The Relationship of Women's Physical Health to Multiple Roles and Employment

by

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A thesis submitted to the Faculty of Graduate Studies of the University of Manitoba in partial fulfillment of the requirements of the degree of

MASTER OF SCIENCE

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This analysis is based on Statistics Canada microdata tape, Health and Social Support, which contains data collected in the 1985 General Social Survey. All computations on these microdata were prepared by Mia L. Elfenbaum and the responsisbility for the use and interpretation of these data is entirely that of the author

Abstract

The purpose of the present study was to examine the relationship between women's physical health and both the number of roles they occupy and their employment status. The data used were collected by Statistics Canada in the General Social Survey (GSS) in 1985. Only the data on the female respondents of the GSS were analyzed. There were 6105 female subjects who ranged in age from 15 to over 80 years of age. Role strain theory and role accumulation theory were reviewed and more support was found for role accumulation theory. It was thus used to guide the formation of hypotheses. Results were as hypothesized, as follows: a) the more roles these women occupied, the better their health, b) the employed women were in better health than those who were not employed, and c) employment was a more important predictor of health than was the number of roles occupied. This third finding was especially true for the subjects who were 40 years of age and over versus the younger subjects. Previous research had suggested that the transition out of the labour force could be stressful. Therefore, for those women who identified themselves as homemakers it was hypothesized that previous employment would be related to poor health. Contrary to the prediction, for the GSS sample of homemakers, having been employed in the 5 years previous to being interviewed was positively related to health.

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Introduction

Since the start of the industrial revolution, women have participated in the labour force in growing numbers. During World War II, women moved into the jobs of men who had been drafted, and this precipitated an increase in the proportion of women employed outside the home. However, it has been since World War II that the most dramatic changes in history have taken place in women's labour force participation. During the 1960s and 1970s, women's role in the economy shifted from a temporary and peripheral position to a permanent and integral one (Marshall & Paulin, 1987). Now, well over half of Canadian women work outside the home, and this is true for married women with children as well as unmarried, childless women (Statistics Canada, 1986). As the proportion of women who are active in the labour force rises, it is becoming increasingly important to understand how employment affects a woman's life, in particular, her physical health.

It has been well documented that for working men, employment can be stressful and this stress is implicated in the development of mental and physical illness. However, it has been suggested that the nature of the jobs that women typically occupy is quite different from that of men; most women are white collar or service workers, whereas men are employed in a wider range of occupations.

Women and men may be employed for different lengths of time; women typically spend less time employed in a lifetime than do men (Passannante & Nathanson, 1987). It has been suggested that women who work both outside and inside the home are at a health disadvantage compared to men because the domestic and paid jobs both tend to involve dull tasks that offer little chance for promotion or for workers to act collectively (de Konnick, 1984). Women's jobs are less likely than men's jobs to use individuals' skills, or to offer recognition or power to the worker. Women's jobs are more likely to be emotionally demanding than men's jobs (Stellman, 1978). In addition, employed women are more likely than employed men to have responsibility for the work at home as well as in the workplace (Pleck, 1985). Davidson and Cooper (1986) pointed out that female managers experience stressors in areas over which they have little control, whereas male managers have more control over the stressful aspects of their work. The researchers suggested that this uncontrollable stress may lead female managers to experience poor health.

In contrast to this is the idea that employment outside the home can benefit a woman's health. Employment is seen as providing more of an ego boost, and more social support and social contact than does domestic work. It has been suggested that these benefits of employment will lead to improved health for employed women relative to homemakers (Waldron, 1980). There has been much speculation on the topic of women's work and health, however, studies on the relationship between health and employment have only recently begun to include women (Haw, 1982).

The purpose of the present study was to assess the relationship between women's work and health status. Specifically, if a woman occupies many roles or if she is employed outside the home, what are the effects on her physical health? The study also assessed the effects of previous employment on a homemaker's physical health. These questions were examined in the context of role theory.

Two views of role theory, role strain and role accumulation theory have been reviewed. The evidence in support of each view has been evaluated and role accumulation theory was found to have more support than role strain theory. Role accumulation theory was therefore used to guide the formation of hypotheses in the present research.

This study involved analyses of the data collected by Statistics Canada in September of 1985 for the General Social Survey (GSS). The data tape for the GSS was obtained from the Centre on Aging, University of Manitoba. The GSS is a telephone and personal interview program which involves one survey each year, with a different focus each year. It is intended as a way to monitor changes in social trends and to provide information regarding policy issues. Health was one of the issues focused upon in the 1985 GSS and these were the data analyzed for this study. The GSS contained questions that were related to: (a) health problems, (b) short and long term disability, (c) use of the health care system, (d) height and weight, (e) physical activity, (f) smoking, (g) alcohol use, (h) sleeping, (i)

satisfaction, (j) social activities, (k) help given to others, (l) household activities support, and (m) support network. A number of background characteristics and demographics were available for each respondent. Respondents were men and women, 15 years of age and older. For this study, analysis was limited to the female subjects.

Literature Review

Role Theory

Interest in role theory has stimulated research in sociology and social psychology that reflected the five perspectives discussed below. Functional role theory, which began with the work of Linton and Parsons, explains how people in different roles conform to the "parts" they are expected to play. Structural role theory is similar to the functional approach except that it focuses less on the individual and more on larger social groups. Organizational role theory looks at roles in the hierarchies of organizations. Cognitive role theory is concerned with how an individual perceives others' expectations of him/her and how these perceptions affect his/her behaviour. The fifth perspective with which role theory has been used, and the one with which it is most closely identified, is symbolic interactionism (Biddle, 1986).

The study of the concept of roles by symbolic interactionists was begun by George Herbert Mead in 1934. He was the first to look at "the roles of individual actors, the evolution of roles through social interaction, and various cognitive concepts through which social actors understand and interpret their own and others' conduct" (Biddle, 1986, p. 71). Since then, role theory has been

applied to a number of research questions, among them: (a) role identities,(b) role changes and self- conceptions, (c) status inconsistency and role conflicts, (d) role commitment and behaviour, and (e) the learning of rules (Biddle).

Role theory is sometimes used as another name for symbolic interaction. According to Burr, Leigh, Day, and Constantine (1979), there is some overlap between role theory and symbolic interaction, and there are also some differences between the two. For example, role theory is sometimes applied to societal issues, whereas symbolic interaction is more concentrated on micro issues. Role theory tends to be less concerned with the subjective or symbolic aspects of humans and more concerned with the objective aspects of people's roles.

The field in which role theory is most commonly applied is family sociology (Stach, 1980). Within this field, an area of study looks at one's roles and their effects on the individual. Employment is seen as a role that a person can occupy. Researchers have questioned whether or not the enactment of the "worker role" is beneficial to a woman's mental and physical health. This question seems to be especially important for women who besides the role of employment, occupy other roles, such as women who are married and/or have children.

In an attempt to understand the relationship between women's health and employment, two contrasting views of role theory have been presented in the literature, and both will be reviewed.

According to one view, employment is seen as stressful, and when the stress of employment is added to a woman's other role obligations and stresses (being a homemaker and mother, etc.), employment is likely to have a negative effect on a woman's health. Goode (1960) introduced the term role strain theory and the term has been used to refer to the view that employment will be detrimental to a woman's health (Arber, Gilbert & Dale, 1985). A conflicting view, termed role accumulation theory (first used by Sieber, 1974), is that employment has a positive effect on a woman's health, because it can protect her from the stress of being a homemaker and mother (low status, boredom, and isolation) (Arber, Gilbert & Dale, 1985).

Role Strain Theory

Goode (1960) defined role strain as "the felt difficulty in fulfilling role obligations" (p. 483). The conflicts and demands of one's various roles are more than can be resolved and this leads to the experience of "role strain". According to role strain theory, as the number and diversification of one's roles increase, and the clarity and consensus of one's role expectations decrease, the role strain experienced by the individual increases.

Employed women typically occupy more diverse roles and have less consensus among their role obligations than do women who are not employed. Johnson and Johnson (1977) viewed working women as unsuccessful at using strategies for coping with role strain such as compartmentalization and delegation of roles. Accordingly,

women who work outside the home would be expected to experience role strain. Because role strain is assumed to have a deleterious effect on health (Froberg, Gjerdingen, & Preston, 1986), women who work outside the home would be expected to report more health problems than homemakers.

Role Accumulation Theory

Marks (1977) and Sieber (1974) have questioned Goode's theory of role strain by noting that multiple roles do not always lead to strain or overload problems. Sieber proposed that the rewards associated with one's roles may accumulate as one occupies more roles, and that these rewards may outweigh the burdens (or strains) of the roles. The sources of rewards from role accumulation are (a) role privileges, (b) status security, (c) resources for status improvement and role performance, and (d) ego gratification.

Role privileges. Sieber (1974) pointed out that every role carries with it certain duties, but also certain privileges (or rights). These privileges may act as motivators for one to enter into a role, and as enabling mechanisms that make it easier for one to perform his/her roles. Sieber proposed that role privileges accumulate more quickly than do role strains because (a) every role brings to the individual liberties or freedoms that protect one from exploitation and make it easier to meet role expectations, (b) once a role privilege has been given to one role occupant it tends to be "inherited" by everyone in that particular

role, (c) role privileges are often attained without an increase in role duties, and (d) one can have the obligations associated with one role reduced by using the excuse of having too many other, possibly conflicting, role obligations.

Status security. A number of different roles can act as buffers against failure for one role. In other words, by occupying several roles one is able "to keep 'all the options open'. . . status and role alternatives afford a sense of general status security; and quite possibly this sense of security improves the quality of role performance and compensates for failure in any particular role" (Sieber, 1974, p. 574). Sieber draws a parallel between occupying several roles and diversifying one's investments such that the potential negative impact of failure of any one investment (role) decreases as the number of investments (roles) increases.

Resources for status improvement and role performance. These resources refer to the perquisites associated with certain roles. They are not inalienable the way role privileges are, but they are nonetheless expected to go along with a role. Perquisites of one role may be used in the performance of another role and may enhance one's status. This may compensate for the burdens of multiple roles. Thus, as one's resources accumulate, one becomes less expendable in any one role and as Sieber (1974) pointed out,

> first, ego's role partners will have less effective sanctioning power when ego fails to comply with expectations owing to overload or conflicting claims; and second, ego's role partners will be less likely to use what sanctions they do have at their disposal for the simple reason that they need ego more than ego needs them (pp. 575-576).

Ego gratification. Role accumulation can enhance one's sense of self esteem by making one feel needed and appreciated by many different people in several different spheres of life. As Sieber (1974) suggested, being "fought over" can increase one's sense of pride. Individuals who occupy many roles are often presumed to be superior, and they gain prestige by virtue of their complex repertoire of roles.

According to role accumulation theory then, as the number of one's roles increases, the potential for the above rewards from these roles increases. This increase in rewards exceeds the burdens associated with multiple roles and role strain perceived by the individual decreases. The worker role is seen as an important source of rewards (Coleman & Antonucci, 1983). According to role accumulaton theory, women who are employed would be expected to perceive more rewards and less role strain than homemakers. The perception of rewards from one's role is assumed to have a beneficial effect on women's health (Verbrugge, 1983). Therefore, women who work outside the home would be expected to report fewer health problems than homemakers.

Most of the research on women's employment and health has been done in the last decade. In fact, one of the first studies to look at women's social roles did not take into account the role of employment. The researchers of the study wrote that the "most important status- defining characteristics of a woman are her age, whether she is married, and whether she has children (Weiss & Samelson, 1958). According to Welch and Booth (1977), the

earliest studies of women's employment looked at the effects a woman's working outside the home would have on her family. Most of these studies concentrated on the effects felt by the working woman's children, and some studies looked at the husband and the effects on him due to his wife's employment.

Support for Role Strain Theory

de Konnick (1984) suggested that women who work outside the home and also have the responsibility of household duties "live under conditions which promote the development of health problems" (p. 29). Research has begun to look at this issue by comparing morbidity and mortality rates of employed women and homemakers. Generally, women who occupy the worker role experience a health advantage over homemakers (Coleman & Antonucci, 1983; Hibbard and Pope, 1985). However, when compared to homemakers, certain groups of working women have been found to have a health disadvantage. These are women: (a) employed in white collar, clerical and sales jobs; (b) employed in jobs that do not provide much status or feelings of being integrated with co-workers; and (c) with three or more children or with an ill spouse.

Passannante and Nathanson (1985) looked at mortality rates among women from 1974 to 1978 in Wisconsin. Generally, the death rate for homemakers was higher than that for employed women. The one exception was among white-collar workers aged 60-64 for whom the death rate was higher than for homemakers of the same age. Similarly, the results of an 8 year longitudinal study indicated

that employed women did not have a higher incidence of coronary heart disease (CHD) than homemakers. However, the rate of CHD among clerical workers was almost twice as high as the rate among other employed women and homemakers (Haynes & Feinleib, 1980). House, Stretcher, Metzner, and Robbins (1986) also found women in clerical and sales work to have twice the incidence of CHD as other women.

Hibbard and Pope (1985, 1987) found certain conditions of employment to be related to poor health. Having a job with low status and not feeling integrated with or supported by one's coworkers were negatively related to a woman's physical and mental health. The health difference was independent of family income. The health of homemakers was similar to the health of women who rated their jobs as being low in social support and integration (Hibbard and Pope, 1985).

Woods and Hulka (1979) looked at five possible role characteristics likely to make great demands on a married woman with at least one child: (a) having three or more children, (b) having one or more preschoolers, (c) having an ill child during the five week study period, (d) having an ill spouse during the study period, and (e) being employed. Health was measured in terms of the number of symptoms of illness one had and illness behaviour (i.e. how one dealt with the symptoms). Stressful family roles were found to be more detrimental to a woman's health than employment status. Specifically, having at least three children and/or having an ill spouse explained most of the

variance in women's reports of illness. Women with these stressful family role demands were more likely to report having illness symptoms. Haynes and Feinleib (1980) found the incidence of coronary heart disease increased for working women as their number of children increased. Also, women in their study who had ever been married had a greater chance of developing CHD than women who had always been single. Thoits (1986) stated that for women who are both wives and mothers, the employment role may complicate their lives and put them at a health disadvantage psychologically.

The evidence cited above lends partial support to role strain theory. It suggests that the addition of certain roles to one's repertoire may have negative implications for one's health.

Support for Role Accumulaton Theory

There is evidence that the number of roles a woman occupies is positively related to her physical health. Muller (1986a) found that among married men and women, those who had the additional role of parent, were healthier than those who did not. The married parents were characterized as healthier, because they had fewer days during which they had to restrict their activity or were unable to work. Women who were married reported having fewer illnesses and they had a lower mortality rate than unmarried women (Nathanson, 1975). Similarly, Verbrugge (1983) measured health by looking at general health status, symptoms, and illness behaviour and found that "people with the fewest family roles (nonmarried, nonparents) have the poorest health profile" (p. 23), whereas

married parents had the best health profile. Of the three roles of worker, spouse, and parent, women with none of the roles had the worst health and those with all three roles and employed nonmarried mothers had the best health.

Curvilinearity was found between number of roles and psychological distress in a study of sample populations in Chicago and New Haven (Thoits, 1986). In the Chicago study, the following six role-identities were used as independent variables: (a) spouse, (b) parent (with children under 18 living at home), (c) employee (full- or part-time), (d) group/organization member, (e) relative, and (f) friend. For the last two, one must have had a relative or a friend living in close proximity with whom one had regular contact. In the New Haven study, the following eight role-identities were used: (a) spouse, (b) parent, (c) employee, (d) student, (e) organization member, (f) church member, (g) neighbour (to someone one visited regularly), and (h) friend. The most psychologically distressed individuals had either very few or very many roles. Out of 6 or 8 role-identities, five appeared to be optimal for one's psychological well-being. Generally, employment was found to be beneficial to men's psychological health, whereas marriage and family roles were beneficial for women. It should be noted that this finding refers to psychological, not physical, health. However, this is one of the few studies to use the principles of role accumulation as a basis for hypothesis formation regarding health, and it is therefore included.

Verbrugge (1986) looked at physical health status and health behaviours and multiple roles and reported that

> as role involvements increase, health improves, specifically as the number of key roles, number of key activities, and overall role responsibility diminish, health status worsens and health actions become more frequent. . . . There is no sign of curvilinearity here, that the group with most roles and responsibilities suffers any health debit for being so involved (p. 67).

This lends support to the physical health benefit of multiple roles.

As Verbrugge (1983) pointed out, few studies have been done that look at the health effects of multiple role occupancy. But, overall, role accumulation does seem to be related to a health benefit (Froberg, Gjerdingen & Preston, 1986). In the literature reviewed, more evidence has been put forth in support of role accumulation theory than in support of role strain theory. Employment is one of the roles that one can occupy and "accumulate". However, there is some evidence that the benefit of employment to a woman's physical health is greater than the benefit provided by other roles.

The Role of Employment and Women's Health

Waldron (1980) suggested that employment outside the home can increase the social support and social contact experienced by a woman, and that this may lead to improved health. The benefit of employment seems even greater when this possibility of increased support is contrasted with the monotony, isolation and low status often associated with the homemaker role. As Stellman (1977)

pointed out, housework "shares many of the worst characteristics of dissatisfying paid employment" (p 79). It was suggested that this is the case primarily, because one rarely feels a sense of accomplishment with housework.

One of the role rewards that Sieber (1974) identified for role accumulation is increased resources for improved role performance. Social support is an example of this type of reward. According to Cobb (1976), social support refers to information one receives leading him/her to feel loved and cared for, esteemed and valued, or a sense of belonging and obligation. Furthermore, it can prevent the negative outcomes of crises, including negative health outcomes. Employment outside the home increases a woman's social contacts and thus broadens her social support system. In contrast, domestic tasks tend to be isolating and provide fewer social supports than does employment.

Engaging in a role that is socially valued can boost a woman's self-esteem. Employment outside the home is more socially valued than is domestic work (MacKay & Bishop, 1984). This reward of employment corresponds to the ego gratification described by Sieber (1974). Furthermore, when one has two very different roles, if she or he finds one role unsatisfying, this can be compensated for to some extent by focusing on the other role for satisfaction (Gove & Geerken, 1977). This is what Sieber described as the status security reward.

Traditionally, women have not had an alternative to the domestic roles of being wife and mother. As Wilson (1982) stated, "in most societies, including our own, women are socialized to think that the roles of wife and mother are of prime importance, while men are socialized to think of themselves as breadwinners" (p. 17). Both men and women are described by Wilson as having one main role and typically when a woman is not employed outside the home, her main role is her only role. However, the male breadwinner typically has other roles besides that of employment, such as the roles of husband and father. Following role accumulation theory, in a traditional division of roles, men would be expected to have greater access than women to the rewards associated with multiple roles.

Health statistics for the twentieth century tend to show that women report higher rates of mild illness and disability than do men, but actually live longer than do men (Marcus & Seeman, 1981). To explain this, the fixed role hypothesis has been proposed (Marcus & Seeman; Marcus & Siegel, 1982). According to this hypothesis, people with fixed roles have obligations and responsibilities which are not easily given up and this can make it difficult to adopt the sick role. The following three measures are used to determine how fixed one's role is: (a) employment status, (b) head of household status, and (c) extent of financial responsibility. The sex differences in morbidity rates have been explained by the fact that because men have more fixed roles than women they report less illness; men's obligations prevent them from adopting the sick role.

The plausibility of the fixed role hypothesis to the explanation of sex differences in morbidity has been tested. Generally, the hypothesis seemed to be most appropriate for explaining sex differences in sick role behaviour (e.g. when to give up the sick role, whether to see a physician, and whether to restrict activity). In other words, a fixed role had less to do with whether one perceived a symptom/illness than with what one chose to do about it. It is relevant for the purposes of the present study that of the three measures of a fixed role (employment, head of household, and financial responsibility) employment was found to be the most important predictor of good health, and employment was the only fixed role measure with a consistent negative relationship to morbidity and disability (Marcus & Seeman, 1981; Marcus, Seeman, & Telesky, 1983; Marcus & Siegel, 1982).

In a study of 3000 women, Jennings, Mazaik and McKinlay (1984) found that employed women had fewer health problems than full-time homemakers, unemployed women, and women with an unemployed spouse. The employed women rated their health more positively than did the other women, and they reported having fewer symptoms of illness, fewer visits to a health care professional, and less drug use (particularly sleeping pills). Similarly, Anson and Anson (1987) looked at six indicators of physical health for over 20,000 women aged 18 to 55. These six indicators were: (a) self- rated health, (b) reported chronic morbidity, (c) days of restricted activity (2 weeks prior to the

interview), (d) bed disability days (during the previous year), (e) number of visits to the doctor (during the previous year), and (f) number of hospital admissions (during the previous year). All indicators were found to be related to a woman's employment status, such that the researchers found a clear association between being employed and being in good physical health. Passannante and Nathanson (1987) studied the mortality rate for women and found it to be lower for women in the labour force than for homemakers.

In a longitudinal study from 1965 to 1974 (Waldron, Herold & Dunn, 1982), women who were in the labour force in 1965 reported themselves as being in better health than did women who were not in the labour force at that time. In addition, during the 9 years following 1965, a greater proportion of the non-labour force women had died than had those in the labour force. This finding suggests beneficial effects of employment on health, because women in the labour force both perceived themselves to be healthier and had a lower death rate than women out of the labour force. Similarly, Verbrugge (1983) found that people who occupy roles (employment, parenthood, and marriage) are in better health than people who do not occupy these roles. The more roles one has, the better one's health tends to be. Of the three roles, employment was found to have the strongest positive relationship with health. "Health" included the following measures: (a) self-rated health, (b) morbidity, (c) restricted activity, (d) chronic limitation, (e) health care service use, and (f) drug use.

In Welch and Booth's (1977) study of Toronto women, employed women (as long as they had been employed for more than a year) were found by medical examination to be healthier than homemakers. Nathanson (1975) reviewed studies that found employed women to report less illness and disability than women who did not work outside the home. It was stated that "employment has perhaps, the most clearly positive effects on women's health of any variable investigated to date" (p. 60).

A health advantage was also found for employed Israeli women as compared to homemakers in Israel. Over 400 homemaker and employed women were interviewed. The employed women reported having fewer symptoms of illness, and they made fewer visits to a health care professional than did the homemakers (Lewin- Epstein, 1986). Northcott (1980) studied Canadian women and found that women employed either full- or part-time were at least as healthy in terms of psychophysiological health as homemakers (and some were more so). Kutner (1984) conducted an analysis of interviews with 148 employed and nonemployed women with disabling health conditions (such as neuromuscular disorders, cardiac problems and kidney disease). The employed women were found to have significantly more positive perceptions of their health as compared to the nonemployed women, even though the disabling health conditions were similar for the employed and nonemployed women. Kutner suggested that employment positively influences a woman's perception of her own health.

Muller (1986b) found that homemakers had over twice as many restricted activity days as employed women, and employed individuals had a significantly lower rate of health care use than people not in the labour force. Muller suggested that employed women's lower rate of health care use was due in part to their superior health and in part to the lack of time available to these women to make physician and hospital visits. The results of a regression analysis indicated that, "paid employment was associated with better health and fewer chronic limitations even when education, income, age, and family variables were taken into account" (p. 20). Coleman and Antonnucci (1983) measured the following three variables: (a) employment, (b) family life-cycle stage (which refers to family composition, including marital status and age of children), and (c) income. Employment was found to be the strongest positive predictor of middle-aged women's physical health (measured by a symptom checklist). Employment was also positively related to the self-esteem of these women. In a study by Verbrugge (1986), after age, employment was the most important predictor of physical health status, and after morbidity, employment was the most important predictor of health behaviours. Health status and health behaviours were measured by retrospective interviews and prospective diaries. Measures for the year prior to the interview included: (a) self-rated health, (b) number of chronic conditions, (c) restricted activity days, (d) job limitations due to health problems, and (e) drug use/treatment for chronic problems. During the six weeks following the interview, subjects recorded daily health according

to: (a) physical feeling, (b) number of health problems, (c) restricted activity, and (d) use of prescription drugs.

Wheeler, Lee, and Loe (1983) looked at general well-being (GWB) and found that employed women scored higher on the GWB scale than nonemployed women in all socioeconomic groups except in the most educated group. This positive association between employment and GWB was stronger for non-married than for married women. This finding suggests that whereas employment may be beneficial to a woman's health, it is especially beneficial when she does not occupy any other roles besides employment. Nathanson (1980) reported a similar finding from research of a U.S. national health survey in 1974. Health measures included: (a) response to perceived symptoms, (b) activity restriction, (c) physician visits, (d) self-rated health, and (e) chronic conditions. Employment was positively related to health for all women, but this relationship was especially strong for women who because of their other roles (or lack thereof) have "the least access to opportunities for self-esteem and social support alternative to employment" (p. 470).

In the literature reviewed, employment has been found to be related to good health more often than it is related to poor health. The majority of studies do not look at the rewards of employment versus nonemployment as an intervening variable between employment and health. However, the results of the studies reviewed still lend support to role accumulation theory.

The present study is not a test of role accumulation theory but the hypotheses are based on the general propositions of this theory. What follows is a description of the specific variables and hypotheses used in the present study.

Operational Definitions

Physical Health Measures

1. General health. This refers to a respondent's perception of her own health relative to others her own age.
2. Health problem. A respondent was characterized as having a health problem if she had high blood pressure, heart trouble, diabetes, respiratory problems or arthritis, rheumatism, or bursitis.
3. Disability days. This is a measure of the number of days a respondent remained in bed or restricted her usual activity, during a two week period.

Role Measures

1. Total number of roles. This variable is the number of roles occupied by a respondent out of four possible roles:

   a) Worker - those who categorized their main activity as working.

   b) Spouse - those who were married or living common law.

   c) Parent - those with at least one child living in their household.

d) Child - those with at least one parent living in their household.

2. Number of roles besides employment. For this variable, there were three possible roles for a woman to occupy: spouse, parent, and child. These three roles were defined as above.
3. Employment. Respondents were asked to report on their main activity. Those who categorized their main activity as working were considered to have the role of employment. Those who reported keeping house, going to school, or another activity as their main activity were not considered to have the role of employment.
4. Homemaker. Those respondents who reported their main activity to be keeping house were categorized as homemakers whereas all others were not included in this category.
5. Homemaker's previous employment. Identified homemakers were categorized according to whether or not they had had a job at anytime during the five years prior to being interviewed.

Statement of Hypotheses

Few of the studies reviewed explicitly used role accumulation as the theoretical basis for generating hypotheses. Role accumulation theory predicts general benefits to occupying a large number of roles. If this theory is applied to health, it would be expected that the greater the number of roles a person occupies,

the more health advantages he or she will have. Therefore, it is hypothesized that:

1. The more roles a woman occupies, the better her physical health will be.

However, employment is seen by many not only as a role for one to "accumulate" but as a special source of benefits. Participating in a socially valued activity, such as employment, can enhance a person's sense of self-esteem and sense of accomplishment. Furthermore, it increases one's social network, thereby increasing his or her support system (MacKay & Bishop, 1984). Therefore, it is hypothesized that:

2. Women who are employed will be in better physical health than women who are not employed.

Furthermore, because many researchers controlled for income and age and found employment to be the most important predictor of good health for women, it is hypothesized that:

3. After controlling for family income and age, employment will be a better predictor of women's physical health than will be the number of roles occupied besides employment.

Most of the research on employment and women's health looks at employment as a dichotomous variable; women are either employed or homemakers. Welch and Booth (1977) and Anson and Anson (1987) pointed out that neither employed women nor homemakers are homogeneous groups of women. The researchers stressed the importance of making finer distinctions among both subgroups of women.

For example, Welch and Booth (1977), who studied almost 500 married women with children, distinguished between homemakers who had never worked outside the home and those who had worked at some previous time. There were three categories of employed women, those who had been working: (a) full-time for less than one year, (b) for more than one year, and (c) part-time employees. The results of Welch and Booth's study suggested that, "wives in a period of transition - either by virtue of beginning full-time work or by having been employed in the recent past - are under more stress than other women" (p. 391). Scores for substance use, psychiatric impairment, days sick in bed and, the number of acute and chronic diseases one has were seen as reflections of the increased stress for women in transition.

Anson and Anson (1987) used similar categories of employment as those of Welch and Booth (1977). The difference was that they did not use a category for part-time employees, but they did include a category for unemployed women actively looking for a job. The researchers found that women who were employed for at least the full year prior to the study were the healthiest group of women. Comparisons of the two groups of employed women with the three groups of non-employed women found employed women to be in better health.

Anson and Anson (1987) found a positive relationship between transitions into and out of the labour force and poor health. In other words, women who had recently left and entered the labour force were found to be in worse health than other groups of women.

However, the health of those who had recently entered the labour force was better than the health of those who had recently left the labour force. This suggests that the adjustment required of one entering the labour force is easier than that required of one leaving the labour force. Given the detrimental health effects associated with the homemaker role for women who had previously been employed, it is hypothesized that,

4. Homemakers who had not been employed in the past 5 years, will be healthier than those who had been employed outside the home during this time.

Methodological Issues in Previous Research

Physical Health Measures

In past studies of employment and health, various indices of physical health (or sickness) have been used. For example, Nathanson (1975) pointed out that there are three aspects to health behaviour: (a) illness, which refers to one's reported symptoms of illness, (b) sick-role behaviour, which is the extent to which one's normal activities are restricted, and (c) service use which refers to whether one seeks medical attention. Some studies include the use of prescription drugs as a health variable (Anson & Anson, 1987). Other studies rely on the results of medical examinations (Haynes & Feinleib, 1980) as an index of health. Mechanic (1978) stated that respondents are often asked to give a subjective evaluation of their symptoms of illness. This may confound illness with sick-role behaviour, because, as Mechanic suggested, "the perception of symptoms is dependent in

part on what people do about them" (p. 211). Therefore, those people who are more able to take some action to deal with their symptoms are more likely to perceive the symptom as illness, and are also more likely to report it as an illness. Roles people occupy may be a factor in determining whether they are able to deal with their symptoms.

Most studies that include the use of health care services as part of the measure of health, do not distinguish between visits for preventive health care practices and visits due to one's illness or disability. A higher rate of service use is assumed to be related to poor health and this may be an erroneous assumption. Some or all of an individual's visits to a health care professional may be for the prevention of an illness rather than for the cure or alleviation of symptoms. Furthermore, as Mechanic (1978) pointed out, health care service utilization may be determined by the physician, not the patient. For example, the physician may order certain procedures, hospitalization, or make referrals. These may be influenced by the physician's attitude towards the patient as well as the patient's actual symptoms. As Nathanson (1975) pointed out, it is also important when measuring women's health behaviour, to exclude health care service use associated with pregnancy and childbirth. If visits a woman makes to doctors or hospitals because of pregnancy or childbirth are included in the measure of health care use, a woman who has been pregnant and/or given birth may be assumed to be more unhealthy than she really is. This will lead to an unfair comparison

between women in their reproductive years and men or women who are not in their reproductive years. Clearly then, health care service use, unless defined precisely, may not be a valid measure of one's health.

In the present study, service use was not included as a measure of health due to the fact that the General Social Survey does not categorize health care utilization for the year prior to the interview according to whether the visits were: (a) for preventive health care measures, (b) physician-initiated, (c) related to pregnancy and childbirth, or (d) due to illness of the individual.

Validity of self-reports of health. Except in those studies in which subjects are given physical examinations, the data in studies of health are usually collected by asking subjects to report on their own health and/or health behaviour. The validity of this data has been questioned by some. It has been suggested that employed women exaggerate their good health (because poor health conflicts with employment), and nonemployed women exaggerate their poor health (as an excuse for not being employed). However, the results of a longitudinal study of women, from 1965 to 1974 (Waldron, Herold, & Dunn, 1982) indicated that self- reports are valid measures of health. The women were asked to rate their health as excellent, good, fair, or poor and whether their health limited their work, housework, or other activities. The survey did not distinguish between mental and physical health. In 1965, the women in the labour force rated their health more

positively than the women not in the labour force. Follow-up analyses, including death certificate searches, revealed that a greater proportion of the women out of the labour force than in the labour force had died in the 9 years following 1965. The authors claimed this was supportive of the validity of self-report measures of health, because the women's initial self-reports were found to reflect actual health differences (Waldron, Herold, & Dunn). Similarly, Mossey and Shapiro (1982) looked at the relationship between self-rated health and mortality among the elderly. Their findings supported the use of self-rated health as a predictor of mortality. This is consistent with Ware, Brook, Davies, and Lohr (1981) who wrote that researchers need not be wary of using subjective measures of health, because they have been found to be reliable and valid. In the present study, self-reports of physical health were used.

Samples

The majority of studies that look at employment and physical health for women are based on randomly selected, national samples that are representative of the populations from which they are drawn. Typically, hundreds, if not thousands, of subjects are included in these samples.

However, some studies have as the target population, a specific group of women such as executive women (Davidson & Cooper, 1986), or women with disabilities (Kutner, 1984). These studies tend to have smaller samples, and the subjects are usually

nonrandomly selected. The sample used in the present study was of the former type, and it included over 6000 women from across Canada.

Social Selectivity vs. Social Causation

An issue which has not yet been resolved by research is whether employment causes improvements in women's health or whether only women in good health seek employment. The idea of healthy women self-selecting into the labour force has been referred to by some as the "healthy worker effect" (Froberg, Gjerdingen, & Preston, 1986; Jennings, Mazaik, & McKinlay, 1984). Verbrugge (1983), who has looked at health in relationship to other roles in addition to employment, referred to the possibility of health influencing the roles one chooses, as "social selection", and the possibility of one's roles influencing health is referred to as "social causation" (p. 26). As Froberg et al. pointed out, this issue can only be resolved by longitudinal studies. Studying the same women over time can help identify the direction of causality between women's health and multiple roles. To date, almost all the studies on health and roles have been cross-sectional.

Waldron, Herold, Dunn and Staum (1982) analyzed longitudinal data taken from the same group of women in 1967, 1969, 1972, and 1977. The women were 30 - 44 years old in 1967. The researchers concluded that health affects a woman's participation in the labour force, because women who reported being in poor health were

more likely to leave their jobs and less likely to seek employment than women in good health. The researchers did not find any evidence of initial labour force participation being related to a subsequent health improvement. A problem with this research makes the assumption of social selection questionable. In this study, a woman was categorized as in the labour force for any given year if she was employed or looking for a job during the week before she was interviewed in that year. To treat women holding jobs and women looking for jobs as a homogeneous group is problematic. Jennings, Mazaik, and McKinlay (1984) found that of employed women, unemployed women (those looking for a job), and homemakers, employed women had the fewest health problems, followed by homemakers, and unemployed women had the most health problems. This suggests that to group together women who are employed with those looking for work as Waldron et al. did, will not give an accurate picture of health differences between different groups of women.

Partial support for the social selection theory has been provided by the findings of Waldron, Herold, and Dunn (1982) that 4% of married white women and 16% of married black women cited ill health when asked for the main reason they do not work outside the home. Similarly, 3.6% of Canadian women without employment surveyed in 1983 said they left their last job because of their own illness (Statistics Canada, 1985). Apparently, some homemakers are not employed because they are not healthy enough. Generally, it appears that social selection or the healthy worker

effect may account for some of the health differences between homemakers and employed women.

Social selection is not the sole reason for the health advantage experienced by employed women relative to homemakers. Hibbard and Pope (1985) found that women whose jobs provided much social support and integration had better health than homemakers, whereas the health of women whose jobs provided little support and integration was similar to that of homemakers. This supports the idea that employment can contribute to improved health for women. Therefore, it is also likely that social causation can account for some of the health differences between employed women and homemakers. As Jennings, Mazaik, and McKinlay (1984) and Verbrugge (1983, 1986) suggested, it is likely that both social selection and social causation can explain some of the relationship between health and multiple roles. Only longitudinal studies can determine to what extent social selection and social causation are each responsible for the positive association between employment and health for women. The 1985 General Social Survey was not a longitudinal study and, therefore, the present research was not able to explore the issue of social selection versus social causation.

Strengths and Limitations of the Present Study

The General Social Survey (GSS) of 1985 is the primary study on which the present research is based. The GSS was intended to meet a variety of research needs and therefore includes

information on a wide range of subjects. However, the present study will be limited by some constraints common in secondary analysis.

Physical Health Measures

Physical health was measured in the GSS by respondents' self-reports. In the present study self-reported measures of general health, extent of health problems, and disability will be used. The validity of self-reports of health has been established and this type of measure can be used with confidence (Waldron, Herold, & Dunn, 1982; Ware, Brook, Davies, & Lohr, 1981).

Measures of Roles

The present study is somewhat limited because employment and role characteristics were not a focus of the GSS. Questions regarding employment were asked mainly as background variables. Some literature suggests health differences exist among employees due to part-time versus full- time work (Arber, Gilbert, & Dale, 1985). Questions about the number of hours one works per week were not asked and this makes it impossible to test for differences between full-time and part-time employees.

Similarly, due to limitations of the GSS data, the parent and child roles are defined quite narrowly in the present study. The information available in the GSS categorized respondents according to whether they had at least one child or parent living in the household. Given this information, one can study role occupancy

but not the extent of role obligations. For the parent role, to assess role obligations and role involvements, more information on the number and ages of respondents' children is needed. For the role of child, information is needed on the extent to which the child is responsible for the care of the parent, regardless of whether the parent is living in the same household as the child or not.

Sample

Like most studies on employment and women's health, the present study is based on a randomly selected national sample, and this is a strength of the study. This study is different from other studies with large samples because it uses a Canadian sample, whereas almost all the work to date has been done in the U.S. Two studies done in Canada which have looked at women's employment and health were each done in one city and not across the country. Northcott (1980) used the Edmonton Area Study, and Welch and Booth (1977) used a sample of Toronto women. Thus, another strength of this study is that is one of the first national studies of Canadian women's health and employment.

Data Collection

The GSS that will be used in the present study was collected in 1985 and is, therefore, recent. Many of the latest articles on women's health and employment are based on data collected in the late 1970s or earlier. It is a strength of this study that the data is so recent.

The fact that the GSS was a cross-sectional rather than a longitudinal study limits the types of research questions that it can answer. The issue of social causation versus social selectivity, which requires longitudinal data, cannot be addressed in the present study. Therefore, no hypotheses can be made regarding the direction of causality between health and employment.

Theoretical Orientation

Whereas several studies have looked at roles and women's health from the perspective of role accumulation theory, these studies were for the most part concerned with mental instead of physical health. In this study, role accumulation theory is applied to women's physical health. It is a relatively new application for role accumulation theory and to the study of women's physical health. The novelty is a strength of the present study.

Methods

Subjects

The data used were from the General Social Survey (GSS) collected by Statistics Canada in 1985. The target population for the GSS was comprised of Canadians at least 15 years of age, with the exclusion of those living in the Yukon and the Northwest Territories and full-time residents of institutions. For the purpose of this study, a subsample of the GSS was used. Subjects were limited to female respondents. There were 6105 women who responded to the GSS.

Sampling Method of the General Social Survey

Random digit dialing was used to identify private households with persons age 15 to 64. Once a private household was reached, the interviewer asked whomever answered the phone for a list of all household members. Information on each member's age, sex, and relationship to the head of the household was collected. From the list of household members, the interviewer randomly selected one individual, between 15 and 64 years of age, to be interviewed. If the respondent could not be interviewed right away, an appointment was set up for a more convenient interview time. Approximately 8,150 telephone interviews were completed and this represents a

response rate of 84% of the households that the interviewer attempted to contact.

To identify households with those over age 65, the Canadian Labour Force Survey was used. All subjects from this survey who were 65 years old or over were contacted to take part in the General Social Survey. Approximately 3,150 people were interviewed and this represents 87% of those contacted to participate. This subpopulation of respondents 65 years old and over were interviewed in person.

The General Social Survey interview form used for respondents aged 15 to 54 was comprised of sections on the respondent's: (a) health problems, (b) disabilities two weeks prior to the interview, (c) use of health care services, (d) long-term disabilities, (e) height and weight, (f) physical activity, (g) smoking, (h) alcohol consumption, (i) sleeping, (j) satisfaction, (k) support network, and (l) background characteristics. The questions asked of respondents aged 55 to 64 were the same as the above with the inclusion of sections on social activities, help given to others, and household activities support. For those age 65 and over, who were interviewed in person, five questions asked of the 55 to 64 year old respondents, which referred to the number and type of telephones in the respondent's home, were excluded.

Variables and Hypothesis Testing

Dependent Variable

For all four of the hypotheses being tested in this study, health was the dependent variable (See Appendix A for the wording of the questions on health as they appeared in the GSS). Three measures of health were used. They are as follows:

1. General health. Respondents were asked to describe their health, relative to others their own age, as: (a) excellent, (b) good, (c) fair, or (d) poor (See Appendix A, item # 1). Scores assigned to answers were as follows: (a) excellent=4, (b) good=3, (c) fair=2, and (d) poor=1, such that the higher the score, the better the general health
2. Health problem. Respondents were categorized as having a health problem if they had at least one of: (a) high blood pressure, (b) heart trouble, (c) respiratory problems, (d) diabetes, or (e) arthritis, rheumatism, or bursitis (See Appendix A, item # 2). Respondents who had no health problem received a score of 2 and those with a health problem received a score of 1. Therefore, for a group mean, the closer a score to 2, the less likely it is that members of the group have health problems.
3. Disability days. This refers to the number of days the respondent stayed in bed and/or cut down on her usual activities, in the 14 days prior to the interview. This variable ranges from 0 to 14 days. (See Appendix A, item #

3). For this variable, a respondent's score is the same as the number of days she reports as disability days. In other words, if she took 2 disability days, her score is 2. Therefore, the higher the score, the greater the disability.

Independent Variables

Hypothesis 1. The prediction in hypothesis 1 was that the more roles a woman occupied, the better her health would be. The independent variable was thus the number of roles occupied by a respondent (See Appendix B for wording of GSS questions used for role variables). For each of four roles, a respondent received a score of 2 for occupying the role and 1 for not occupying it. To determine the total number of roles, these four scores were added. Therefore, as the score for total number of roles increases, so does the number of roles occupied. A respondent may have had all, some, or none of the following four roles:

1. Worker. Respondents were asked to categorize their main activity as: (a) working, (b) going to school, (c) keeping house, or (d) other. Those who have working as their main activity will be viewed as occupying the worker role (See Appendix B, item # 1).
2. Spouse. Respondents were grouped into the following marital status categories: (a) married or living common law, (b) single (never having married), (c) widowed, or (d) separated or divorced. Those in the first category

(married or living common law) were viewed as occupying the role of spouse (See Appendix B, item # 2).

3. Parent. The following parent categories were used: (a) all respondent's children live out of the household, (b) at least one child lives in and at least one child lives out of the household, (c) all respondent's children live in the household, and (d) respondent has no children. Respondents in categories (b) and (c) were viewed as occupying the role of parent (See Appendix B, item # 3).
4. Child. Respondents were asked whether either their mother or father lived in the household with them, and were categorized as either having no parents in the household or at least one parent in the household (See Appendix B, item #4).

Hypothesis 2. It was hypothesized that women who were employed would be healthier than those who were not employed. The independent variable in hypothesis 2 was employment, or whether the respondent occupied the worker role. The employment role was treated as in hypothesis 1, such that, a respondent received a score of 2 for being in the worker role and 1 for not being in the role of worker.

Hypothesis 3. The prediction in the third hypothesis was that emplomen would be a better predictor of physical health than would be the number of roles occupied besides employment. The two independent variables were: (a) employment, which was categorized as in hypothesis 1 and 2; and (b) number of roles besides

employment. This variable refers to the number of roles occupied out of the following possible roles: spouse, parent, and child. For each of these three variables (treated as in hypothesis 1) a respondent received a score of 2 for being in the role, and a score of 1 for not being in the role. These three scores were added together. Therefore, the greater the score, the more roles one occupied. Two variables that were found to be confounding variables in previous studies were controlled in the present study (See Appendix C for the wording of the questions in GSS that were used to derive the control variables). The control variables were as follows:

1. Family income. Respondents were asked to indicate the combined income of all household members from all sources for the year 1984. The median income ($20,000) was taken as the point at which to distinguish women in low versus high income families (See Appendix C, item # 1). Respondents with incomes of $20,000 or less received a score of 1, and those with incomes over $20,000 received a score of 2.
2. Age. When the interviewer made the screening phone call, the ages of all household members were obtained. This is how the age of the selected respondent for the household was obtained. Respondents were grouped into two age categories: those under 40 years of age and those 40 years of age and older (See Appendix C, item # 3). Those under 40 years of age were scored as 1 and those 40 and over were scored as 2.

Hypothesis 4. It was hypothesized that homemakers who had not been employed in the 5 years prior to the interview would be in better physical health than homemakers who had had a job and left the labour force at some time in the past 5 years Hypothesis 4 focused on homemakers, and the independent variable was whether the homemaker had been employed in the 5 years prior to being interviewed (See Appendix B, item # 5 for the GSS question, which identified homemakers who had and had not been employed 5 years prior to the interview). The score for those who had been employed was 1 and for those who had not been employed, the score was 2. Respondents were asked to categorize their usual main activity as: (a) working, (b) going to school, (c) keeping house. or (d) other. In order to isolate homemakers from other women for hypothesis 4, only women who viewed keeping house as their main activity were included (See Appendix C, item # 3 for the GSS question used to identify homemakers).

Data Analysis

Data in the present study were analyzed with the Statistical Package for the Social Sciences, version X (SPSSx). For hypotheses 1, 2 and 4, the procedure used was one-way analysis of variance. The ONEWAY procedure produces a one-way analysis of variance table for each dependent variable by one independent variable. The ONEWAY procedure was used instead of the ANOVA procedure, because with ONEWAY, it is possible to do a variety of range tests. Duncan's multiple range test that provides comparisons between means, was used for hypothesis 1, with an

alpha value of .05. The Duncan's multiple range test could not be used for hypotheses 2 or 4 because to be performed, the independent variable must have more than two categories, and in hypotheses 2 and 4, they do not.

For hypothesis 3, which involves a comparison of two independent variables controlling for two variables, multiple classification analysis (MCA) was used. MCA, which combines analysis of variance and regression techniques, is a subcommand of the ANOVA procedure. The MCA output consists of the grand mean of the dependent variable and deviations from the grand mean for each category of the independent variables. The deviation values are printed as both unadjusted values, and adjusted for main effects of other independent variables. The MCA output shows which variables are significantly related and the relative contrivution made by each independent variable to the prediction of the dependent variable. Separate MCAs were conducted within four categories of the two control variables, as follows: (a) women under 40 with family income of $20,000 or less, (b) women 40+ with family income of $20,000 or less, (c) women under 40 with family income greater than $20,000, and (d) women 40+ with family income greater than $20,000. Age and income were controlled in this way because on preliminary analysis, when the controls were entered as covariates with the independent variables, there were problems with interaction effects.

Results

Description of the Sample

Demographic Characteristics for the Entire Sample

Demographic characteristics of the sample are presented in Table 1. The sample consisted of 6105 women. The range of ages was 15 years to 80 and over. There were 2775 (45.5%) women under 40 years of age and 3330 (54.5%) 40 years of age and older (M=45-49 years, S.D.=20 years). There were 1920 (31.4%) respondents whose family income was above the median of $20,000, 1845 (30.2%) whose income was over $20,000, and 2340 (38.4%) respondents reported that they did not know their family income or chose not to state it. In terms of education, 2741 (44.9%) women had some secondary education, 1110 (18.2%) graduated from a secondary institution, 839 (13.7%) had some post secondary education, and 1339 (21.9%) had a post secondary degree or diploma. There were 3950 (64.7%) women who did not occupy the worker role, and 2126 (34.8%) were in the worker role.

Demographic Characteristics by Employment Status

Women without employment. Of the 3950 women in this group, the majority were 40 years of age or over (n=2582, 65.4%). There were more respondents with family income below $20,000 (n=1515,

Table 1

Demographic Characteristics of the Sample

Employment Status	N (percent)		
	Employed 2126 (34.8)	Not Employed 3950 (64.7)	Total 6105
Age			
15 - 39	1402 (65.9)	1368 (34.6)	2775 (45.5)
40+	724 (34.1)	2582 (65.4)	3330 (54.5)
Family Income			
<$20,000	394 (18.5)	1515 (38.4)	1920 (31.4)
$20,000+	982 (46.2)	859 (21.7)	1845 (30.2)
Education			
Some sec.	503 (23.7)	2219 (56.2)	2741 (44.9)
Sec. grad.	542 (25.5)	568 (14.4)	1110 (18.2)
Some post sec.	371 (17.5)	466 (11.8)	839 (13.7)
Post sec. grad.	689 (32.4)	645 (16.3)	1339 (21.9)

Note:
Totals may not equal 100% because of missing data.

38.4%) than above $20,000 (n=859, 21.7%). Of the four education categories, the majority of women were categorized as having had some secondary education or less.

Employed women. There were 2126 women who described their main activity as working. The majority were under 40 years of age (n=1402, 65.9%) and almost half of the respondents reported their family income to be above $20,000 (n=982, 46.2%). The education category with the largest group of respondents was the category of women who had completed a post secondary program (n=689, 32.4%).

Role Characteristics for the Entire Sample

Role characteristics for the sample are presented in Table 2. Just over half of the women in the sample were in the role of spouse (n=3343, 54.8%), whereas less than half occupied the parental role (n=2455, 40.2%), and very few occupied the role of child (n=496, 8.1%). Out of the four possible roles, over half the respondents occupied either no roles or one role (n=3322, 54.5%). The majority of respondents had either no roles or one role (n=4200, 69.5%) of the three roles besides employment.

Health Characteristics for the Entire Sample

Health characteristics of the sample are presented in Table 3. Of the 6105 respondents, almost half rated their health as good (n=3027, 49.6%; M=3.034; S.D.=0.794). A health problem was reported by 3055 (50%) respondents, and 2932 (48%) did not

Table 2
Role Characteristics of the Sample

Employment Status	N (percent)		
	Employed 2126 (34.8)	Not Employed 3950 (64.7)	Total 6105
Spouse			
yes	1268 (59.6)	2065 (52.3)	3343 (54.8)
no	842 (39.6)	1864 (47.2)	2725 (44.6)
Parent			
yes	910 (42.8)	1534 (38.8)	2455 (40.2)
no	1203 (56.6)	2397 (60.7)	3617 (59.2)
Child			
yes	186 (8.7)	307 (7.8)	496 (8.1)
no	1940 (91.3)	3643 (92.2)	5609 (91.9)
Total number of roles			
0	n/a	1145 (29.0)	1145 (18.8)
1	507 (23.8)	1670 (42.3)	2177 (35.7)
2	855 (40.2)	1081 (27.4)	1936 (31.7)
3	721 (33.9)	16 (0.4)	737 (12.1)
4	14 (0.7)	n/a	14 (0.2)
Number of roles besides employment			
0	507 (23.8)	1145 (29.0)	1663 (27.2)
1	855 (40.2)	1670 (42.3)	2537 (41.6)
2	721 (33.9)	1081 (27.4)	1806 (29.6)
3	14 (0.7)	16 (0.4)	31 (0.5)
Job last 5 years			
yes	70 (3.3)	915 (23.2)	989 (16.2)
no	9 (0.4)	2156 (54.6)	2175 (35.6)
not applicable	2039 (95.9)	850 (21.5)	2900 (47.5)

Note:
Totals may not equal 100% because of missing data.

Table 3

Health Characteristics of the Sample

	N (percent)	Mean	S.D
General Health			
Excellent	1770 (29.0)	3.034	0.794
Good	3027 (49.6)		
Fair	1044 (17.1)		
Poor	259 (4.2)		
Health Problem			
no	2932 (48.0)	1.490	0.500
yes	3055 (50.0)		
Disability Days			
0	5022 (82.3)	0.954	2.885
1 - 7	781 (12.7)		
8 - 13	64 (1.1)		
14	207 (3.4)		

Note:
Totals may not equal 100% because of missing data.

report having a health problem (M=1.490, S.D.=0.500). The majority of respondents (n=5022, 82.3%) did not report having to take off any of the fourteen possible disability days, and 207 (3.4%) took off all fourteen days (M=0.954, S.D.=2.885).

Correlations Between Variables

A correlation matrix of all variables is presented in Table 4. The following variables are those with the highest correlations:

1. Age has a high negative correlation with the measure of health problem (r=-.47).
2. Whether one had a job in the previous 5 years has a high negative correlation with the role of employment (at the time of the interview) (r=-.68) and a high positive correlation with age (r=.40).
3. Number of roles besides employment has a high positive correlation with the marriage role (r=.75) and the parent role (r=.78).
4. Total number of roles has a high positive correlation with the role of marriage (r=.66), the role of employment (r=.55), the role of parent (r=.66), and the number of roles besides employment (r=.86). Total number of roles has a high negative correlation with whether one (who was not employed at the time of the interview) had a job in the previous 5 years (r=.-47) and with age (r=-.39).

Table 4

Spearman Correlation Coefficients

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. General Health													
2. Health Problem	.3432												
3. Disability Days	-.2919	-.1672											
4. Marriage	.1049	.1079	-.0373										
5. Employment	.2055	.2040	-.0906	.0733									
6. Parent	.0859	.1529	-.0219*	.3075	.0310								
7. Child	.0163*	.1479	-.0305	-.2698	-.0026*	-.1850							
8. Job last 5 years	-.1949	-.2780	.0708	-.0835	-.6794	-.1006	-.0935						
9. Family Income	.0916	.1336	-.0451	.1349	.0754	.1058	.1977	-.1177					
10. Education	.2704	.2499	-.0462	.0813	.3058	.0377	-.0029*	-.3282	.0439				
11. Age	-.1781	-.4670	.0303	-.0595	-.2972	-.2229	-.2592	.4087	-.1189	-.2765			
12. Roles w/o Employment	.1299	.2193	-.0485	.7489	.0661	.7770	.0493	-.1521	.2245	.0786	-.2747		
13. Roles with Employment	.2127	.2925	-.0852	.6612	.5519	.6552	.0416	-.4659	.2243	.2260	-.3887	.8633	

Note:
All correlations are significant at .05 except those designated by *

Hypothesis Testing

Hypothesis 1

The more roles a woman occupies the better her physical health will be.

Oneway analyses of variance performed on each of the three health measures by the total number of roles occupied indicated that there was a significant relationship between total number of roles and physical health. As respondents number of roles increased, physical health improved significantly (See Table 5). Women with more roles (a) had better self-rated health ($F=82.64$, $p<.0000$), (b) were less likely to report having a health problem ($F=151.36$, $p<.0000$), and (c) had fewer disability days ($F=13.95$, $p<.0000$).

The results of Duncan's Multiple Range Test is presented in Table 6. In terms of self-rated general health, the health of subjects with no roles was poorer than subjects with one, two, three, or four roles ($p<.05$). The health of subjects with one role was poorer than the health of subjects with two or three roles ($p<.05$), and subjects with two roles had worse health than subjects with three roles ($p<.05$).

In terms of whether respondents had a health problem, subjects with no roles were more likely to have a health problem than subjects with one, two, three, or four roles ($p<.05$). Subjects with one role were more likely to have a health problem than subjects with two, three, or four roles ($p<.05$).

Table 5

Number of Roles and Physical Health, Oneway Analyses of Variance

Number of Roles	General Health			Derived Health Problem			Disability Days		
	N	Mean	Oneway F	N	Mean	Oneway F	N	Mean	Oneway F
0	1144	2.7483	82.6361*	1127	1.2440	151.3587*	1141	1.3313	13.9451*
1	2176	2.9609		2117	1.4270		2162	1.0920	
2	1933	3.1878		1906	1.6385		1928	0.8029	
3	737	3.2822		729	1.6447		735	0.4245	
4	14	3.3571		14	1.7857		14	0.0714	

*p<.0000

Table 6

Duncan's Multiple Range Test of Number of Roles by Health

	General Health						Health Problem						Disability Days					
	Mean	0	1	2	3	4	Mean	0	1	2	3	4	Mean	0	1	2	3	4
0 roles	2.75						1.24						1.33		*	*	*	
1 role	2.96	*					1.43	*					1.09			*	*	
2 roles	3.19	*	*				1.64	*	*				0.80				*	
3 roles	3.29	*	*	*			1.64	*	*				0.42					
4 roles	3.36	*					1.79	*	*				0.07					

Note:
* denotes pairs of groups significantly different at the 0.05 level

In terms of disability days, subjects with three roles took fewer disability days than subjects with no roles, one role, or two roles ($p<.05$). Subjects with two roles took fewer disability days than subjects who did not occupy any role, and than subjects with one role ($p<.05$). Subjects with one role took fewer disability days than those without any roles ($p<.05$).

These results, which supported Hypothesis 1, indicate that the more roles occupied by a woman, the better her physical health.

Hypothesis 2

Women who are employed will be in better physical health than women who are not employed.

Oneway analyses of variance performed for each of the three health variables by the role of employment indicated that employment status and physical health were significantly related. Women who were in the worker role were in better physical health than women who were not (See Table 7). Employed women rated their health more positively than those without employment ($F=295.71$, $p<.0000$). Employed women were less likely than women without employment to report having a health problem ($F=332.99$, $p<.0000$), and the women with employment took fewer disability days than those without employment ($F=58.23$, $p<.0000$).

Employment was found to be significantly related to women's physical health, and Hypothesis 2 was supported.

Table 7

Employment Status and Physical Health, Oneway Analyses of Variance

Employment Status	General Health			Derived Health Problem			Disability Days		
	N	Mean	Oneway F	N	Mean	Oneway F	N	Mean	Oneway F
Not Employed	3946	2.9100	295.7142*	3865	1.4060	332.9882*	3931	1.1636	58.2301*
Employed	2125	3.2687		2093	1.6469		2116	0.5718	

*p<.0000

Hypothesis 3

After controlling for family income and age, employment will be a better predictor of women's physical health than will be the number of roles besides employment that are occupied.

General Health. Results of the multiple classification analyses for general health are presented in Tables 8 and 9. Occupying the worker role was a significant predictor of general health for three income and age categories: for older women in both income levels ($p<.001$) and for younger women with a low family income ($p<.01$). When comparing the predictive value of employment for general health between these three age and income categories, employment is a less important predictor for the young low income women (Beta=0.12) than for the older low income women (Beta=0.14). Employment has the greatest predictive value for general health for older women in the high income group (Beta=0.27). Number of roles besides employment was not a significant predictor of general health for women in any income and age category.

Health Problem. Results of the multiple classification analysis for health problem are presented in Tables 10 and 11. Employment was a significant predictor for the health problem measure for older women in both the low income and high income groups ($p<0.001$). Employment had more predictive value for the health problem variable for the high income older women (Beta=0.20) than for the low income older women (Beta=0.14).

Table 8

Analysis of Variance for General Health, by Income Level and Age

Source of Variation	<$20,000 <40 years (n=550)	<$20,000 40 years+ (n=1370)	$20,000+ <40 years (n=1156)	$20,000+ 40 years+ (n=689)
Main Effects	2.664*	10.625***	0.777	15.602***
Number of Roles Besides Emp.	0.667	1.231	1.035	2.291
Employment	7.384**	27.560***	0.022	50.641***

* p<0.05
** p<0.01
*** p<0.001

Table 9

Multiple Classification Analysis for General Health, by Income Level and Age

	<$20,000 <40 years (n=550)			<$20,000 40 years+ (n=1370)			$20,000+ <40 years (n=1156)			$20,000+ 40 years+ (n=689)		
	N	Mean adj.	Beta	N	Mean adj.	Beta	N	Mean adj.	Beta	N	Mean adj.	Beta
Number of Roles Besides Employment												
0	171	3.13		706	2.72		120	3.35		113	3.22	
1	222	3.10		530	2.72		363	3.24		329	3.13	
2	139	3.11		104	2.86		622	3.27		221	3.29	
3	1	2.09		-	-		7	3.43		3	3.37	
			0.06			0.04			0.05			0.10
Employment Status												
Not Employed	276	3.02		1209	2.69		437	3.27		389	3.03	
Employed	257	3.20		131	3.11		675	3.27		277	3.44	
			0.12			0.14			0.000			0.27
R^2			0.020			0.023			0.003			0.086
R			0.141			0.153			0.053			0.294

Table 10

Analysis of Variance for Health Problems, by Income Level and Age

Source of Variation	<$20,000 <40 years (n=550)	<$20,000 40 years+ (n=1370)	$20,000+ <40 years (n=1156)	$20,000+ 40 years+ (n=689)
Main Effects	1.065	10.522***	1.361	11.699***
Number of Roles Besides Emp.	0.952	1.668	1.809	5.059**
Employment	1.414	26.260***	0.136	26.883***

** $p<0.01$
*** $p<0.001$

Table 11

Multiple Classification Analysis for Health Problems, by Income Level and Age

	<$20,000 <40 years (n=550)			<$20,000 40 years+ (n=1370)			$20,000+ <40 years (n=1156)			$20,000+ 40 years+ (n=689)		
	N	Mean adj.	Beta	N	Mean adj.	Beta	N	Mean adj.	Beta	N	Mean adj.	Beta
Number of Roles Besides Employment												
0	171	1.72		706	1.18		120	1.77		113	1.37	
1	222	1.72		530	1.19		363	1.79		329	1.34	
2	139	1.73		104	1.26		622	1.74		221	1.50	
3	1	0.97		-	-		7	2.00		3	1.35	
			0.07			0.05			0.07			0.15
Employment Status												
Not Employed	276	1.74		1209	1.17		437	1.77		389	1.32	
Employed	257	1.70		131	1.36		675	1.76		277	1.51	
			0.05			0.14			0.01			0.20
R^2			0.008			0.023			0.005			0.066
R			0.090			0.152			0.070			0.257

Number of roles besides employment was a significant predictor of the health problem score for older, high income women ($p<.01$). However, the relative ability of number of roles besides employment to predict the health score of the older, high income women (Beta=0.15) was lower than the ability of employment to predict the health problem score for these women (Beta=0.20).

Disability Days. Multiple classification analysis results for disability days are provided in Tables 12 and 13. The contribution of employment to the prediction of disability days was significant for younger, high income women ($p<.05$), and for older, low income women ($p<.001$). The predictive value of employment for disability days was greater for the older, low income women (Beta=0.11) than for the younger, high income women (Beta=0.07). The number of roles besides employment was not a significant predictor of disability days in any income and age category.

Generally, in terms of predicting the physical health measures, employment has more value than the number of roles besides employment. This is the case more often for the women 40 years of age and over than for the women under 40. Hypothesis 3 was partially supported.

In order to help explain why employment was found to be especially important for the women aged 40 and above, the CROSSTABS procedure was done. This provided a contingency table that compares women under 40 and over 40 in terms of the

Table 12

Analysis of Variance for Disability Days, by Income Level and Age

Source of Variation	<$20,000 <40 years (n=550)	<$20,000 40 years+ (n=1370)	$20,000+ <40 years (n=1156)	$20,000+ 40 years+ (n=689)
Main Effects	1.499	5.297***	2.693*	1.240
Number of Roles Besides Emp.	1.721	0.264	1.614	1.022
Employment	1.011	15.440***	5.319*	1.427

* $p<0.05$
*** $p<0.001$

Table 13

Multiple Classification Analysis for Disability Days, by Income Level and Age

	<$20,000 <40 years (n=550)			<$20,000 40 years+ (n=1370)			$20,000+ <40 years (n=1156)			#20,000+ 40 years+ (n=689)		
	N	Mean adj.	Beta	N	Mean adj.	Beta	N	Mean adj.	Beta	N	Mean adj.	Beta
Number of Roles Besides Employment												
0	171	0.91		706	1.38		120	1.07		113	1.05	
1	222	0.74		530	1.49		363	0.59		329	1.20	
2	139	0.69		104	1.60		622	0.79		221	0.75	
3	1	5.89		-	-		7	-0.06		3	-0.02	
			0.10			0.02			0.07			0.07
Employment Status												
Not Employed	276	0.90		1209	1.57		437	0.97		389	1.14	
Employed	257	0.68		131	0.26		675	0.61		277	0.85	
			0.05			0.11			0.07			0.05
R^2			0.011			0.012			0.010			0.007
R			0.106			0.108			0.098			0.086

number of roles besides employment that they occupy (see Table 14). Compared to the women under 40, the women 40 years of age and over were found to be significantly more likely to have no roles or only one role besides employment and significantly less likely to have two or three roles besides employment (Chi-square=517.452, Cramer's V=0.293, p<.0000).

Hypothesis 4

Homemakers who had not been employed in the past 5 years will be in better physical health than those who had been employed outside the home during that time.

Oneway analyses of variance done for each health variable indicated a significant relationship between homemakers' previous employment and their physical health. Homemakers who had been previously employed were in better health than the long-time homemakers, in terms of general health and health problem, but not in terms of disability days (See Table 15). Previously employed homemakers had better self-rated health (F=67.24, p<.0000) and were less likely to report having a health problem (F=163.82, p<.0000) than long-time homemakers. There was no significant difference between the two groups of homemakers on the measure of disability days (F=0.14, p<.7041).

Hypothesis 4 was not supported.

Table 14

Crosstabulations of Number of Roles Besides Employment by Age

Number of Roles Besides Employment	N (percent) Age: Under 40 years	Age: 40 years and over	Row Total
0	463 (17.0)	1200 (36.3)	1663 (27.5)
1	1062 (38.9)	1475 (44.6)	2537 (42.0)
2	1181 (43.3)	625 (18.9)	1806 (29.9)
3	21 (0.8)	10 (0.3)	31 (0.5)
Column Total	2727 (45.2)	3310 (54.8)	6037 (100.0)

Chi-square=517.45192 D.F.=3 significance=0.00000 Cramer's V=0.29277

Table 15

Homemakers' Previous Employment and Physical Health, Oneway Analyses of Variance

Job Last 5 Years	General Health			Health Problem			Disability Days		
	N	Mean	Oneway F	N	Mean	Oneway F	N	Mean	Oneway F
No	1868	2.8009	67.2381*	1849	1.2720	163.8193*	1862	1.2320	0.1443
Yes	665	3.1023		654	1.5398		663	1.1750	

*p<.0000

Discussion

The purpose of the present study was to examine the relationship between women's roles, work status, and physical health. Based on role accumulation theory and previous research findings, it was predicted that women who occupied many roles would have better physical health than those with no or few roles. It was also predicted that women who were employed outside the home would have better health than those who were not employed. Furthermore, it was expected that employment would be a more important predictor than number of roles for women's physical health. The results of the present study were generally found to be consistent with these hypothesized relationships. Previous research findings had suggested that for homemakers, having been previously employed may have negative consequences for one's health. This finding was not supported in the present study.

Total Number of Roles and Health

The finding that the women with more roles had better health than the women with fewer or no roles is consistent with role accumulation theory (Sieber, 1974), and research done by Muller (1986a), Nathanson (1975), and Verbrugge (1986). It was expected that the more roles women had, the better their physical health would be. The findings were as expected for all three measures of

physical health: general health, health problems, and disability days.

Range tests were done to test for significant differences between the groups of women (i.e. those women with the same number of roles constituted a group). There were significant difference between all groups of women with no, one, two, or three roles. The group of women with all four roles differed significantly from women with no roles and with one role for the health problem measure and from women with no roles for the measure of general health. The lack of more significant differences between the group of women with four roles and the other groups might be attributed to the fact that only 14 women out of the entire sample (N=6105) were found to occupy all four roles.

Employment and Health

Previous research on employment and health has suggested that employment has a beneficial effect on health. This was expected in this research and the findings are consistent with this expectation. For all three health measures there were significant differences between women who were and were not in the worker role.

In the present study, women's ratings of their own health were more positive if they were employed outside the home, than if they were not. This is consistent with several studies using self-rated general health as a measure of physical health (Anson and Anson, 1987; Jennings, Mazaik, and McKinlay, 1984; Nathanson,

1980; Verbrugge, 1983; and Waldron, Herold, and Dunn, 1982). The finding in this study that employed women were less likely to have health problems than women without employment is also consistent with the work of several researchers (Anson and Anson; Jennings, Mazaik, and McKinlay; Lewin-Epstein, 1986; Nathanson; Verbrugge, 1983, 1986). In terms of disability days, the finding that women with employment reported fewer disability days than those without employment is consistent with other studies that included a measure of disability or restricted activity days (Muller, 1986b; Verbrugge, 1983, 1986).

The Effect of Employment Versus Number of Roles on Health

Research has suggested that employment is one of the most important predictors of good health for women (Coleman & Antonnucci, 1983; Nathanson, 1975; & Verbrugge, 1986). In the present study, one of the goals was to assess the predictive value of employment relative to the predictive value of the number of roles besides employment that one occupied. This was tested within the four income and age categories.

In each of the two income categories of women under 40 years of age, hypothesis 3 was supported for only one of the three health measures. For the younger women with a family income of less than $20,000, hypothesis 3 was suppported for general health only, and for the younger women with a family income of more than $20,000, the hypothesis was supported for disability days only. There was more support for hypothesis 3 for the women 40 years old

and over in both income categories. For the older women in the higher income group, the hypothesis was supported for two of the three health measures and in the lower income group, there was support for the hypothesis for all three health measures.

Overall, when comparing employment and the number of roles besides employment for their ability to predict women's health, employment is the more important predictor. This is consistent with the finding by Verbrugge (1983) that whereas employment, marriage, and parenthood were each positively related to health, employment had the strongest relationship. In the present study the stronger relationship between employment and health versus number of roles and health is especially true for the women who were 40 years of age and over. For these women, at both income levels, employment was a significant predictor of general health and health problems. Employment was a significant predictor of disability days for the lower income but not the higher income women. Perhaps this has to do with the nature of the jobs held by the women with family incomes above versus below the median. It is possible that the lower income women are in jobs which do not allow them time off, and they therefore take very few disability days compared to the lower income women who are not employed. Furthermore, perhaps the higher income women are in jobs which do allow them time off, such that they are able to take off a similar number of disability days as compared to the higher income women who are not employed.

The number of roles besides employment was a significant predictor of health less often than was employment and even when the role variable's predictive value was significant, its contribution to the prediction of health was smaller than was the contribution of employment. It appears likely that the finding that physical health improves as the total number of roles increases for women, is largely due to the inclusion of employment in the measure of number of roles.

However, it may be that the lack of a significant relationship between the number of roles besides employment and any of the health measures is due to the narrowly defined parent and child role. As was previously mentioned, due to the limited information available in the GSS, these roles were defined respectively as having at least one child, or at least one parent, living in one's household. It seems likely that role accumulation theory could be tested more thoroughly if it were possible to define roles more broadly in terms of the extent of role involvements.

The relatively greater importance of employment over the measure of roles to the health prediction was less established for the women under 40 at both income levels than for the women 40 and over. For the younger women, there were no significant associations between the number of roles besides employment and the health variables. Employment was a significant predictor of a health variable less often for the younger women than for the older women. Clearly, there is more support for the significance

of employment to women's physical health for women 40 years of age and older than for those under 40. Several possible explanations for this will now be explored.

It is consistent with role accumulation theory that any given role would be especially beneficial to a person who had no other roles from which to derive role benefits. Arber, Gilbert, and Dale (1985) consider that "employment is particularly important for women with no alternative major roles. Women who no longer have a married role or a parental role. . . report much less ill-health if they are in employment" (p. 390). In the present study, compared to the women less than 40 years of age, a greater proportion of women aged 40 and over had no roles besides employment and a smaller proportion had two or three roles. In other words, the older women were significantly less likely than the younger women to have major roles besides employment. Therefore, the finding that employment was of particular importance to the health of these older women may be due to the fact that the older women had fewer alternative roles than the younger women from which to receive role rewards.

Verbrugge (1983), in keeping with role accumulation theory, pointed out two positive effects of roles on health. First, when people, by virtue of their roles, are socially involved they receive emotional advantages and resources such as social support which can lead to improved well-being. Second, the social involvement that is associated with roles may influence people's perceptions of symptoms such that involved people are less likely

than uninvolved people to interpret symptoms as serious and as requiring medical attention. This can be related to the finding in the present study that employment predicts health for older women. Perhaps it is the case that older women need employment more, in order to be "socially involved" than do younger women. This may explain the relatively greater importance of the worker role to the prediction of health for older versus younger women.

Welch and Booth (1977), in their study of almost 500 women under 45 years of age, found that having preschool children had a protective effect on women's health. Generally, the women with preschool children were found by medical examination to have fewer diseases than women without preschool children. It is unclear however, whether this is also a factor of age, because Welch and Booth did not control for age. Although the present study did not include a measure of whether one had any preschool children, it can be assumed that the women who were 40 years old and older would be less likely to have preschool-age children than the women under 40. Perhaps this is a reason why the older women particularly "need" the role of employment for its health benefits. They are more likely than the younger women to be missing out on the protective effect of having preschool children, so for them, it is especially important to be employed.

Coleman and Antonucci (1983) studied the impact of employment on the self-esteem, psychological well-being and the physical health of women aged 40 to 59. The researchers pointed out that people at midlife tend to be introspective and self-evaluative,

and this can be associated with tension and anxiety. They add that there are some negative experiences which are commonly associated with midlife, for example, the empty-nest syndrome and feelings of inadequacy. The researchers found that for women at midlife, employment significantly reduced the above-mentioned negative feelings. The employed women had higher self-esteem, less psychological anxiety, and better physical health than those who were not employed.

This finding by Coleman and Antonucci (1983) suggests a possible explanation for the significance of employment to the physical health of women 40 years old and over in the present study. It may be that in the older group those women without employment were more likely than those with employment to have suffered some of the ill effects of the midlife transition (including poor physical health) as noted by Coleman and Antonucci. Perhaps employment is an especially important role for women over 40 because it alleviates the tension, anxiety, and other negative effects of the transition at midlife. This could account for the significant predictive value of employment in the present study for physical health for the older group of women.

The operation of social selection may suggest another explanation for employment's positive relationship with physical health for older women. Social selection refers to the possibility that the condition of one's health influences whether or not she or he will be able to participate in a given role. According to Verbrugge (1983), "social selection may be especially

strong for employment, so that people with poor health have great trouble finding and keeping jobs" (p. 26). Perhaps employment was found to be more important to the prediction of health for older versus younger women because social selection plays more of a role in the employment of older women than younger women. In other words, perhaps in the present study the younger women in poor health were more successful at finding and keeping jobs than were the older women in poor health. If this were the case, it could account for the increased predictive value of employment for health for the women aged 40 and above.

The Effect of Previous Employment on Homemakers

The hypothesis that previously employed homemakers would be in worse health than homemakers who had not been employed five years prior to the interview was not supported in the present study. In fact, the previously employed homemakers were found to be in better health for the measures of general health and health problem.

This finding of the present study contradicts findings by Anson and Anson (1987) and Welch and Booth (1977), that homemakers who had not recently been in the labour force had better health than those who had. Perhaps this contradiction might be attributed to the different measurements of the variable of previous employment used. Welch and Booth categorized homemakers as having had previous employment if they had had some recent work experience, without distinguishing how recently they had been

employed. Anson and Anson used one year as the time limit. If a homemaker had been in the worker role sometime during the year prior to being interviewed she would have been categorized as having had previous employment. In the present study, the homemakers were asked whether they had had a job at anytime during the five years before the interview. The differences in findings between this study and previous ones may be accounted for by the discrepancies between variable measurement. The negative effects of the transition out of the labour force into the role of homemaker described by Welch and Booth, and Anson and Anson, may have been attenuated in the five year span in the present study. During this time span the homemakers may have had time to adjust to the transition.

If indeed there is a stressful transition associated with leaving the labour force, it appears that the homemakers in the present study were able not only to overcome the stress, but also to be better off physically for having been previously employed. There is a difference between the age of the subjects of the present study and the subjects in Welch and Booth's (1977) and Anson and Anson's (1987) studies which might account for this finding. Welch and Booth studied women under 45 years of age, and Anson and Anson included women aged 18 to 55, whereas in the present study respondents were 15 years of age and older with no upper age limit. It is possible that it was the inclusion of the older women in the present study which lead to the finding that, for homemakers, previous employment had health benefits. Perhaps

these older women who are no longer working outside the home, derive health benefits from having been employed in the past.

Implications and Suggestions for Future Research

The results of the present study are consistent with role accumulation theory's general proposition that as roles increase in number, the result is net gratification, not stress. The results are also consistent with previous research that found employment to be positively related to health. Women who occupied more roles were in better physical health than those with fewer roles, and women with employment were in better physical health than those without employment. However, several cautions should be noted.

First, it cannot be assummed that increasing one's repertoire of roles or entering the labour force causes improvements in health. It is possible that the condition of one's health is a factor in the determination of whether one will occupy a role. The issue of causality was not testable in the present analysis. This issue can only be sorted out by longitudinal data. Women should be followed throughout the life cycle to determine whether roles affect one's health and/or health affects one's roles.

Second, the present study did not look at the quality of any given role but at role occupancy. It has been suggested that it is role quality which is the more important factor in terms of health (Verbrugge, 1986). Unfortunately, the data analyzed in

this study did not include measures of individuals' role perceptions, obligations, or demands, so, the connection between role quality and health could not be examined. Research would have to look at people's satisfaction or happiness with the roles they occupy, as well as the extent to which the are involved in their roles, to begin to address this question.

Third, Sieber (1974) proposed four types of rewards derived from role accumulation (privileges, status security, resources, and gratification). Due to the nature of the data analyzed, this study did not include a test of the operation of these rewards and their relationship with health. However, the present study was not meant to be a test of role accumulation theory, but rather, this theory was used in a general way to guide hypothesis formation.

The total number of roles one occupied (including employment) was found to have a significant positive relationship with health (Hypothesis 1). But, overall, the relationship between the number of roles besides employment and health was found to be positive, but nonsignificant, whereas employment had a significant positive association with health (Hypothesis 3). This suggests that it may be the inclusion of employment in the measure of the total number of roles that leads to the association between multiplicity of roles and good health. As previously mentioned, a more broad definition of roles to include the extent of role obligations and demands in the parent and child role is needed to clarify the relationship between multiple roles and employment.

The beneficial effect of employment on health was also found when the variable was previous, not present, employment. The transition out of the labour force into the role of homemaker was not found to be detrimental. In fact, for homemakers, having been employed in the past was associated with improved health.

Overall, the results tend to suggest that employment has a strong positive relationship with physical health. Future research should address the contributions to health made by each major role, as this study suggests that employment is associated with better health, but it is unclear as to whether this is the only role with such an association. Research should also address whether a certain number of roles or combination of roles is associated with particularly good health.

The finding in this study that employment was an especially strong predictor of health for women 40 years of age and older suggests that the study of role accumulation theory and employment as they relate to health, may be quite complex. It is unclear as to whether the finding of this study was a factor of the respondents' age or generation. Future research should address whether the relationship between employment and health does consistently vary with the age of the respondents, and if so, whether this is a factor of their age, their stage in the life cycle, or their cohort.

In conclusion, even though the finding that employment has a positive relationship with health has been supported by this study

and others, certain aspects of this relationship still remain to be seen. Specifically, the issue of causality, age versus cohort differences, and the connection with role accumulation theory.

The issue of causality and age verrsus cohort differences could best be sorted out with longitudinal studies. Studying women throughout the life cycle as they enter, leave, and possibly re-enter the labour force may provide information that could help determine why employed women are healthier than nonemployed women. Is it because women who enter the labour force are healthier to begin with? Or is it because employment causes women's health to improve. Data from longitudinal analyses would also allow one to separate health differences of employed versus nonemployed women that are due to the effects of age and those due to the effects of birth cohorts. For example, in the present study, was the strong predictive value of employment to physical health for women 40 years of age and over related to the age of the women and/or to their birth cohort.

Whether or not role accumulation theory can be used to account for the finding that employment and good physical health are associated remains to be seen. In the future, studies testing role accumulation theory should be done It is suggested that the role measures in these studies assess role occupancy, role satisfaction, role rewards, and role obligations and demands to determine what, if any, is the relationship between various role characteristics and measures of physical health. It is further suggested that the number of roles studied be increased to include for example, the role of friend, relative, and volunteer.

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Appendix A

GSS QUESTIONS USED FOR THE DEPENDENT VARIABLES

1. Perceived Health is based on the question: "How would your describe your state of health? Compared to other persons your age, would you say it was... excellent, good, fair, or poor?" (question #1)
2. Health problem - indicated if respondent answered yes to at least one of the following questions:

   a) "Have you ever been told by a doctor or a nurse that you have high blood pressure?" (#3)
   b) "Have you ever had trouble with your heart, such as heart attack, angina, heart failure, or rheumaatic heart disease?" (#5)
   c) "Do you have Diabetes?" (#7)
   d) "Do you have any respiratory problems such as asthma, emphysema, chronic bronchitis, persistent cough or shortness of breath?" (#9)
   e) "Do you have arthritis, rheumatism, or bursitis?" (#10)

3. Disability days. This is based on the answers to the following questions which refer to a 14 day period (from a Sunday to a Saturday) prior to the interview:

a) "How many days did you stay in bed for all or most of the day?" (#13)

b) "How many days did you cut down for all or most of the day?" (#17)

Appendix B

GSS QUESTIONS USED FOR THE INDEPENDENT VARIABLES

1. The worker role is based on the answer to the following question; "It is importnt for the next few question for you to refer to the 14 day period from Sunday _____ to Saturday _____. During those two weeks, was your main activity working, going to school, keeping house or something else?" (#11)
2. For the spouse role the interviewer obtianed information on the marital status of every member of the household during the initial (screening) telephone call, from whomever first answered the phone.
3. The parent role. This is based on information received in the initial telephone call and from these questions:

   a) "Do you have any children?" if yes, "How many?" (#114)

   b) "Do all of them live in this household?" (#115)

4. The child role is based on the following questions:

   a) "Is your mother still living?" (#104)

   b) "Does she live in this household?" (#106)

   c) "Is your father still living?" (#109)

   d) "Does he live in this household?" (#111)

5. For the variable on whether a homemaker had worked in the 5 years prior to the interview, the following question was used: "Did you have a job at anytime during the last 5 years?" (#161)

Appendix C

GSS QUESTIONS USED FOR THE CONTROL VARIABLES

1. For family income, respondents were asked: "What was the total income of all household members from all sources during 1984?" (#168)
2. Age of the respondents was obtained from the person who answered the phone during the initial telephone call to the household.
3. To control for the role of homemaker the following question was used: "During those two weeks [prior to the interview], was your main activity working, going to school, keeping house or other?" (#11)