and my workplace, taken by Jennifer Young, to be published:

1. in her thesis document:

   _____ _____
   Signature Witness

2. in article(s) which may be published in (a) scholarly journal(s); the purpose of these articles will be to share findings of this study and assist others to learn about the work and health needs of farm women:

   _____ _____
   Signature Witness

3. in print or slide form to be used in oral presentations to present the findings of this study and assist others to learn about the work and health needs of farm women:

   _____ _____
   Signature Witness

Date: _____