

## SEX ROLE EFFECTS ON FEMALE RESPONSE TO ILLNESS

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*In order to advance understanding of the complex social process of individual health behavior, this study examined the differentials of health status and health service utilization by men and women among rural Koreans. Using National Health Survey data collected in 1981, we tested the hypothesis that different sex role expectations would lead different health-related behaviors for men and women.*

*The results show that women in rural Korea feel less healthy than men in terms of perceived morbidity factors, while they have relatively unfavorable experiences in the level of health service utilization and the types of service facilities they used. These results are interpreted to confirm that women's health behavior is a reflection of their situation as women. In the case of the sample population, the strong patriarchal tradition seems to put an extra-burden on women and thus demand more strict female roles from them in rural Korea.*

### INTRODUCTION

Extensive research has been done on the factors that influence persons' health behavior. One of the most consistent observations among these attempts is that women have a much longer life expectancy and a lower age-adjusted death rate which are explained by women's constitutionally greater resistance to both infectious and degenerative diseases. On the other hand, women are known to have higher morbidity rates of both physical and mental illnesses and to utilize more health services than men. The lack of an adequate biological basis for women's advantages in mortality in contrast to their unfavorable morbidity experience requires us to look for alternative explanations among the socio-cultural variables that affect illness and sick-role behavior.

This research, therefore, attempts to study Korean rural population looking at sex differentials in health behavior. First, it focuses on use or non-use of the health services system to identify and describe the factors which lead some to use some health services, but not others. This simple description or prediction of an individual's health behavior, however, cannot provide full information for the evaluation of the health care system because it cannot suggest more than descriptions of the system or some modifications of personally related factors.

More useful information for the improvement of a health care system can be better obtained from the study of the various components of the system. This is particularly true in Asian rural areas, where various health services including indigenous folk medicines, the traditional but scholarly-developed Chinese medical system, and Westernized modern medical resources exist simultaneously. An individual's decision-making strategy for health services utilization depends on a wide range of aspects of the health service system (Beals 1976). This suggests a second research question for this study, that is , to examine the differential use of alternative formal health services in rural Korea. The manner and degree of receptivity to different health resources by men and women will be investigated to obtain knowledge concerning the strengths and weaknesses of the health service system in rural areas of Korea.

### HEALTH DECISION-MAKING PROCESS

What Mechanic (1978) terms illness behavior may be considered as a series of stages, where the probabilities of moving from one stage to another are influenced by the ways in which people perceive, define, and react to their health or illness, locate help in their environment, and comply with medical advice. At most times during life, individuals are known to be asymptomatic, or at least the conditions are so minor as to be unworthy of medical care (Zola 1975).

The health care process of individuals begins only with the awareness, consciousness, or perception of disorder. Contrary to the medical model's assumption that disease symptoms and processes are the same over time and across societies, and thus there remains no room to consider a distinctive nature of society or culture, it has been argued that a disease itself is not perceived or responded to in the same manner by all individuals or societal groups. Rather, people integrate information from their internal psychobiological system with information from their physical and social environment and go through a health decision-making process (Kohn and White 1976). This process is affected by the value-system and attitudes prevailing in the society and culture.

The first stage in a person's decision process with regard to a perception of an illness is that he/she must decide whether or not to seek health care. There is evidence to show that a large proportion of those who perceive the need for health care do not seek help for various reasons and that health care providers are consulted only for a small proportion of symptom episodes in the study populations.

Once the decision to seek medical care is made, the second stage of the decision process involves the effort to seek help from the specific services

available. There are largely two sources of care available for people to choose in a society, that is, formal and informal health care resources. In Parsons' framework, a sick person has to seek care in general, but a competent agent (i.e., physician) in particular, because the larger society defines the legitimate criteria for sickness for its members and expects of them the patient's role in organizational settings (Parsons 1975). It is, however, observed that contact with a formal health care system in response to health problems is a relatively rare event (Meininger 1986). As Freidson argues, people utilize a lay-referral system which is defined by the 'particular culture of knowledge people have about health and health agents and by the interrelationships of the laymen from whom advice and referral are sought' (Freidson 1970, p. 290). They tend to start with such alternatives as consultation with friends or relatives, or such other informal services as pseudomedicine, faith, or folk medicine. In the process of health behavior, the final outcome of the decision in choosing either formal or informal health care systems is a visit to a particular health service facility. The present study is interested in looking at various aspects of each stage in this decision-making process and examining different adaptive behavioral processes leading to health services utilization by men and women.

The expectation of different health behaviors by men and women comes from three major explanatory models: (1) women report more illness than men because it is culturally more acceptable for them to be ill; (2) the sick role is relatively compatible with women's other role responsibilities; and (3) women's assigned social roles are more stressful than those of men. These explanations share the assumption that women's illness behavior is a response to or reflection of their situation as women (Nathanson 1975). In this study, we expect more women's role effects on their illness behavior in various aspects since the subjects are rural Koreans who would present more traditionally-oriented social and cultural role expectations for men and women.

## DATA, METHODOLOGY, AND OPERATIONALIZATION

### *Data*

One project was specifically designed to develop a low-cost health care delivery system for rural areas through a primary health care approach with Community Health Practitioners (CHPs) as the major new health manpower. In order to study the utilization and the effectiveness of primary medical care in the rural areas where the CHP program was planned to be implemented, a household survey was conducted by the Korea Institute for Population and Health (KIPH) in the Fall of 1981.

A stratified, multistage, systematic sampling was designed to obtain appro-

ximately 4,000 households representative of population in rural areas where medical care facilities were not available within 30 minutes' travel by ordinary means of transportation. The final sample population consists of 4,185 households in 47 villages of rural Korea.

### *Sample of the Study*

The household survey produced information for 18,948 individuals from 4,073 households. In order to utilize the data set to test the hypotheses of this study, a few steps of data selection procedures were executed. First, it was necessary to attach all the information about household and village characteristics to the individual record, since this study attempts to examine individuals' responses to health problems.

Second, it is a well known fact that morbidity and mortality patterns are unique at the extremes of age. Furthermore, choices about health behavior for children are usually made by their parents or at least influenced greatly by adults around them. This outside influence can distort the assumption of this study that the utilization behavior is the result of individual choices. For these reasons respondents up to 14 years old are excluded from the analysis.

Third, the first research question (which asks why some people seek health care from the formal health service system but some do not when they have health problems), presumes the presence of a perceived need for health care in the first place. Thus, the population of interest is limited to those who had perceived health problems during a 15-day recall period.

Finally, the main objective of this study to explore the determinants of health service choice requires persons who had used one of the four formal health services during the recall period. Consequently, the present investigation of health utilization behavior analyzes 1,421 individuals who took care of their health problems by visiting one of the four services: hospitals or clinics, pharmacies, government health center, and Chinese medicine practices.

### *Methodology*

The first step of the analysis focuses on the determinants of using the formal health care system. Since the dependent variable is dichotomous, that is, whether one had used the formal health service systems or not, the assumptions of normality and homoscedasticity necessary for OLS regression are violated due to the systematic changes of disturbance terms with the values of the independent variables (Aldrich and Nelson 1984; Hanushek and Jackson 1977; Knoke and Burke 1980). Furthermore, the presence of continuous independent variables in the model does not allow log-linear modeling (Knoke and Burke 1980). Therefore, logistic regression is the technique

used in the analysis.

The dependent variable in the equation is the log of the odds of the probability of utilizing formal health services. The coefficients of categorical independent variables will indicate the differences in the log odds of utilizing this service as opposed to the omitted category of each variable, while the coefficients of continuous independent variables are the changes in the log odds of the dependent variable, health service utilization, for one unit increase in the independent variables.

The next step further analyzes the data to examine the effects of determining variables on the choice of specific health care services. Here, we need a method to test the statistical significance of the factors associated with the polytomous categorical dependent variable. Multinomial logit regression is the technique to estimate the parameters of determining variables in the relative selection probability of one category of the dependent variable over another. This is a rather straightforward extension of the dichotomous logit model without the addition of any new assumptions. The equation presumes that the log odds of one choice relative to a second choice is a linear function of the set of independent variables.

The computer software used for these estimates is the CATMOD procedure in the SAS package. This program employs the maximum likelihood method to estimate the logit model parameters. In contrast to least square estimation which attempts to minimize the sum of squared errors in the fit between the model and data, maximum likelihood function tries to find the parameter estimates that maximize the likelihood of obtaining the observed sample of the dependent variables (Aldrich and Nelson 1984).

The coefficients presented in the equation will again indicate the effects of being in one category of the independent variable on the relative selection probability of one dependent category over another. Caution is necessary in interpreting the coefficients of categorical independent variables both in binomial and multinomial logit regression produced by this program because CATMOD procedure utilizes "effect coding" whereby the sum of the effects of all categories of each independent variable is constrained to be zero (Reynes 1987). In other words, the coefficients of the parameters represent the effects of being in one category of the independent variable as deviations from the mean of all effects (Kerlinger and Pedhazur 1973).

### *The Variables*

The dependent and independent variables used in this analysis are shown in Table 1. The values for the categorical variables are carefully assigned keeping CATMOD conventions in mind. This specific program operates the cate-

TABLE 1. DESCRIPTIONS OF VARIABLES USED IN THE ANALYSIS

Variables	Descriptions	Values
USE/NONUSE	Whether the respondent had used one of the formal health services during a 15-days recall period or not	Dichotomy; 1=used 2=not used
HEALTH SERVICE FACILITY	The health service facility they had visited as their first choice	Category; 1=hospital 2=pharmacy 3=health center 4=Chinese med.
SEX	Whether the respondent is male or female	Dichotomy; 1=female 2=male
AGE	The respondent's chronological age at the time of interview (exclude those age below 14)	Dichotomy; 1=65 over 2=14-64
EDUCATION	The level of education attained (those in school are considered as graduates of that educational level)	Category; 1=secondary 2=primary 3=no educ
MARITAL STATUS	The status of marriage (single includes separate, divorce, widow)	Dichotomy; 1=married 2=single
SELF-RATED HEALTH PERCEIVED NEED	Whether the respondents consider their health as 'good,' 'moderate,' or 'bad'	Percentages
BED DAYS	Whether the respondent has need for medical care during the recall period	Numbers per 100 persons
LIMITED ACTIVITY DAYS	How long the respondents had been in bed due to the illness for which they reported medical care need	Mean Number of days
TOTAL SICK DAYS SEVERITY	How long the respondents had to off their daily work due to the illness for which they reported medical care need	Mean number of days
CHRONICITY	The number of days having complaints, limited activity, and bed days	Mean number of days
	A composite index measured by the extent to which the respondent was bothered by the illness	Dichotomy; 1=severe 2=mild
	The occurrence date of the illness for which the respondent had health care need during the recall period(days ago)	Dichotomy; 1=1-90 2=90+

gorical variables by taking the highest value as the reference group, in contrast to the usual convention of using the lowest value as the reference group. Therefore, we assign the category of interest in the variables a lower value,

TABLE 2. MARITAL STATUS OF SAMPLE POPULATION BY SEX AND AGE IN RURAL KOREA, 1981

Marital Status	Adult(14-65)				Elderly(65+)			
	Male		Female		Male		Female	
	Number	%	Number	%	Number	%	Number	%
Single	2,067	37.0	1,227	22.1	6	1.2	7	0.9
Married	3,384	60.6	3,586	64.6	397	80.4	189	24.5
Previously married <sup>a</sup>	135	2.4	739	13.3	91	18.4	574	74.6
Total	5,586	100.0	5,552	100.0	494	100.0	770	100.0

a. include separation, divorce, and widow.

so that its effect will appear explicitly in the equations. For the variable sex, for instance, we assigned value 2 to male and 1 to female, since the hypothesis is stated in terms of female behavior.

## PROFILES OF RURAL KOREA

Health service use is known to vary for subgroups of individuals in various age, sex, and marital status categories. The demographic structure of the respondent populations in this research is displayed in Table 2. Contrasting to the general finding that there are fewer males than females among adults due to the urban-oriented male labor migration in rural areas (Asian Development Bank 1977), the sample population in this survey does not indicate the excess of female population. It is noticeable, however, that the percentage of women at old age is higher than male. The index of aging, which is the ratio of population over 65 years old to the aged between 1-13, is also much higher among female than male.

When marital status is taken into consideration with sex-age structure, it presents a striking differential in marital status between the elderly males and females. While more than three-fourths of the elderly females are shown to be 'previously married,' (divorced, separated, or widowed), less than 20 percent of the males remain unmarried. Considering the traditional culture in rural Korea, which is strongly influenced by Confucianism, the major reason for the higher percentage of previously married women at old age must be the higher male mortality rates from middle ages rather than divorce or separation (Kwon 1986). This may be attributed not only to the higher life expectancy of females, but to the Korean War as well. Those in the age group over 65 had their young adulthood during the War between 1950 and 1953, and therefore were likely to lose their husbands.

**TABLE 3.** PERCENT DISTRIBUTION OF SAMPLE POPULATION BY SEVERITY OF ILLNESS REQUIRED TO SEEK PROFESSIONAL CARE AND FOR SELECTED AGE AND EDUCATION GROUP

Category	Total	Age (%)		Education (%)	
		Adult	Elderly	None	College
In Bed	88.0	88.7	87.4	89.3	74.2
Limited Activity	4.7	4.8	3.9	3.6	11.4
Limited work	1.2	1.1	1.0	0.9	12.9
Never Want	4.8	4.6	7.0	5.5	0.8
Don't Know	1.3	0.8	0.7	0.7	0.7
Total	100.0	100.0	100.0	100.0	100.0
Number of Cases	18,506	11,085	1,258	4,251	132

This population structure has an important implication for the need of health care in rural areas. As found in many studies (Anderson and Newman 1973; Roos and Shapiro 1981), the rate of health service use is actually higher among the elderly, while it is lower in youth and adulthood. This is because of the widely known fact that the extremes in age are periods of vulnerability. The large proportion of the old population in rural areas compared to urban areas (with an index of aging of 12.1), therefore, implies more demand for health care, especially by elderly women.

Attitudes and psychological factors have been considered to influence the manner in which persons perceive ill health and the extent to which they seek medical care (Suchman 1965b; Zola 1973). For example, it is convincingly postulated in Zola's study that only an infinitesimal amount of the everyday bodily discomforts to which we are subject receive medical attention, while most symptoms of illnesses are ignored, tolerated, or self-treated. When this self-treatment is unsuccessful or the symptoms in some way become too difficult to take, people decide to go to health practitioners for medical care.

In order to investigate the willingness to seek medical care in the present study, the respondents were asked about the severity of illness for which they would go to seek professional medical care. As illustrated in Table 3, rural people are not willing to seek professional care in general, unless the symptoms are serious enough to restrict them in bed. Eighty-eight percent of them report that they wait until they have to stay in bed before they decide to see a professional health practitioner, a physician, in this case.

Some groups of individuals, however, seem to be more reluctant to seek professional care than others. Table 3 shows a slightly higher proportion of the elderly aged over 65 than adults who never want to see a doctor regardless of how sick they are. This can be explained by the fact that the old



**TABLE 4. PERCENT DISTRIBUTION OF SAMPLE POPULATION BY SELF-RATED HEALTH STATUS FOR SELECTED SOCIO-DEMOGRAPHIC GROUPS**

Demographic Characteristics	Good (%)	Moderate (%)	Poor (%)	Total (%)
All	67.6	16.0	16.3	100.0
Sex				
Male	70.8	14.2	15.0	100.0
Female	64.5	17.8	17.7	100.0
Age (years)				
1-13	84.3	11.5	4.2	100.0
14-65	60.7	18.1	21.2	100.0
66 over	46.7	19.8	33.5	100.0
Education				
No Schooling	45.3	21.6	33.1	100.0
Primary School	70.1	15.3	14.6	100.0
Secondary School	77.8	13.3	8.9	100.0
Standard of Living				
High	73.0	13.7	13.3	100.0
Middle	69.5	15.7	14.8	100.0
Low	62.8	17.4	19.8	100.0
Number of Cases	12,579	2,978	3,029	18,586

people do not have the opportunity to contact modern western culture and thus, they hesitate to seek professional care in the Western medical system (Colson 1971).

Education is found to be responsible for much of the differences in the attitudes of rural people toward medical care. The respondents with a higher level of education tend to seek professional attention for their symptoms at an early stage of illness, while those without formal education are not willing to give themselves over to medical professionals. Formal education implies a better chance of exposure to modern and western culture, which leads to more frequent use of western health services that are not traditionally part of one's own culture (Samora *et al.* 1962; Maclean 1969).

## ANALYSIS

### *Health Status*

#### 1. Self-Rated Health

In the survey, the information about self-rated health was obtained by asking respondents whether they consider their health as 'good,' 'moderate,' or 'poor.' The answers are presented in Table 4, showing sharp differentials

across different sociodemographic characteristics categories. Males tend to report better self-rated health status than females and older people consider themselves more unhealthy than youth and adult groups, results which have been generally found in other studies (Hershey *et al.* 1975; Nathanson 1975, 1977; Waldron 1976; Meininger 1986).

The data further indicate that those with lower educational attainment tend to consider themselves unhealthy. While less than 10 percent of high school graduates complain that they are not healthy, almost one third of adults without formal education report poor health status. Similarly, those in the lower standard of living category perceive themselves having a poor health condition more often than other groups. It must be noted here, however, that the extent of educational differentials is much greater than standard of living differentials. This may be attributed to the nature of the variables themselves, since educational attainment is a more explicit individual attribute, while the standard of living is an arbitrary household characteristic. The greater education differentials perhaps further imply that the way individuals perceive their health status is directly related to knowledge about health rather than to their economic status. Even though people have temporary health problems, those who understand the problems more precisely may still consider themselves healthy. On the other hand, people are likely to report poor health status if they are not able to differentiate the nature and the extent of their ill-health.

In any case, numerous studies have shown that the disadvantaged population has worse health status than other groups using a variety of different measures of socioeconomic status (Kleinman *et al.* 1981; Blane 1985; Kwon 1986). Despite a debate on the causal relationship of this phenomenon — whether social differences in health are the results of structurally determined differences in the way the members of these social classes lead their lives (Theorell and Floderus-Myrhed 1977; Karasek *et al.* 1981; Alfredsson *et al.* 1982), or whether an individual's health influences the chances of social mobility (Stern 1983; Fox *et al.* 1985) — it is clearly observed in rural Korean data that there is social class difference in health.

## 2. Perceived Morbidity Factors

The term 'healthy' employed in the previous section is a vague and subjective concept. Some individuals with relatively minor complaints or controlled chronic conditions might have perceived themselves as being 'healthy,' while on the other hand some who did not report any symptoms or morbidity might not have gone so far as to declare themselves 'healthy.'

It is, however, true that the prevalence figures of a relatively short period as indicators of general health status may not accurately reflect the real health situation of the population, since those who are found to be more or

less healthy during a particular period of time may well have been ill before or after that period. By virtue of the sample design, it may also exclude persons institutionalized throughout the survey period and thus underestimate the figures. Nevertheless, a cross-national study found that this picture still approaches closely the kind of information base required in investigating health service utilization in relation to the needs of general or selected populations (Kohn and White 1976). They found a remarkable degree of consistency in the proportion of the population who report ill-health during the period preceding interview, which was not uniform in the twelve study areas. The period represents, for example, two-week period prevalence in the case of acute perceived morbidity; a point prevalence and/or a three-month period for indicator conditions; a point prevalence in the case of chronic disease and perceived visual morbidity; and a one-month prevalence period in the case of perceived dental morbidity. This section examines the respondents' perception of morbidity during a 15-day recall period in terms of perceived need, severity, chronicity, and social dysfunction measured by inability to perform usual occupational or social activities.

**Perceived Need:** The perceived need is a variable which enables us to estimate the actual demand for health services in the population concerned. It is derived from asking respondents if they had need to seek professional medical care for their illness during 15 days prior to the survey. It is observed in Table 5 that the rate of need for health service per 100 persons in rural areas is in general lower than urban areas, since the question includes not only the potential need, but the actual utilization as well. The higher rate of perceived need in urban areas, therefore, might be attributed to the higher level of health service use.

For each category of demographic characteristics, the rates per 100 persons closely reflect self-rated health status displayed earlier in Table 6. Females, the old age group, and the lower socioeconomic class not only consider themselves unhealthy, but they demand more health services than the rest of the population. There is no exception in this pattern among urban residents. Those with high standard of living have a higher level of perceived need than the others, which may imply again the actual utilization of health services among higher socioeconomic class in urban areas. This makes particular sense in such a privatized health care system.

**Bed Days:** The mean numbers of bed disability days by a few demographic characteristics presented in Table 6 exhibit a similar pattern to the self-rated health status. A major contribution to the load of bed disability comes from those aged older than 65. As expected, those in a lower socioeconomic status, that is, persons without formal education or in a lower standard of living category, spend more days in bed due to illness. However, it is interesting to

**TABLE 5.** RATES OF PERCEIVED NEED FOR MEDICAL CARE PER 100 PERSONS DURING 15 DAY RECALL PERIOD IN RURAL AND URBAN AREAS BY SELECTED SOCIO-DEMOGRAPHIC CHARACTERISTICS

Demographic Characteristics	Rural	Urban <sup>a</sup>
Sex		
Male	20.2	32.3
Female	22.2	36.6
Age		
1-13	10.6	36.6
14-65	25.9	29.6
66 over	32.2	41.9
Education		
No Schooling	34.5	42.4
Primary School	19.3	42.4
High School	14.3	37.0
Standard of Living		
High	19.4	36.5
Middle	20.0	34.1
Low	23.8	33.9
Total	21.1	34.5
(N)	(18,984)	(11,441)

a: National Health Survey, 1981.

note that the volume of bed days within 15 days for females is observed less than for males in contrast to the substantially greater rates of bed days for women in most cross-national studies of western societies (Kohn and White 1976). This unusual health behavior might be due to the impact of the persistence of certain cultural characteristics as we expect (Zola 1973). In the case of rural Korea, a strong patriarchal tradition provides priorities to men in every aspect of life. Even though women express that they are unhealthy and need more health care, the actual bed rest seems not as easy to attain as for men.

**Restricted Activity Days:** When we examine the mean number of restricted activity days, lower educational attainment and standard of living are associated with more restricted activity days. Females again report more days for which they had to limit all or part of their activity because of ill health. As mentioned above, this suggests that women in rural Korea feel it necessary to restrict activity but not to confine themselves to bed. The converse relationship between bed disability days and restricted activity days is observed among the old population compared to the adult group. The old age group has almost the same number of restricted activity days, but more bed days than the adult group. It is understandable that old people may have less

**TABLE 6. PERCEIVED MORBIDITY FACTORS DURING 15 DAY RECALL PERIOD BY SELECTED SOCIO-DEMOGRAPHIC CHARACTERISTICS OF SAMPLE POPULATION: MEAN NUMBER OF DAYS FOR DAYS IN BED, RESTRICTED ACTIVITY DAYS, AND TOTAL SICK DAYS**

Demographic Characteristics	Bed Days	Restricted Activity Days	Total Sick Days
All	1.70	6.85	13.37
Sex			
Male	1.78	6.18	13.09
Female	1.63	7.45	13.62
Age (years)			
1-13	0.78	2.63	9.68
14-65	1.78	7.74	14.06
66 over	2.86	7.48	14.51
Education			
No Schooling	2.07	8.40	14.48
Primary School	1.61	6.79	13.59
High School	1.39	5.61	12.57
Standard of Living			
High	1.65	6.04	12.75
Middle	1.47	6.36	13.14
Low	2.01	7.70	13.85
Number of Cases	3,016	3,896	3,915

demanding interpretation of what constitutes 'activity' and also have a rather low threshold to resist an illness and thus bedrest becomes necessary once they get sick.

Table 7 also displays the distribution of severity of illness among the rural population. The intensity or severity of perceived morbidity is reflected by a composite index which measures the reported extent to which the respondent was bothered by the illness. Respondents are considered as having severe illness if days in bed with or without restricted activity days or other health problems are reported; otherwise the severity is low.

Chronicity of illness: Another measure of perceived morbidity is the reported prevalence of long standing health problems, or chronic illness which the respondent perceives as affecting or limiting his usual activities. In the present data, the chronicity of illness is indicated by the occurrence date of illness which the respondents report during a 15-day recall period. They were asked if the reported illness occurred before three months prior to the survey, within the last three month period, or within 15 days of the recall period.

A surprisingly high percentage of the population is found to suffer from illnesses lasting longer than three months as shown in Table 7. Due to the

TABLE 7. SEVERITY AND DURATION OF ILLNESS DURING 15 DAY RECALL PERIOD BY SELECTED SOCIO-ECONOMIC CHARACTERISTICS OF SAMPLE POPULATION

Demographic Characteristics	Severity (%)		Duration (%)		
	High	Low	90+	16-90	1-15
All	19.0	80.5	66.8	8.0	24.6
Sex					
Male	21.5	78.1	64.5	8.8	26.3
Female	16.7	82.6	69.5	7.3	23.2
Age (years)					
1-13	19.2	80.8	25.3	11.6	63.1
14-65	17.9	81.3	74.0	7.3	18.1
66 over	26.1	73.7	82.1	7.4	10.2
Education					
No Schooling	19.9	79.5	81.1	5.2	13.2
Primary School	18.4	81.1	68.7	9.3	21.5
High School	17.7	81.8	56.4	10.7	32.5
Standard of Living					
High	15.8	83.4	58.8	10.2	30.4
Middle	19.4	80.2	64.0	8.7	27.0
Low	19.5	79.9	73.1	6.6	19.9
Number of Cases	743	3,151	2,620	315	966

nature of chronic disease, it is reasonable to observe that children have more short-term illnesses. It is also possible that children need immediate medical attention for minor illnesses, such as headache, common cold, or stomach pains, since they have lower levels of tolerance for pain. In contrast, the higher rate of chronicity among adults may result from underreporting of these minor illnesses, because they do not take these symptoms serious enough to call for professional attention. The picture of socioeconomic characteristics for the chronicity of illness additionally indicates that the lower social classes have more problems with chronic illnesses which may imply an actually higher prevalence of chronic illnesses among them. However, it may also be the result of delay in the decision process to care for their symptoms until the last moment, since they cannot afford the cash fees or the loss of working time required for visits to medical practitioners in towns or cities (Beals 1976).

#### *Use of Health Services*

The variables included in this section are the individual characteristics which presumably affect an individual's entry into the health care system, and

more precisely which affect decision-making concerning specific use of this system. Some individuals are inclined to use more health services than others, and some prefer one health service to another. This tendency toward health care use may be predicted by one's social attributes prior to the onset of an illness. Past studies indicate that utilization is generally lower for males than females and increases with age. Socioeconomic status has shown a positive relationship with health service use. In the present study, we controlled some other sociodemographic factors, health status, and attitudes variables in order to test the hypothesis that females tend to utilize health services more often than males, based on the different role expectations for males and females. In the previous utilization studies, men were found to complain less about their health and to be less likely to restrict their daily activities because of ill health (Anderson *et al.* 1963; Nathanson 1977; Markides *et al.* 1985). Other studies expected men actually to have better health status, since males would be better taken care of than females (Greenlick *et al.* 1968; Gesler 1978). In both cases, the use of health services is less likely to be observed among men than women.

The present data show a mixture of behavior patterns for males and females in rural Korea. The expectation that females tend to complain more about their ill health was already proved to be true in the previous section where the health status of the sample population was examined (see Table 4 through 7). Women in general reported poorer self-rated health status and a greater number of sick days. Despite the poor health status reported by females, however, the actual average days of bedrest were fewer for females than males, implying a different response to illness among men and women.

A close look at the differentials in health service use from the logistic regression analysis provides the results presented in Table 8 and Table 9. First, Table 8 compares the population who have been to a health service facility within a 15-day recall period with those who did not in spite of their need for medical care. Table 9 further examines the choice of one health service over another among those who utilized health services during the recall period. The coefficients in the Tables tell us the effects of having specific personal characteristics on the relative selection probability of one dependent category over another. By virtue of 'effect coding', the coefficients for the omitted categories are obtained by reversing the signs of the coefficients for the categories of the independent variables included in the analysis.

The hypothesis that being a female is positively related to the use of health services, is not supported in the data. Instead, the reverse relationship between sex and health service use is observed in rural Korea. Men appear to use various kinds of formal health care services significantly more than women. This is rather consistent with the picture shown in the cross-

**TABLE 8. PERSONAL CHARACTERISTICS AND USE OF HEALTH SERVICES: RESULTS OF BINOMIAL LOGISTIC REGRESSION**

Indicators	Use/Nonuse	Chi-Square Statistics
Sex	**	5.93**
Male	-.100	
Female	.100	
Age		0.23
Elderly	.028	
Adult	-.028	
Education	**	12.40***
High	.129	
Middle	.076	
Low	-.205	
Marital Status	*	3.63*
Married	.086	
Single	-.086	
Number of Cases: 3,208		

\* Significant at the .10 level.

\*\* Significant at the .05 level.

\*\*\* Significant at the .01 level.

**TABLE 9. PERSONAL CHARACTERISTICS AND HEALTH SERVICE USE: RESULTS OF MULTINOMIAL LOGISTIC REGRESSION**

Indicators	Hosp/ Chin.	Pharm/ Chin.	H. C./ Chin.	Hosp/ H. C.	Pharm/ H. C.	Hosp/ Pharm
Sex			***	***	***	
Male	-.158	-.040	-.685	.527	.646	-.119
Female	.158	.040	.685	-.527	-.646	.119
Age						
Elderly	-.063	.072	.190	-.252	-.117	-.135
Adult	.063	-.072	-.190	.252	.117	.135
Marital Status			**	**	**	
Married	-.004	-.094	-.414	.410	.320	.090
Single	.004	.094	.414	-.410	-.320	-.090
Education				**		
High	.271	.040	-.352	.623	.392	.231
Middle	-.009	.033	-.151	.142	.118	.024
Number of Cases: 1,421						

\* Significant at the .10 level.

\*\* Significant at the .05 level.

\*\*\* Significant at the .01 level.



tabulation of health status variables by sex in an earlier section. Women used to have less rest at home and they are shown not to seek help from outside, either.

In order to understand the health behavior of men and women, which differs from the patterns found in Western countries, the socio-cultural influence of rural life must be taken into consideration. As frequently reported in all third world countries, tradition poses obstacles for women to become patients and hampers access to health facilities (Gallagher and Searle 1983). In Korea, a strong patriarchal tradition prevails in every aspect of life. Especially in rural areas where the importance of male labor for agricultural work keeps this tradition stronger than in the cities, men have priority over women; they, therefore, lead a better life (Han *et al.* 1988). Men are better taken care of, and thus they have better health status. The society also offers them better access to medical care when they have the same level of health problems as women. Moreover, women have many other commitments at home in addition to the out-of-home work. Domestic work is largely unaided by technology, and routine household tasks, marketing, preparation of meals and childcare require considerable portions of a woman's day (Bender and Cantly 1983). They cannot leave their work as easily as men when they have all these duties to perform.

A recent survey of 2,000 women living in rural Korea supports this finding (Korean Institute for Women 1987). In rural areas, almost every woman complains about her health problems, listing from one up to fifty symptoms of ill-health. They attribute their health problems to the excessive amount of work, stressful life conditions, alienation caused by inferiority of being in rural areas, and so on. Despite their complaints, however, they are reluctant to get medical care. While only 5 and 7 percent of women ignored the illness of their children and husband respectively, almost one-third of them answered that they ignored their own health problems. In the traditional female role, women are supposed to sacrifice themselves for the family. Understandingly, this sacrifice affects the life of women in rural Korea. We can also explain the lower level of health utilization among females by the nature of the dependent variable concerned. In this study, the health behaviors are confined to the use of formal health care services. It is common in rural areas of developing countries that women themselves are the providers of informal health care (Turshen 1983). Even as the formal health services system expands in these areas, women still undertake the work of primary health care. When they are sick, therefore, they may take care of themselves first or use their informal networks by consulting friends or relatives for the exchange of knowledge and opinions rather than seek help from outside professionals right away.

Table 9 illustrates that the choices of health care facilities are significantly different between men and women, in addition to the differentials in the level of health service use. Compared to males, the results of multinomial logistic regression analysis indicate that females tend to seek medical care from other health service facilities than health centers. This strong preference for hospitals, pharmacies, or Chinese medicine practices rather than health centers must imply that there are some factors in health centers which keep women from utilizing health centers.

First of all, the characteristics of the major health personnel responsible for the medical care at health centers could be the negative factor which reduces the desire of women to seek medical care at health centers. The community physicians who are in charge of community health in rural areas have a social background incompatible with the community they are serving. The majority of community physicians are young, single males who have just graduated from a medical school and are working in rural areas to substitute for compulsory army service. Most of them grow up and go to medical school in the cities, and come to the rural areas to complete three-year required service for men. They do not have experience in medical practice, except clinical educational experience at medical school (Nam *et al.* 1986). They are, therefore, considered qualitatively different from the medical doctors at hospitals who are more professional.

Under these circumstances, women in rural areas must cope with settings which are discordant with cultural norms for the female roles and this interaction very likely causes them to feel uncomfortable when they see community physicians at health centers compared to more professional encounters with physicians at hospitals or Chinese medicine practice.

## DISCUSSION

The results from binomial and multinomial analysis show that women tend to get less medical care from the formal health care system in general, and least from health centers. These results seem contradictory at first glance since women are discriminated against in getting medical care from formal health services, but they get presumably better quality services provided in modern health facilities. However, it is not necessarily a contradictory result, if we look further into the situation. As mentioned above, the incompatible characteristics of practitioners at health centers (which in fact can be a good choice for women) become a deterrent factor for them. Then women have to turn to other formal health services which need more efforts in terms of time and cost than health centers. In this case, the only choice left for women in rural Korea is to make a very careful decision about seeking medical care

from the formal health care system and to use more of the informal health services available. In other words, the patterns of health service facility choice show that women's minimal utilization of health centers is part of the reason why they have a lower level of formal health services than males. The coefficient for choosing hospitals, which is still relatively lower than pharmacy or Chinese medicine practice compared to health centers, also supports the idea that the minimal utilization of health centers is not necessarily equivalent to saying that women get better quality health care than men. They still choose pharmacies and Chinese medicine practice relatively more often than hospitals as the alternatives.

In conclusion, the results of this study show that the population group who do not seek medical care from the formal health services tend to be previously-married women with lower levels of formal education. Obviously, they are the most disadvantaged population group in rural areas. They are women in a patriarchal traditional society; their marital status resulted from either divorce or separation, both of which are socially stigmatized, or widows who do not have complete family life and are likely to be economically poor; and people without any formal education.

This pattern of health behaviors among men and women confirmed the women's unfavorable living situations in their families and society. Most women are unable to utilize a desired health facility freely when they need health care. It also pointed out the limited scope of the Korean health care system in terms of the disproportionate health resources distribution in rural areas and the arrangement of health finance. This study, thus, leads us to formulate a policy question. How can the demand for health services be met most equitably and satisfactorily through a balanced resource allocation in an integrated health service system? The answer does not merely concern the implementation of short-term health program, but requires collaborated efforts from the administrative, economic, political and social sectors of the country.

## REFERENCES

- Aldrich, John H., and Forrest D. Nelson. 1984. *Linear Probability, Logit, and Probit Models*. Sage University Papers 07-045. Beverly Hills, CA: Sage.
- Alfredsson, L., R. Karasek, and T. Theorell. 1982. "Myocardial Infarction Risk and Psycho-Social Work Environment." *Social Science and Medicine* 16: 463-467.
- Anderson, Robert, Laurie M. Gunter, and Evelyn J. Kennedy. 1963. "Evaluation of Clinical, Cultural, and Psychosomatic Influences in the Teaching and Management of Diabetic Patients: Study of Medically Indigent Negro Patients." *American Journal of Medical Science* 245: 682-690.
- Anderson, Ronald, and J. F. Newman. 1973. "Societal and Individual Determinants of

- Medical Care Utilization in the U.S." *Milbank Memorial Fund Quarterly* 51-95.
- Asian Development Bank. 1977. *Rural Asia: Challenge and Opportunity*. New York: Praeger Special Studies.
- Bender, Deborah E., and Carolyn R. Cantlay. 1983. "Mothers as Resources for Community Health in the Third World: A Bolivian Example." In *Third World Medicine and Social Change: A Reader in Social Science and Medicine*, edited by John Morgan. Lanham, MD: University Press of America.
- Blane, David. 1985. "An Assessment of the Black Report's Explanation of Health in Equalities." *Sociology of Health and Illness* 7 (3): 423-45.
- Colson, Anthony C. 1971. "The Differential Use of Medical Resources in Developing Countries." *Journal of Health and Social Behavior* 12 (3): 226-237.
- Fox, A. J., P. O. Goldblatt, and D. R. Jones. 1985. "Social Class Mortality Differentials: Artefact, Selection or Life Circumstances." *Journal of Epidemiology and Community Health* 39 (1): 1-8.
- Freidson, Eliot. 1970. *Profession of Medicine*. New York: Harper and Row Publisher.
- Gallagher, Eugene B. 1978. *The Doctor-Patient Relationship in the Changing Health Scene*. Washington D.C.: DHEW.
- Gallagher, Eugene B., and Maureen Searle. 1983. "Women's Health Care: A Study of Islamic Society." In *Third World Medicine and Social Change*.
- Gesler, Wilbert M. 1978. "Illness and Health Practitioner Use in Calabar, Nigeria." Unpublished Ph.D. dissertation, University of Massachusetts.
- Greenlick, Merwyn R., Arnold V. Hurtadom, Clyde R. Pope, Ernest W. Saward, and Samuel S. Yoshioka. 1968. "Determinants of Medical Care Utilization." *Health Services Research* 3 (4): 296-315.
- Han, Sang-Bok, Tai-hwan Kwon, Kyung-Soo Chun, and Chang-Kyu Moon. 1988. *Water Supply and Sanitation in Korean Communities*. Seoul: The Population and Development Studies Center, Seoul National University.
- Hanushek, Eric A., and John E. Jackson. 1977. *Statistical Methods for Social Scientists*. New York: Academic Press.
- Hershey, John C., Harold S. Luft, and Joan M. Gianaris. 1975. "Making Sense Out of Utilization data." *Medical Care* 13 (10): 838-854.
- Karasek, Robert. Dean Baker, Frank Marxer, Anders Ahlbom, and Tores Theorell. 1981. "Job Decision, Job Demands and Cardio-Vascular Disease: A Prospective Study of Swedish Men." *American Journal of Public Health* 71 (7): 694-705.
- Kerlinger, Fred, and Elazer J. Pedhazur. 1973. *Multiple Regression in Behavioral Research*. New York: Holt, Rinehart and Winston.
- Kleinman, Joel C., Marsha Gold, and Diane Makuc. 1981. "Use of Ambulatory Medical Care by the Poor: Another Look at Equity." *Medical Care* 19 (10): 1011-18.
- Knoke, David, and Peter J. Burke. 1980. *Log-Liner Models*. Sage University Papers, 07-020. Beverly Hills, CA: Sage.
- Kohn, Robert, and Kerr L. White. 1976. *Health Care: An International Study*. London: Oxford University Press.
- Korea Institute for Women. 1987. *Report on Women's Health Survey in Rural Korea*.
- Kwon, Tai-Hwan. 1986. *The Trends and Patterns of Mortality and Health in the Republic of Korea*. Asian Population Studies Series No. 76. Bangkok: Economic and Social Commission for Asia and the Pacific.
- Maclean, Catherine M. U. 1969. "Traditional Healers and Their Female Clients: An

- Aspect of Nigerian Sickness Behavior." *Journal of Health and Social Behavior* 10 (3): 172-186.
- Markides, Kyriakos A., Jeffrey S. Levin, and Laura A. Ray. 1985. "Determinants of Physician Utilization Among Mexican-Americans." *Medical Care* 23 (3): 236-246.
- Mechanic, David, 1978. *Medical Sociology*. New York: Free Press.
- Meininger, Janet C. 1986. "Sex Differences in Factors Associated with Use of Medical Care and Alternative Illness Behaviors." *Social Science and Medicine* 22 (3): 285-92.
- Nam, Chul Hyun, Hye Ryun Kim, and Mun Kyuk Lim. 1986. *A Study for the Development of Health Services of the Health Sub-centers*. Seoul: KIPH.
- Nathanson, Constance A. 1975. "Illness and the Feminine Role: A Theoretical Review." *Social Science and Medicine* 19 (1): 57-62.
- \_\_\_\_\_. 1977. "Sex, Illness, and Medical Care." *Social Science and Medicine* 11 (1): 13-25.
- Parsons, Talcott. 1975. "The Sick Role and the Role of the Physician Reconsidered." *Milbank Memorial Fund Quarterly* (summer): 257-279.
- Reynes, Josefina F. 1987. The Determinants of Changes in Contraceptive Status: the Case of Bohol, Philippines." Unpublished Ph.D. dissertation, Brown University.
- Roos, Noralou P., and E. Shapiro. 1981. "The Manitoba Longitudinal Study on Aging: Preliminary Findings on Health Care Utilization by the Elderly." *Medical Care* 16 (6): 644-659.
- Samora, Julian, Lyle Saunders, and Richard R. Larson. 1962. "Knowledge about Specific Diseases in Four Selected Samples." *Journal of Health and Social Behavior* 3 (3): 176-185.
- Stern, J. 1983. "Social Mobility and the Interpretation of Social Class Mortality Differentials." *Journal of Social Policy* 12 (1): 27-49.
- Suchman, Edward A. 1965. "Social Patterns of Illness and Medical Care." *Journal of Health and Human Behavior* 6 (1): 2-16.
- Theorell, T., and B. Floderus-Myrhed. 1977. "Workload and Risk of Myocardial Infarction: A Prospective Psychosocial Analysis." *International Journal of Epidemiology* 6 (1): 17-21.
- Turshen, Meredith. 1983. "The Study of Women, Food, and Health in Africa." In *Third World Medicine and Social Change*.
- Waldron, Ingrid. 1976. "Why Do Women Live Longer Than Men?" *Social Science and Medicine* 10 (7): 349-362.
- Zola, Irving Kenneth. 1973. "Pathways to the Doctor: From Person to Patient." *Social Science and Medicine* 9 (9): 677-689.
- \_\_\_\_\_. 1976. "In the Name of Health and Illness." *Social Science and Medicine* 9 (2): 83-87.

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