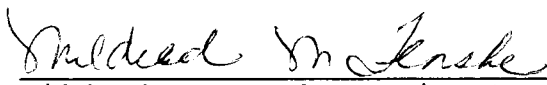


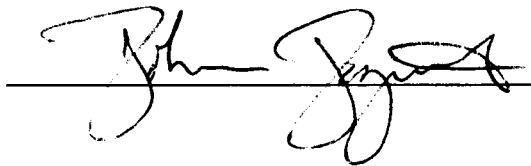
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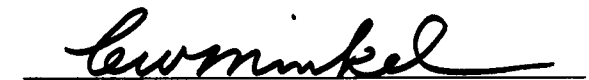

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The Anticipatory and Actual Impact on Lifestyle of Loss of
Driving Privileges for Older Persons Using the Social
Reconstruction and Self-Care Theoretical Model

A Thesis

Presented for the

Master of Science in Nursing

Degree

The University of Tennessee, Knoxville

Donna J. Wehe

August 1989

This work is dedicated to my strongest supporter
and best friend,
my loving husband David.

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I hereby acknowledge with thanks the permission granted by the MacMillan Publishing Company to include Figures 1 and 2 from The Social Psychology of Aging by Vern L. Bengtson (1973).

ABSTRACT

A nonexperimental, descriptive correlational study was conducted to describe and gain insight into the following question: How seriously does the anticipatory and actual loss of driving privileges impact on the lifestyle of older persons? Kuypers' and Bengtson's "Social Reconstruction Model" (1973) and Orem's "Self-Care Deficit Model" (1985) formed the theoretical framework for this study. An investigator-developed interview schedule served as the instrument for data collection. The volunteer or convenience sample comprised 12 men and women between 60 and 95 years of age who still drove and 11 exdrivers. Subjects were recruited from one senior center and one retirement apartment complex in the Ann Arbor, Michigan area. The investigator conducted a 20 minute interview with each volunteer. Data from the study were analyzed using qualitative methods and descriptive statistics. While no correlation was observed between ease of performing five common categories of activities (i.e., outings from residence for health care, sustenance, entertainment, social and church) and the importance of the activities, exdrivers generally found activities to be less important and harder to perform than drivers. In contrast, a strong correlation existed for drivers. Substantive negative psychological effects were

observed from a thematic analysis of qualitative answers as well as from the numeric rating scale responses. Numeric data showing relatively large fluctuations about the mean indicate a wide range of perceived impacts. Thus, consideration of individual circumstances will be important when planning nursing interactions with this clientele.

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CHAPTER I

INTRODUCTION

Most older Americans possess a keen desire to remain actively involved in economic, social, spiritual, and recreational activities. They highly value continued independence and self-sufficiency. The automobile and the ability to drive enable older persons to remain more autonomous, active individuals. According to Carp (1971), "Giving up one's automobile and one's identity as a driver may be a serious threat, not only because of increased difficulty with transportation, but also because of diminished self-esteem" (p. 101). However, with increasing age, many people voluntarily or involuntarily give up their privilege to drive. Because of the increasing population of older persons, however, one finds more older drivers than ever before. Winter (1984) stated, "of the 141,832,000 licensed drivers in the United States, 25% are 55 and over. By the year 2000 the projection is 28%, by 2050, 39%" (p. 136). Independence for some older persons links to personal mobility through the use of the automobile. However, the larger number of persons in this age group who drive causes new traffic safety and social impact questions to be raised.

Isolating the impact of the loss of driving privileges on the life satisfaction of older persons becomes difficult due to the influences of other negative factors which frequently accompany the aging process and becoming exdrivers. For example, the loss of driving privileges may be associated with a loss of vision or diminished good health. As Larson (1978) notes, "Poor health, low income, and lack of social interaction, among other things, are clearly related to lower expressed satisfaction with life, lower morale, and lower contentment" (p. 109). While loss of driving privileges may contribute to these negative effects, it is beyond the scope of this work to examine a cause and effect relationship. For this reason, this study deliberately avoided explicitly looking at life satisfaction indices, self-esteem, and self-concept. Rather, the questions focused on determining whether driving privileges play an important role in the daily lives of older persons, and whether the loss of these privileges is meaningful.

Statement of the Problem

The purpose of this study was to investigate how seriously the voluntary or involuntary relinquishment of driving privileges impacts the lifestyle and psychological well-being of persons between 60 and 95 years of age. In

addition, the study also addressed three subsidiary questions stated below. These issues were examined from a prospective viewpoint (i.e., drivers anticipating loss of driving privileges), a retrospective viewpoint (i.e., exdrivers recalling the difficulty of relinquishing their driving privileges), and current viewpoints.

Primary Research Question

From the perspectives of older persons between 60 and 95 years of age, with and without driving privileges, how seriously does the anticipated or actual loss of driving privileges impact their lifestyle and psychological well-being?

Subsidiary Questions

1. What factors make some older drivers voluntarily stop driving?
2. What bothers the older person most about the loss of driving privileges?
3. Do the perceptions of drivers and exdrivers differ with regard to the impact of the loss of driving privileges?

Nominal Definitions

1. Older persons--Persons between 60 and 95 years old.
2. Older drivers--Individuals between the ages of 60 and 95 years who possess valid driving licenses and have access to a motor vehicle.
3. Older exdrivers--Individuals between the ages of 60 and 95 years who formerly possessed valid driving licenses but no longer have them
4. Voluntary loss of driving privileges--Non-renewal of drivers license and/or cessation of operation of vehicle based on personal reasons.
5. Mandatory loss of driving privileges--Legal revocation of driver's license.

Assumptions

The responses of the participants were assumed to be honest and accurate within the limits of their perceptions. In particular, it was assumed that the respondents were capable of recognizing the impact of the loss of driving privileges, and were able to correctly isolate that factor from other contributing factors. For example, the respondent could determine that it was the loss of driving privilege, not the loss of eyesight, which made grocery shopping

difficult. Considering the specificity and continuity of all interview questions related to driving, this is probably a reasonable assumption.

Limitations

Inherent limitations in the study were introduced by the sample size (statistical limitations), population from which the sample was drawn (generalizability limitation), and nature of the study (descriptive study using self-reporting methods, and retrospective reporting). These limitations are discussed below.

The small sample size of 11 exdrivers and 12 drivers is necessarily a statistical limitation. That is, the probability that the measured differences between the driver and exdriver samples equals true differences increases with increasing sample sizes. Nevertheless, one would expect that since the study is looking for substantive effects, this sample size should be sufficient to identify major differences between drivers and exdrivers. However, small measured differences between the two groups must be viewed with caution because of the limited sample sizes.

A non-probability convenience approach was used to select the samples. Therefore, subjects who volunteered for the study may not be representative of all older persons, nor can

one necessarily generalize that they are representative of all older persons in the area from which they were drawn. The volunteers appeared to be drawn from a wide range of socio-economic backgrounds, and thus should be typical of a broad population. However, the Ann Arbor area offers a better-than-average transportation system for older persons. Local transportation by taxi is available for \$1; and, with a membership card, an extensive bus system is available without charge. This latter fact may limit the generalizability of some results.

A potential limitation is the use of retrospective reporting by respondents. In retrospective reporting, the respondent is requested to recall and describe past thoughts, feelings, and experiences. Present responses may not accurately reflect past thoughts and feelings. For example, exdrivers may have adjusted to their present mobility status or the loss of driving privileges may be so unpleasant that the individual unintentionally distorts or blocks perceptions. While no evidence indicates that this occurred during this study, it is nonetheless a potential problem.

The final limitation to be addressed involves the use of self-reporting. The self-measurement of qualitative features on a quantitative scale introduces an additional measure of uncertainty in the results. This becomes inherent in the

measurement of any abstract concept lacking an absolute, universally recognized scale.

Conceptual Framework

Conceptual frameworks provide a useful formal structure to identify research questions and relate results into a broader and more comprehensive model. The conceptual framework provides assumed linkages between qualitative concepts, and thus supplies a structure for examining and explaining results. The utility of conceptual frameworks is generally accepted (Eliopoulos, 1984; Wells, 1987). However, identifying an established, unique conceptual framework applicable to this research is problematic. Nursing frameworks are still in their infancy, and have not evolved to encompass the unconventional mix of nursing, gerontology, and social psychology present in this work. In order to avoid falling into Wells' "requisite paragraph syndrome" (Wells, 1987), this work requires two models to adequately span the research domain--Orem's model for nursing and Kuypers' and Bengtson's Social Reconstruction Model for aging and social psychology.

Social Reconstruction Model

"Social Reconstruction Syndrome" (Kuypers & Bengtson, 1973) describes positive or negative processes in aging. The theory blends labeling theory with components of systems theory in order to tackle practical problems of adjustment in aging (Bengtson, 1973, p. 46). While the model has not been tested empirically, it has been applied within the fields of sociological and psychological aging (Burnside, 1988; Hendricks & Hendricks, 1986; Woodruff & Birren, 1975). Bengtson considers the model primarily as a heuristic aid useful in sensitizing practitioners to particular problems of the elderly (Passuth & Bengtson, 1988). In this model, the person's social environment and self-concept can interact in an escalating manner. If either the social environment or self-concept receives negative stimulation, a perpetual negative cycle can result. Uninterrupted this negative cycle leads to a lowered self-image, personal identification with a "sick" role, and self-identification as inadequate or incompetent.

Figure I-1 illustrates the essence of the negative feedback scheme described above. In this figure, the entry point (labeled 1) applicable to loss of driving privileges usually results from the introduction of such health deficits as deteriorating vision, stroke, or increased reaction time which result in a negative change in self-concept. This

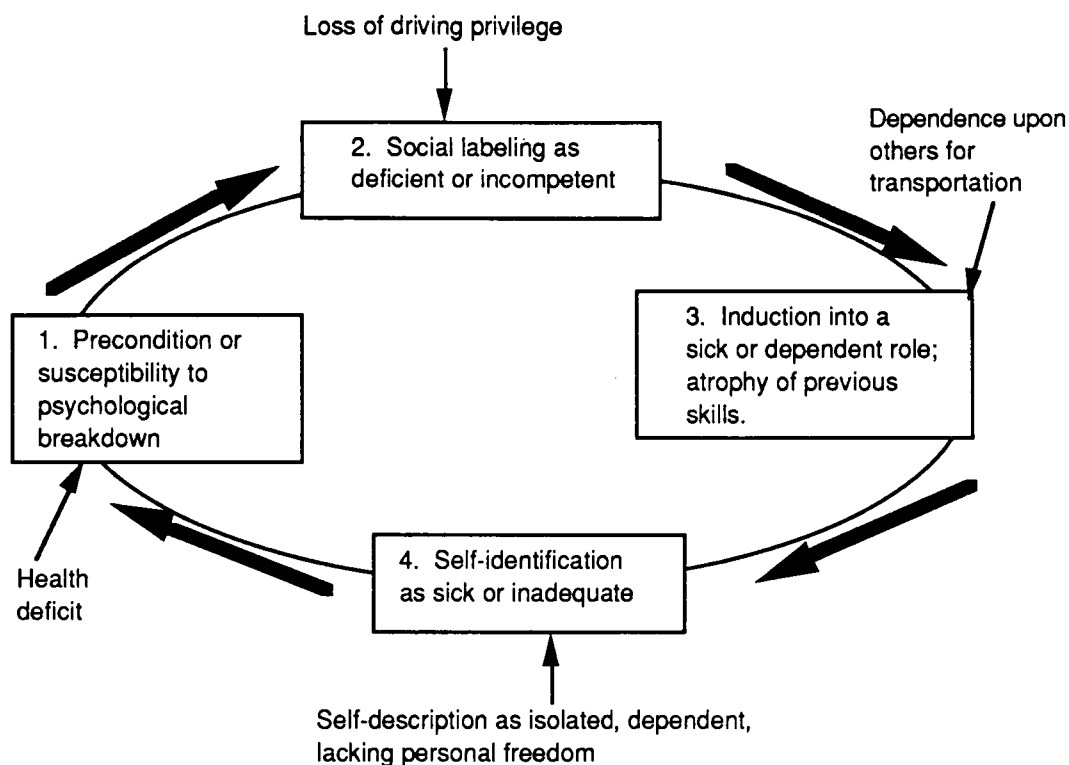


Figure I-1. Social Breakdown Model Applied to Loss of Driving Privileges.

Note. From The Social Psychology of Aging (p. 43) by V. L. Bengtson, 1973, Indianapolis: Bobbs-Merrill. Copyright 1973 by the MacMillan Publishing Company. Adapted by permission.

leads to the second step (labeled 2), social labeling as deficient or incompetent. Examples of social labeling for this scenario include a directive from the doctor to no longer drive, inability to renew the driver's license, comments from family members urging the person to stop driving, and refusal of relatives and friends to ride with the less skillful driver. While such labeling may accurately describe the situation, for the individual it results in the third step (labeled 3), which is induction into a sick or

dependent role with atrophy of previous skills. Finally self-identification as sick or inadequate (labeled 4) by the exdriver occurs when they describe themselves as dependent, lacking personal freedom, and more isolated than when driving.

In contrast to the negative feedback cycle, the Social Reconstruction Model shown in Figure I-2 describes a positive cycle of improved self-confidence and competence. Inputs to the model represent interventions or stimuli initiated by the person or external agents. These actions tend to be beneficial and initiate the positive reinforcement cycle. Additional inputs along the path may be required to ensure completion of the positive cycle. To choose driving as an example, the entry point for driving may be input B--a good alternate transportation system partially replaces the exdrivers' loss of driving. According to the model, this results in reduced dependence and improved self-reliance. This, in turn, leads to more positive self-labeling. However, in this circumstance, an additional input may be required, such as input C, in which a health provider may encourage a more internal locus of control. This additional input assists in the development and maintenance of problem solving skills and contributes to a positive "self-view" as effective. This positive "self-view" feeds back into a reduced susceptibility to social breakdown and improved self-

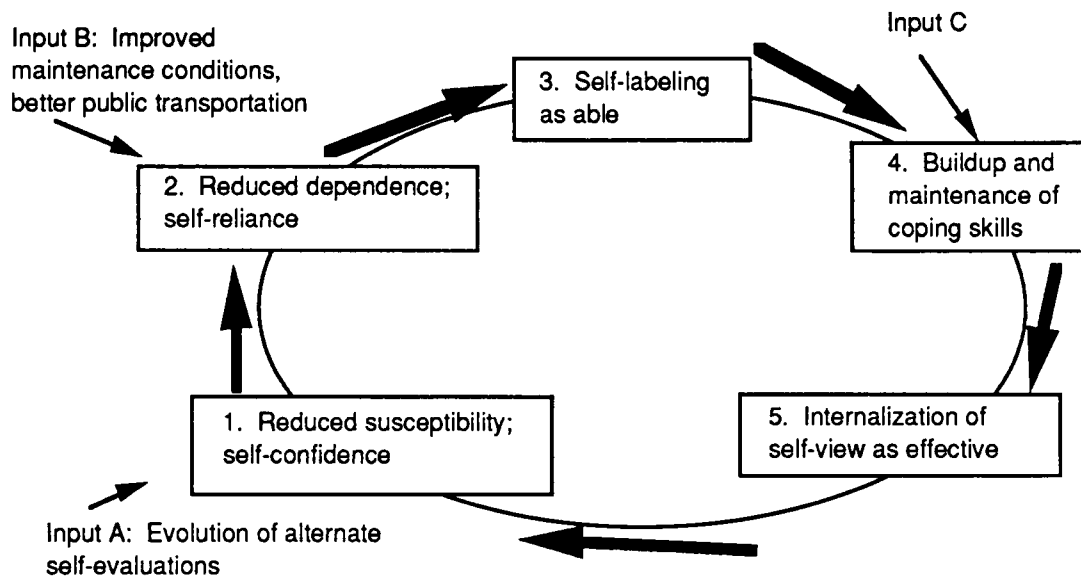


Figure I-2. Social Reconstruction Model Applied to Loss of Driving Privileges.

Note. From The Social Psychology of Aging (p. 44) by V. L. Bengtson, 1973, Indianapolis: Bobbs-Merrill. Copyright 1973 by the MacMillan Publishing Company. Adapted by permission.

concept. Positive feedback may be accentuated through additional input, such as shown in input A. As an example of input A, Kuypers and Bengtson (1973) cite an evolution of alternate evaluations of a person's condition leading to an adaptation to the situation and reduced susceptibility to social breakdown. The cycle then repeats with additional input stimuli.

The positive inputs to the Social Reconstruction Model can originate from a variety of different sources. Orem's model, which introduces the universal and developmental self-

care requisite concepts provides the linkage between a nursing model which identifies needs for nursing interventions or inputs with the process of the social reconstruction model. While Orem's model has not been empirically tested, it has enjoyed popularity and support as a useful framework for gerontological nursing research and practice (Burnside, 1988; Eliopoulos, 1984, Harper, 1984).

Orem's Self-Care Model

Three interwoven theoretical constructs, (self-care deficit, self-care, and nursing systems) constitute Orem's general theory of nursing. The theory of self-care deficit is pivotal to the general theory. This theory: (a) predicts general nursing requirements, (b) specifies the focus of nursing efforts, (c) identifies who needs nursing, (d) explains when and why nursing is required, (e) explains how persons benefit from nursing interventions, and (f) explains why human beings need self-maintenance and self-regulation for the continuance of life (Orem, 1985). Orem defines self-care as the action one takes to maintain and regulate human structural integrity, functioning, and development and assumes that self-care is a requisite for all persons (Orem, 1980).

According to Orem three types of self-care requisites exist: universal (such as maintenance of air, water, and

food and achieving balance between activity and rest), developmental (such as maintenance of living conditions that support and promote the processes of human development), and health deviation (such as seeking and obtaining appropriate medical care for illness and learning to live with a pathological condition). Therapeutic self-care demand includes all that must be done to meet existent self-care requisites. The capability to initiate and perform actions to meet therapeutic self-care demands is called self-care agency.

When an individual's therapeutic self-care demands exceed his/her self-care agency capabilities a self-care deficit occurs. A self-care deficit, which is either complete or partial, is a qualitative or quantitative inadequacy of the self-care agency. A self-care deficit implies that nursing care may be needed. The condition which validates the need for nursing is: "the absence of the ability to maintain continuously that amount and quality of self-care which is therapeutic in sustaining life and health, in recovering from disease or injury, or in coping with their effects" (Orem, 1985, p. 55). Nursing responds to an individual's incapacity to meet his/her self-care requisites. The central idea of the theory of nursing systems is: "Nursing systems are formed when nurses use their abilities to prescribe, design, and provide nursing for legitimate patients by performing

discrete actions and systems of action" (Orem, 1985, p. 37-38). Orem recognizes three variations in nursing systems: (a) wholly compensatory, (b) partly compensatory, and (c) supportive-educative. These nursing systems help define the roles and responsibilities of the nurse and the patient and the kinds of actions to be performed by each. The amount of participation required by the nurse and the patient to perform the patient's self-care requisites determines the nursing system.

Orem classifies nursing situations into seven categories based upon the focus of health care. The category relevant to this study is Group I-life cycle. The health focus is "oriented to events and circumstances in relation to the life cycle that give rise to anatomical, physiological, or psychological changes associated with periods of growth and development--the process of aging, and the period of old age" (Orem, 1985, p. 195).

The very practical concepts of this theory provide the nursing framework to study the impact of the loss of driving privileges. Blending Kuypers' and Bengtson's Social Reconstruction Model with Orem's Self-Care Model for this descriptive study offers the structure to follow a sequence of negative stages which may accompany the loss of driving privileges. In addition coupling the two models supplies a means to determine, from a nursing perspective, which if any,

of the stages in the breakdown model will be activated and provides a practical framework from which to develop future interventions (inputs) based on the results empirical investigations.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

This chapter presents a review of the literature related to the elderly and driving in order to characterize the elderly driving population and briefly reviews their driving capabilities. The relevance of the aging process to driving ability is then explored, followed by an examination of the psychological impact of driving on life satisfaction. Finally, the chapter concludes by noting the importance of these issues to nursing.

Recent concerns regarding driving habits of the elderly has resulted in extensive literature associated with the topic. However, the literature primarily focuses on two areas: transportation planning and regulation. The interests of the transportation planner focus on the demographics of the population to meet the mobility needs of this growing group of drivers and making the transportation system more usable and attractive. This literature examines the abilities (and disabilities) of drivers; population densities; types, frequencies, and reasons for travel; tendencies towards favored modes of transportation, and general population characteristics such as educational and

financial status. In contrast regulators focus on the physical and mental abilities of the elderly related to driving ability and the driving safety records of the elderly. The planners and the regulators both examine what is best for society as a whole, considering the elderly driving population en masse. In addition, these broad macroscopic studies attempt to establish, from different perspectives, relationships between a generic aged population and driving abilities (regulators) and transportation needs (planners). Furthermore, while much of the literature reports studies related to the individual topics of aging, mobility needs of older persons, and nursing as related to aging, little has been written addressing the principal interest of this study namely, the relationship between these three areas. To understand these relationships, one must examine the problems from the perspective of the affected individual or microscopically; and at this point the relevance to nursing becomes clear. To begin, let us examine what is already known from the planners and regulators.

Characteristics of the Elderly Driving Population

The literature until the early 1980's typically described the elderly population as relatively dependent on public transportation, traveling little, living in higher density

areas (such as central city areas), having lower incomes, lacking medical, social and family support, and being alone and lonely (Rosenbloom, 1988; Wachs & Blanchard, 1975).

However, a different portrait of the elderly driving population is rapidly emerging. A new image of the elderly began to emerge through the early research of Wachs and Blanchard (1975); Wachs, Blanchard, Bunker, and Westfall (1976); and Wachs, Jones, Matsuoka, and Pickrell (1977).

They proposed to develop a methodology to predict the future mobility needs of the elderly and found that future mobility needs could be determined by studying the lifestyle and travel patterns of younger age groups and forecasting the economic and housing trends. An accurate description of today's elderly also resulted from their studies. Accurately projected key characteristics or life patterns of the 1980 and 1990 elderly population included:

- Improved health with longer life span and relatively vigorous activity patterns up to about age 75-80.
- Independent living arrangements where the majority of the elderly do not depend on relatives or institutions, but live in separate household.
- Improved economic welfare particularly through pensions, and acquired assets.

- Improved educational levels with the majority of the elderly having received at least a high school diploma.

Additionally, urban and transportation planning sources provide partial descriptions of the "new elderly" (Barakat & Mulinazzi, 1987; Bell & Revis, 1983; Golant, 1979; Myers, 1982; Rosenbloom 1988). However, Rosenbloom (1988) furnishes one of the best, most recent, and concise reports on the mobility needs of today's elderly. Quoting from Rosenbloom's results (1988, p. 22-40), noteworthy characteristics which portray this population include:

- The majority of the elderly population have moved from the central urban areas to the lower density suburbs, with this trend projected to accelerate.
- About 70% of the elderly live in single-family homes.
- The "new" suburban elderly are the parents of the baby-boomers. Contrary to widespread belief the suburbanites want to remain living where they are "graying in place".
- The majority now live close to relatives who can reach them within a short period and visit family members more frequently.
- Most elderly drive their own cars; a trend predicted to increase to almost 100% by the turn of the century.

- Whether or not older persons drive, the majority of their trips are in private vehicles--not using public transit or walking.
- In 1981, only 8% of men and 16% of women over 65 who resided with families lived in poverty. Elderly in the suburbs are less likely to live below the poverty level than those in the central city.
- In contrast, over 30% of elderly women and 23% of elderly men living alone in 1981 were below the poverty level. The Census Bureau predicts a significant increase in the number of elderly women living alone by the year 2020.
- Suburbanization and increasing income have changed travel patterns of the elderly.
- The elderly rely more heavily on private cars than in the past. In fact, they rely more on private vehicles for their trips than those 16-60.
- The elderly (under age 80) in rural areas make over 90% of their trips in private vehicles, exceeding the rate for those in urban areas and younger people.
- Most medical trips of the elderly are made in private vehicles. However, the taxi becomes an important mode of

transportation with increasing age. Those 81-85 make about 50% of their medical trips by taxi.

- Suburbanites suffer a larger absolute drop in mobility when they can no longer drive.
- The elderly make shorter, more frequent trips than younger groups.
- Elderly non-drivers make far fewer trips with any mode of transportation than do drivers.
- The elderly have a reduced desire to travel rather than reduced abilities to travel.
- Elderly drivers aware of their declining skills may choose to restrict or stop driving, perhaps constraining themselves unnecessarily.
- Decreased driving occurs more with increasing age than because of increasing disability. Therefore, age serves as a better predictor of the amount of driving than activity limitations.

In summary, the "new elderly": (a) are heterogeneous, (b) reside in low density areas such as the suburbs, (c) have more affluence and mobility than their predecessors, and (d) rely on the automobile as the dominant mode of transportation well into old age. Because the majority of

this population has passed through life without transportation difficulties due to the convenience of the personal automobile, the loss of driving privileges becomes an extremely complex issue on a personal as well as societal level.

Although Rosenbloom claimed that age is a better predictor of driving activity than disability, both the popular and scientific literature contains debate regarding the question. While activity in general decreases with age (especially after age 75), most experts on older driver transportation (Barakat & Mulinazzi, 1987; McKnight, Simone, & Weidman, 1982; Malfetti, 1985; Waller, 1988; Winter, 1985) acknowledge that chronological age alone is not the best indicator of driving activity or ability; usually physical or mental deficiencies cause driving (mobility) restrictions. In fact, many states today struggle with the question of mandating age specific driver license renewal practices for the elderly, with the American Association of Retired Persons (AARP) strongly opposing such criteria. The following sections review the physical and mental processes which accompany aging and relate to driving.

Relevance of Aging Process to Driving

Certain physical and psychological changes such as a slowing of the central nervous system accompany aging. These changes can impair older drivers' ability to maintain their driving skills. Most psychomotor changes which affect driving begin as young as age 55 (Planek & Overend, 1973). The most deleterious degradations related to driving involve the sensory processes, perception, motor skills, and problem solving abilities (Barakat & Mulinazzi, 1987).

Visual Changes

Visual deterioration, the most commonly cited sensory change has a major impact on driving. According to Winter (1985), declines in visual function include:

- Visual acuity markedly declines with age, making it difficult to distinguish between objects and background. Sharp contrasts create the clearest perceptual images for older eyes.
- Accommodation declines; it takes more time for the eye to shift focus from near to distant (and distant to near) objects.
- Loss of peripheral vision results in missed cues appearing in the peripheral field of view.

- Loss of elasticity of the pupil reduces the amount of light admitted to the eye resulting in the need for greater illumination.
- Sensitivity to glare significantly increases in the older eye.
- Poor adaptation to the dark develops with aging. Even with prolonged time to adapt, older eyes still do not see as well as a younger person's eye.

Reduced visual performance decreases perceptual cues, which leads to slowed responses to signals, signs, and traffic situations (Allen, 1985). When this most critical sense required for driving gradually becomes compromised, driving ability decreases unless compensations can be made.

Motor Skills

Although decrements in motor skills usually occur gradually, they negatively impact driving ability. Joint flexibility and muscle strength decrease with age making it more difficult to perform driving activities (States, 1985). An overall reduced range of motion becomes apparent in most older persons. For example, McKnight Simone, and Weidman (1982) noted that, "stiffness of the neck has been correlated with a tendency not to make head checks and not turn the head

to look behind when backing" (p. 8). Rheumatism and arthritis, two chronic movement-limiting conditions common to the elderly driver, complicate the motions of driving. In particular, arthritic joints make it difficult and painful to react quickly to sudden changes in traffic situations. In general, the cumulative effect of decreased flexibility, range of motion, loss of muscle strength, and painful, uncomfortable joints results in a motor-limited older person incapable of responding as rapidly or appropriately as younger drivers. However, more physically active older persons tend to have fewer driving problems (Waller, 1988).

Perception

Gioiella and Bevil (1985) describe perception as, "an individual's ability to receive, register, process, and respond to a stimulus" (p. 91). Perception results from sensory, cognitive, motor, conceptual, affective, and motivational processes (Gioiella & Bevil, 1985). Altered perceptions occur with aging due to changes (decrements) in the above mentioned processes. Older people do not perceive as acutely as younger people (Winter, 1985). In particular, older persons have difficulty differentiating stimuli from their background. In addition, they require more time to integrate and collate information (McKnight, Simone, & Weidman, 1982). Acute perception is essential to driving

performance. However, older drivers demonstrate dulled perceptions to fast paced, driving situations with multiple, complex stimuli, which frequently result in an inability to recognize circumstances in adequate time to react.

Problem Solving

Difficulties with problem solving also affect older drivers. These difficulties result from "cognitive changes, including memory, learning, information processing rate, attention, and perceptual integration" (Gioiella & Bevil, 1985, p. 89). Older drivers become extremely vulnerable when traffic situations create stimulus overload requiring quick reaction times and rapid decision making (Winter, 1985).

Driving Ability Measures

While degradations in vision, motor skills, perception, and problem solving have been observed, more integrated indications of driving ability can be measured. In this section, two common measures, reaction time and accident rate statistics will be discussed.

Reaction Time

The literature consistently reports declines in reaction time for older persons (Barakat & Mulinazzi, 1987, Gioiella &

Bevil, 1985; Rosenbloom, 1988). A slowing of the central nervous system occurs with aging. Freeman (1972) described electroencephalographic studies of younger and older age groups which indicated stimuli reach cerebral centers at approximately the same time in both groups. However, older persons demonstrate lengthened reaction times (p. 50). While Freeman did not report statistics which related the increased reaction time to age, Gianturco (1974) presented data which indicated slower average reaction times for average older persons. On the other hand, one wonders whether the older driver's additional years of driving experience outweigh some of the physical degradation which accompanies aging. Olson (personal communication, July 2, 1985) reported that in a series of experiments accurately simulating a "surprise encounter with a well-illuminated barricade", older drivers detected the barricade significantly later than younger drivers, but once they recognized the barricade, older drivers responded more quickly. The surprising final result indicated no net difference between the two age groups. Gianturco (1974) confirms this finding by noting that in his study, "the slower reactions of the elderly drivers did not result in a higher rate of vehicular accidents." (p. 175). These findings disputed the commonly accepted belief that older drivers have slower response times and highlighted the need

for more detailed research on the driving ability of the elderly. Indeed, it indicates that there may be other compensatory factors, such as experience, which mitigate some of the deleterious aging effects.

Driving Ability Statistics Related to Safety

In order to profile driving characteristics of the older person, Planek and Fowler (1971) used a questionnaire to collect biographical, driving experience, and opinion data. In addition, they compared the older driver's perception of occurrences of driving faults with actual traffic accident-violation records. From the 7,500 questionnaires distributed, (in the states of Illinois, California, and nine local chapters of the American Association of Retired Persons) with a response rate of 48%, they found persons over 65 years decreased their frequency of driving especially during rush hour, nighttime hours, and the winter months. An analysis of older drivers' perceptions of problems and accident-related violation problems revealed that they perceived themselves both as driving too slowly, and following other vehicles too closely. Planek and Fowler hypothesized that inconsistency in their perceptions may be caused by their desire to drive more slowly, but the realization that they cannot. Indeed the accident reports they reviewed indicated that older drivers experienced

difficulty when their responses had to match those of other drivers when changing lanes, making turns, or merging with traffic. The high incidence of violations by older drivers for running stop signs or red lights and yielding the right of way highlights problems with attention. However, older drivers did not perceive being inattentive as a major problem. Similar driving characteristics and traffic problems were reported for older persons in a study conducted comparing elderly drivers (mean age 65) with young drivers (mean age 26.3) (Winter, 1984).

Planek and Fowler (1971), Maleck (1985), Waller (1988), and Winter (1984) all indicated that both young and aging drivers have higher accident rates than drivers in the middle years when comparing per hour of exposure of driving. They reported a U-shaped curve, with the incidence of accidents high for younger persons, steadily decreasing through the middle years, and rising again in later years. However, Planek and Overend (1973), Rosenbloom (1988) and Waller (1988) note that the elderly compensate for physical deficits by driving fewer "difficult" miles. Thus, the accident rate per capita is not as large as that for the young driver (18-26) population.

Nighttime (and low-illumination) driving poses the most serious problems for older persons. Research conducted at the University of Michigan Transportation Research Institute

(Sivak & Olson, 1982; Sivak, Olson, & Pastalan, 1981) concentrated on three nighttime problems for elderly drivers: (a) legibility of traffic signs, (b) visibility-identification distances, and (c) disability glare. They found that older persons driving at night have significant disadvantages in terms of reading traffic signs, seeing low-contrast objects, and susceptibility to glare. These problems can seriously impair the elderly driver and endanger other drivers and pedestrians.

One way to compensate for decreased physical capabilities needed in driving involves education of the elderly drivers. Petrocine (1979) reviewed the physical factors which affect driving and concluded that elderly drivers must compensate for their deficits to achieve optimal driving performance. He argued for a well-rounded defensive driving course for the elderly and suggested specific items to be covered. The American Association of Retired Persons (AARP) and the National Retired Teachers Association (NRTA) jointly developed a classroom course designed for older drivers in 1979. More than 200,000 elderly persons graduated from this course between 1979 and 1987. However, programs which involve on-the-road instruction have traditionally failed (Seaton, 1976), probably because the elderly refuse to demonstrate their driving skills and expose themselves to a loss of driving privileges.

The following summarizes additional facts related to traffic safety for the elderly (Barakat & Mulinazzi, 1987, p. 197; Waller, 1988, p. 79):

- Older drivers usually relinquish their license voluntarily.
- Impairment or death occur more frequently for older drivers as a result of an automobile accident.
- Older drivers are more likely to be judged at fault in an accident.
- Improper statistical analysis of accident data frequently occurs due to lumping all drivers over age 65 together.
- The most common violations include: (a) improper left turns at intersections, (b) inattention, (c) failure to yield right-of-way, and (d) failure to obey stop signs and traffic lights

In summary, measurements of reaction times and accident statistics confirm that the aging process does manifest itself in driving ability. Elderly drivers, as a population, recognize this at least partially, and attempt to compensate. However, additional maturity and age do not compensate for the continuing physical and mental changes.

Psychological Impact of (Non-)Driving on Life Satisfaction

While physical changes that detrimentally affect driving ability have been observed, the psychological effects of decreased driving ability and the prospect of loss of driving privileges has not received as much attention. An extensive literature review revealed few recent research studies which examined the psychological affects of loss of driving privileges of older persons. Although experts in the areas of transportation and urban planning claim that driving and loss of the driving privilege results in a lack of independence, lower self-esteem, and decreased mental health and psychological well-being, no studies demonstrate a cause and effect relationship. Studies of predictors of life satisfaction mention driving and transportation as peripheral independent variables (Chapman & Beaudet, 1983; Golant, 1984; Matthews, 1982; McClelland, 1982; Seleen, 1982). McGhee (1983) conducted a survey study of 231 elderly residents of a rural Indiana county and attempted to establish personal characteristics as key indicators of transportation need. McGhee used objective and subjective indicators to identify older persons at high risk for experiencing transportation problems and found factors related to income, physical mobility, social support systems, and marital status

influenced transportation needs. However, these results from a very specific population cannot be generalized to all rural elderly.

Several studies done in the early 1970's addressed personal transportation as a measure of life satisfaction. Cutler's (1972) research examined the relationship between available personal transportation and life satisfaction. Cutler limited personal transportation to driving a privately owned vehicle and included the distance of a person's residence from the center of the city as a dichotomous variable. He hypothesized that in the absence of public transportation, the importance of personal transportation increased with greater distances from the center of the city. Indeed, he found that older persons who have personal transportation available to them have higher life satisfaction scores than those who do not. In addition, the results indicated that older persons living more than one-half mile from the center of the city had a greater dependence on personal transportation, and if unavailable, had lower life satisfaction scores.

Only Carp's (1971) study explored the ramifications of older persons losing their driving privileges. She attempted to compare retrospective and prospective perceptions of giving up driving among 482 subjects and found older drivers perceived becoming exdrivers more negatively than older

exdrivers. The exdrivers consistently denied ever having negative feelings about no longer driving. Carp explained this startling difference in the perceptions of the two groups as "defensive memory work" or reworking unpleasant or threatening experiences to make the conscious acceptable (p. 103). In other words, exdrivers repressed their negative and unpleasant feelings about giving up driving. Carp acknowledged the questionable validity of using retrospective data to provide accurate, factual accounts of past events. The inability to reverse the situation and the need to accept the status of exdriver apparently causes unintentional distortions when recalling the anticipatory anxiety of becoming an exdriver.

While Carp has not followed up to explain or validate the concept of "defensive memory work", in more recent work she has concentrated on the negative aspects and results of the loss of driving privileges. For example, in an 1988 article entitled "Significance of Mobility for the Well-Being of the Elderly", Carp discussed the psychological impact of loss of driving privileges and decreased modes of mobility for older persons. Unfortunately, many of her statements and conclusions are more qualitatively and intuitively-based rather than quantitatively grounded in documented, reproducible research.

Gianturco (1974) obtained data from approximately 100 elderly participants in the Duke Longitudinal Study of Aging. During an interview panelists indicated their driving status and restrictions on their driving. They found drivers: (a) had relatively good physical health, (b) realistically appreciated their driving limitations, (c) restricted their driving accordingly, and (d) maintained many activities and had greater life satisfaction than non-drivers. However, this study established no cause-effect relationship between driving and the other factors.

From the two-decade old studies of Cutler (1972) and Carp (1971) studies one can infer that the ability to drive could be a significant factor in the older person's psychological well-being. Yet, these studies provide only superficial insight into the emotional and psychological ramifications of losing one's driving privileges. Further research is needed to: (a) understand the personal impact on lifestyle that loss of driving privileges may create, and (b) determine if the loss of mobility through inability to drive contributes to negative self-perceptions, related to less autonomy, reduced usefulness, dependence, decreased self-esteem, diminished, decreased well-being, and lowered life satisfaction.

Relevance to Nursing

The nursing specialty of gerontology has rapidly increased in prominence as the elderly have become the fastest growing population in the United States. Nursing has made significant contributions to the research on aging, but no specific literature could be found which relates driving, aging, and nursing. As yet, nursing has not examined the personal impact the loss of driving privileges has on individuals or how nursing can contribute to preserving and enhancing the well-being of the individual prior to and following the loss.

The inability to drive because of revocation of one's driver's license does not simply mean difficulty "getting where one wants to go"; rather the loss creates an altered perception of one's self. Waller (1988) says, "Just as the young person views the license as a rite of passage into the adult world of independence, so the elderly driver views its loss as a loss of independence and even identity" (p. 72). In a society where the majority of older persons have grown old using the private automobile as the primary means of transportation, living in the less dense suburbs, having more money, better health and education, and freedom to do what they want when they want to do it, the ability to drive is subtly entangled with their self-concept. The driver's

license designates a societal legal decree of independence. For older persons, loss of the ability to drive may equal the significance of retirement. These people may lose a part of their perceived identity when they can no longer drive.

Nursing is one of the most appropriate disciplines to study the impact of this loss because nursing's forte concerns caring for the health and well-being of individuals. Orem (1985) and Kuypers and Bengtson (1973) provide the structural framework to study the psychological ramifications of the loss of driving privileges within the established nursing diagnosis of disturbances in self-concept. In particular, the lack of driving privileges could be considered a deficit in what Orem terms a developmental self-care requisite.

Nursing considers, both the motor skill and psychological aspects of driving privileges important. The ability of an older person to physically move with ease and convenience to obtain health care and sustenance demonstrates the most obvious case of transportation playing an important role in a person's health. As such, transportation may be an important influencing factor on the choice of nursing interventions. Similarly, research has shown (Carp, 1971; Cutler, 1972; Gianturco, 1974) that the inability to drive impacts the psychological well-being of older persons. Since a major part of nursing deals with emotional aspects, there will be

situations presented to nurses which have their emotional roots embedded in the loss of driving privilege. Thus, clearly the potential exists for the nursing profession to be influenced by, even influence, the older person's driving status and its emotional impact on psychological well-being. While this problem has not yet received nursing attention, the descriptive research presented in this study provides the necessary first step in identifying broad parameters of the research question.

CHAPTER III

METHODOLOGY

Introduction

Chapter III describes the research methodology used for this study. The chapter includes descriptions of the research design, subjects, data collections, instruments, and data analysis.

Research Design

This study was designed to describe how older persons view the loss of driving privileges, not to interpret the results to establish a cause and effect relationship. Therefore, the research used a nonexperimental, descriptive, survey design. Specifically the researcher used this method to describe feelings and attitudes of older drivers and exdrivers and to compare the perceptions of the two groups as they related to the loss of driving privileges.

Geographic Setting of Study

A midwestern city with a population of approximately 111,000 people and the home of a major university was the

geographic setting. Residents of the city have educational and income levels higher than the national average. It is a culturally rich environment, with excellent local medical facilities--including three major hospitals. Since 1985, the city has supported (with state subsidies) a convenient and inexpensive transportation system for the disabled and elderly citizens. At age 65, city residents may obtain a picture identification card entitling them to free use of the city bus system and local taxi services for transportation anywhere within the city for \$1.

Subjects

A nonprobability convenience approach was used to select the sample. The sample consisted of 23 volunteer subjects. Twelve drivers made up the driver group, while the exdriver group had 11 subjects. All subjects either participated in activities at a local senior center or resided in a senior apartment complex. Recruiting subjects from these locations was considered the best method to contact a large number of older drivers and exdrivers. Written permission to recruit subjects was obtained (see Appendices A and B). Dates were set to meet with older persons in a group setting to present the overall purpose of the study, describe requirements for subjects and criteria for participation. In addition, the

investigator explained how confidentiality would be maintained and how and when the results of the study would be shared with subjects. Written information (see Appendix C) covering the same material as the oral presentation was distributed to each older person who attended the presentation. Criteria for participation included: subjects must be between 60 and 95 years of age and be either current drivers or exdrivers. Older persons desiring to participate in the study were asked to provide their names and phone numbers. Subsequent to the presentation, the investigator contacted each person who volunteered for the study to schedule a personal interview.

Subject Demographics

Table III-1 summarizes the demographics of the sample population. As expected, the mean age of the exdrivers exceeds that of the driver population by several years. Interestingly, the average age at which the exdrivers stopped driving only slightly exceeds the average age of the driver population. (One individual who had not driven in 20 years lowered the average. Without this value, the mean would be 76.6 years, still relatively close to the mean driver age.) The length of time exdrivers had not been driving ranged from a few months to 20 years. Note that minimal difference

Table III-1

Demographics of Driver and Exdriver Samples

Variable	Driver (n=12)	Exdriver (n=11)
<u>Mean Age</u>	73.4±6.1†	79.7±6.3
Stopped driving		74.8
<u>Gender</u>		
Female	9	8
Male	3	3
<u>Race</u>		
White	11	9
Black	1	2
<u>Marital Status</u>		
Single	0	0
Married	5	2
Divorced	0	1
Widowed	7	8
<u>Educational Status</u>		
Less than 12th grade	3	5
High School Diploma	4	2
Some college	4	3
Graduate studies	1	1
<u>Living Children</u>		
None	3	2
One	3	2
Two	3	3
Three	2	0
Four	0	3
Five	1	0
Six	0	1
<u>Children Living Within 30 Miles</u>		
None	7	4
One	2	4
Two	1	1
Three	1	0
Four	1	1
Five	0	1
<u>Type of Residence</u>		
Own Home	7	3
Apartment	2	3
Trailer	1	0
Retirement Center	2	5
<u>People Living with Subject</u>		
Spouse	5	2
Other	1	0
Alone	6	9

Table III-1 (Continued)

Variable	Driver (n=12)	Exdriver (n=11)
<u>Major Means of Transportation</u>		
Taxi	0	10
Walking	0	2
Bus	0	4
Private auto	12	0
Transported by relative or friend	0	8 ^a
<u>Own(ed) / Operate(d)</u>		
Own Vehicle	12	11
<u>Is (Was) License Restricted?</u>		
Yes	6 ^b	1 ^c
No	6	10 ^d
<u>Length of Not Driving</u>		
Less than one year		2
One year		2
Two to four years		3
Five to six years		2
Ten to twenty years		2

[†]The symbol $\pm$ should be read as "with a standard deviation of".

^aExdrivers gave more than one answer.

^bAll drivers reported restrictions only because of glasses.

^cRestricted to daytime driving.

^dTwo exdrivers still have valid driver licences.

existed between the two groups when considering gender, race, educational status, and the number of living children. On the other hand, a large percentage of the exdrivers (82%) live alone, whereas half of the drivers live with family members. Similarly, the majority of drivers live in their own homes, whereas nearly half of the exdrivers live in a retirement center. Surprisingly, of the nine drivers and nine exdrivers with children, five of the drivers and six of the exdrivers have children who live within 30 miles. Although, there does not seem to be any difference in this variable, some exdrivers actually relocated their residence to be closer to relatives and ease their transportation burdens. Thus, this variable may ultimately be important.

The effectiveness of the local transportation system for exdrivers becomes clearly apparent when examining the major means of transportation used by exdrivers. Ten of the 11 exdrivers made extensive use of the subsidized taxi service. In addition, exdrivers also relied extensively upon relatives and friends for transportation.

When considering whether the subjects had restricted licenses, either currently or prior to becoming exdrivers more exdrivers reported an absence of restrictions than did current drivers. This somewhat surprising finding may be an artifact due to the failure of some exdrivers to consider the requirement of corrective lenses as an actual restriction.

Key portions of the demographic information detail comparisons between the sample and the typical older driving population. For example:

- Based on their mean age, these drivers and exdrivers continued driving well into their later years.
- More females than males participated in this study and the majority of the female subjects were widowed. This finding reflects the predicted median age of 64.5 years for widowhood (Rosenbloom, 1988) and longevity of females.
- The majority of subjects (65%) had at least a high school diploma, while 39% had some college preparation.
- The majority of the sample had children living near them.
- All of the subjects had households separate from relatives or institutions; 2 drivers and 5 exdrivers lived in retirement center apartments. More drivers than exdrivers owned their own homes.
- The drivers and exdrivers had grown old knowing the convenience of the use of the private automobile.
- Drivers relied solely on private vehicle for transportation, while exdrivers indicated taxi and relative or friends provide their transportation.

Although this study did not ascertain household income and opportunities for socialization, the two groups, especially the exdrivers, may be slightly more representative of active older persons since all of the subjects participated in activities at the senior or retirement centers.

Setting of the Interview

Interviews were conducted in the subjects' homes or a comfortable meeting room at the senior center. Subjects specified their preferred location and an agreeable time. All interviews were completed within a 3 week time period. Subjects were requested to refrain from discussing their interviews until all interviews had been completed.

Instrument and Procedures

An investigator-developed interview schedule was used for data collection (see Appendices E & F). The first portion of the interview schedule provided demographic information. The second part consisted of opened-ended questions which allowed the subjects to respond in their own words. The final two sections of the interview schedule contained 7-point graphic

rating scales and required forced-choice responses to the questions.

The instrument was pilot tested on two older persons similar to the subjects in the sample. The pilot test demonstrated the instrument could be expediently administered and readily understood by subjects. Therefore, no revisions were necessary.

The procedure for data collection occurred in the following manner:

1. A convenient 20 minute meeting time was scheduled with each subject.
2. The interview was conducted at sites designated by the subjects (either their residence or a meeting room at the senior center).
3. The investigator obtained written consent to conduct the interview and reviewed the protocol for taping the subjects' responses (see Appendix G).
4. The investigator asked questions in the same sequence for all interviews and used standardized prompts.
5. The investigator recorded responses in their entirety on audio tape. For the questions with graphic rating scales, subjects were given a card that listed alternative responses to make it easier for them to respond, and the investigator recorded their verbal responses.

6. At the end of the interview, the investigator thanked the subjects and provided the tentative date the results would be made available.

Analysis

Data from this study were analyzed using qualitative methods and descriptive statistics. First, the tapes were transcribed to identify themes in the data. The three subsidiary questions served as primary themes, although additional themes became apparent. The investigator identified categories of responses and coded the data accordingly. In this way the frequency of responses and themes were tabulated, summarized, and reported.

Descriptive statistics were used to analyze the raw data from the graphic rating scales. In particular, the frequency of responses, the mean, and the standard deviation were calculated. For example, Figure III-1 represents a typical response. While the data permitted narrower comparisons of intra- and inter-group responses (e.g., men versus women, widowed versus married), the investigator did not pursue additional comparisons since they would not provide insights into the fundamental study questions and the small sample size limited meaningful fine discriminations.

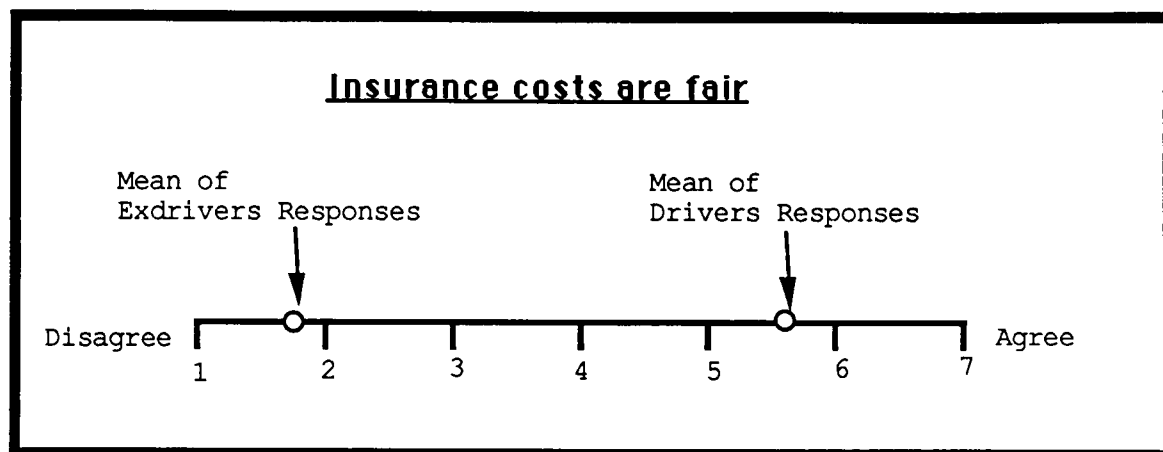


Figure III-1. Typical Analysis of Rating Scale Data.

CHAPTER IV

RESULTS AND DISCUSSION

Introduction

In this chapter, the results of the data analysis are presented. The data are divided into two major sections. The first section reviews the predominant themes from the opened-ended questions, while the second part provides the results from the two sections of seven-point graphic rating scales. The final discussion synthesizes the results as they relate to the primary research question presented in Chapter I.

Major Themes

Table IV-1 displays a summary of the major themes and frequency of responses from the six open-ended questions. The subjects were asked to respond to the questions by expressing their thoughts and feelings. The following discussion presents a review of the major themes and illustrative quotes that support the themes.

Exdrivers expressed that the loss of independence and a dependency on others bothered them the most about not driving. Subjects ranked the loss of freedom second in

Table IV-1
Primary Themes

Topic	Frequency	
	Exdriver (n=11)	Driver (n=12)
Bother(ed) most about not driving		
Loss of independence/dependent on others	8	7
Loss of freedom	4	7
Harder to get transportation	1	-
Less convenient without car	1	-
Would affect self-image	8	4
Lonely	-	2
Driving skills rating		
Good	9 ^a	12
Fair	2	0
Poor	0	0
Factors which made or would make you quit		
Health	9	11
Vision	5	8
Other health problems unrelated to vision	4	3
Endanger self or others	1	2
Decreased coordination and reaction time	-	1
Couldn't afford car	1	-
Problem renewing license		
Yes	5	2
No	6 ^b	10
Traffic violations or accidents within past 2 years of becoming an exdriver		
Yes	0	2
No	11	10
Policemen stricter with older drivers		
Yes	1	1
No	8	8
Didn't know	2	3
Residential move with becoming an exdriver		
Yes	5	N/A
No	6	N/A
Voluntary or involuntary loss of driving		
Voluntary	10	N/A
Involuntary	1	N/A

^aTwo exdrivers described their driving skills as excellent, although this was not a prompted response.

^bTwo exdrivers still have valid drivers' licenses.

frequency. While the two concepts may be technically distinguishable¹, the content of the responses clearly indicates exdrivers universally regretted the loss of independence which accompanied the loss of the driving privilege. Similar to the exdrivers, the drivers also identified the loss of independence and freedom as their major concern in giving up driving. Interview excerpts which highlight the loss of independence and freedom include the following responses.

Exdriver responses:

- "Oh, everything. Terrible--tied down, and depending on other people. That's awfully hard to do, you know."
- "I can't do anything without being a burden on everybody. I was independent when I had a car."
- "Because it became harder to get transportation; I just have to wait for cabs or a bus or something, or someone to take me. It was difficult for me after I'd been used to just stepping in the car and going."

Driver responses:

- "Oh, I think--probably a loss of personal freedom to come and go when you want. It would be a loss, for me, of some type of freedom."

¹For this study, freedom implies an available option granted to someone, whereas independence implies the ability to perform autonomously.

- "My lack of freedom of getting places. I would have to feel dependent on others and on public transportation, and I'm so used to driving my own car that it would bother me."
- "I'd feel terrible. It makes me independent--put it this way, and I hate bothering anybody. I like to be independent. I'd be very lonely."

One of the prompts used with the first question was, "Did or would the loss of driving privileges affect how you felt about yourself?" The responses indicated that the loss of freedom and independence affected the majority of the exdrivers' self-images whereas only four of the drivers anticipated a change in self-image. However, the four drivers who felt that not driving would affect their self-image did make strong, emphatic statements. These included:

- "Oh, probably for a while; I'd probably get over it, actually, but I think I'd feel kind of lonely."
- "I'd probably end up feeling very depressed eventually."
- "Oh, yes. Well, like I said, I'd feel lost for one thing, you know, and I don't like to bother people begging for rides. Well, I guess I'd stop doing a lot of things."

In reflecting upon the actual change, exdrivers noted:

- "Yes, I think so. Well, it humbled me. It was difficult to make other arrangements and to beg for things. I'd always been fiercely independent, and now I'm always...my wife says I'm a better person, it humbled me."
- "Yeah--and how I felt about others."
- "Oh, yes. Well I felt helpless. I've driven for 40 years, and then to have to give it up, and I was really lost without it."
- "Oh, yes--it did for awhile. I thought, well, I might just as well die, why not. I can't do anything, without being a burden on everybody. I'm an old woman now--I never thought I was before. It ages you an awful lot."

Using good, fair, or poor as a rating scale, all drivers rated their skills as good despite the fact that one driver had been recently at fault in an accident and several others had licenses which limited nighttime and rush hour driving. Two exdrivers added the category of excellent to the rating scale to underscore their assessment of their skills while the majority ranked their skills as good. Only two of the exdrivers rated their skills fair. None of the participants stated their driving ability was poor.

When reviewing factors influencing the loss of driving privileges, exdrivers had the advantage of a retrospective view while drivers were forced to project into the future. Since the mean age of the drivers exceeded 73 and some drivers already held restricted licenses, they were able to anticipate factors which eventually lead to becoming exdrivers. Both drivers and exdrivers overwhelmingly stated that health problems would ultimately limit their driving abilities. While they mentioned a number of specific health problems (such as stroke, heart attack, aneurysm, etc.), the majority of both populations cited vision as the primary culprit. One driver explicitly mentioned decreased reaction time and coordination as a limiting factor. Although three subjects mentioned concerns about endangering lives by driving they appeared primarily concerned about their vision and reaction times. In general, there does not seem to be a major difference between the two groups.

When subjects responded to problems associated with renewing their licenses, seven subjects cited difficulties. One exdriver who claimed to have extremely poor peripheral vision passed the vision examination only with assistance from the examiner. Another exdriver expressed amazement that he passed the examination with his poor vision. Three other exdrivers needed certifying letters from ophthalmologists or optometrists to have their licenses renewed. Of these three

exdrivers, one subject had their corrective lenses changed and passed the examination; one subject received a letter to obtain the renewal; the other subject could not obtain a certifying letter from his physician.

Of the drivers, only two reported problems renewing their licenses. In one case, the subject noted subjective visual problems. The other subject recently had his license renewed with a new corrective lens prescription when he was involved in an accident. The policeman noted the subject's poor vision, but did not require a vision retest. Clearly, the subject had limited visual acuity.

None of the exdrivers reported violations or accidents within the two years prior to their stopping driving. Similarly, only 2 of the 12 drivers reported problems--one involved the previously cited accident; the other subject received a speeding ticket. Seven of the subjects (four exdrivers, three drivers) emphasized that in general, older drivers perform better than younger drivers. While statistics considering the accident-per-mile-driven measure contradict their statement, these older subjects felt it was important to state their qualitative assessment. Two subjects stated policemen were stricter with older drivers.

Although not a specific question, the need for a residential move accompanying the loss of driving privileges emerged as a theme. While one cannot state that the loss of

driving prompted all five moves, it combined with deteriorating physical conditions was cited as a factor. Of the five moves, two moved from Florida and two from nearby areas to be closer to their families; one subject moved to be closer to favorite activities.

Forced Choice Responses

The final section of the interview required forced choice responses to a series of questions regarding areas of the subjects' lives strongly influenced by a change in driving status. These questions also sought to identify activities of current importance to these older drivers and exdrivers and the degree of difficulty in performing them. Interestingly, during forced choice responses, exdrivers provided comments to clarify and explain their ratings while drivers offered minimal comments on their number ratings. All forced response questions used a rating scale of 1 to 7, 1 to denote the most negative response and 7 rating the most positive response (see Appendices D and E). In the following discussions, the symbols X and SD refer to the mean and standard deviation, respectively. The data in Table IV-2 and the graphs in Appendix H depict responses to the questions.

Table IV-2

Comparison of Exdriver and Driver Means and Standard Deviations on Forced Response Questions on Activity Importance and Ease

Question*	Health		Sustenance		Entertained		Family	
	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
Exdriver	6.18	4.45	5.63	5.45	5	4.18	5.54	4.27
SD	1.60	2.84	1.96	2.02	2.49	2.86	2.16	3.13
Driver	7	7	6.5	6.5	5.42	6.58	6.91	5.92
SD	0	0	1	1.73	1.83	1.00	0.30	1.51
	Friends		Outings		Church			
	(a)	(b)	(a)	(b)	(a)	(b)		
Exdriver	3.5	3.7	4.64	4.27	5.73	5.2		
SD	2.54	2.63	2.69	2.53	2.01	2.90		
Driver	5.67	6.67	5.33	6.33	6.33	6.75		
SD	1.83	0.65	1.78	1.72	0.98	0.62		

*Note: Column (a) refers to importance of activity, while column (b) relates to transportation ease

Importance and Ease of Obtaining Health Care

Most of the exdrivers ($X=6.2$, $SD=1.6$) valued health care. Only one respondent expressed a lack of interest in health, stating, "I don't care to go anymore. I don't think there's anything they can do for me". However, the mean (4.5) and standard deviation (2.8) for ease in obtaining transportation demonstrates a greater range in rating the ease of having transportation to get health care. Several comments which illustrate the difficulties encountered include:

- "Well, I couldn't go until I found someone to take me. It'd be very difficult."
- "I can't go unless someone goes with me now. I have to take a cab, take my walker, and I can't stand long,--they don't come in time and it's just a problem."

In contrast, all 12 drivers ($X=1$, $SD=0$) felt it very important to obtain health care and found it easy to have transportation for this activity.

Although the survey did not determine individual health status and no definitive comparative comments can be made about the health of the two groups, the exdrivers had more chronic health problems than drivers. Exdrivers indicated problems such as vision, stroke, heart trouble, and aneurysm as the reasons they stopped driving.

Importance and Ease of Obtaining Sustenance

Exdriver responses ($X=5.63$, $SD=1.96$) indicated obtaining sustenance was slightly above average in importance. One exdriver felt going to the grocery store was not important because his wife had always gone and she would continue the practice. As far as ease in obtaining transportation, exdrivers ($X=5.45$, $SD=2$) also rated this above average. However, exdrivers' comments seemed to demonstrate some

ambivalence about the difficulty of shopping. For example; they said:

- "I have little shops now across the street, maybe two blocks. There I can go, but there is not much choice, and it's more expensive. But it's still okay. When I have to go to Kroger's, it's kind of hard. Two people took me there. When I have to go to these local shops I just go."
- "I have friends who take me. When my neighbor goes to Florida then I have to pay a woman \$5 an hour to take me."
- "It's difficult, 'cause I have to wait until someone is free to take me. And I can be without things. They're pretty good about it, but I can be without milk several days, because no one can take me. Well, I figure it isn't gonna hurt me."
- "It's easy if I make up my mind to go alone. I don't like to go shopping alone. I just have to call a cab. It's kinda scary to go out alone. I have my youngest son here in Ann Arbor, but he works days, or else nights--all night--well, then, he has to get his sleep, and so he's willing to go, but he's tired. Doesn't have the energy to get up and break his sleep to go with me."

Drivers, on the other hand, rated sustenance more important ($X=6.5$, $SD=1$). Drivers could perform this activity more easily because they had transportation. One subject gave ease a 1 rating (difficult), however, this subject responded to the personal difficulty of handling the groceries not on the ease/difficulty of obtaining transportation. They commented, "Difficult, because I'm not able to lift too much. I do it, but it's difficult."

Importance and Ease of Participating in Outings

Both exdrivers ($X=5.0$, $SD=2$) and drivers ($X=5.4$, $SD=1.7$) rated this activity as fairly important. Exdrivers ($X=4.2$, $SD=2.5$) indicated greater difficulties obtaining transportation than did drivers ($X=6.6$, $SD=1.0$). Comments of exdrivers included:

- "Love to go. Friends take me but I don't like to ask them and I can't always get this lady to drive me (pays lady \$5/hour).
- "Well, it's a pleasure to go with my daughter when she takes me out, and we go to the restaurant and enjoy eating together. It's difficult for me, because I have to wait until she can go."

Importance and Ease of Visiting Families

Exdrivers rated this activity ($X=5.5$, $SD=2$) less important than did drivers ($X=6.9$, $SD=0.3$). The ease with which exdrivers ($X=4.2$, $SD=3.1$) found transportation to perform this activity indicates that it was either easy or difficult to visit family with no intermediate ratings. In this category, drivers indicated for the first time they limited their driving because of distance ($X=5.9$, $SD=1.5$). Relevant comments include:

- "Well, it's 65 miles to our son's--we don't go there, he always come here."
- "Well, because of distance sometimes involved, probably a 6."
- "Well, my daughter lives in Saline. If I can't get there and there's something going on, she comes after me. Although they run a store, and it's very hard for them to have to chase after her mother, I'll tell you, I'd rather, be independent and go by myself!"

Importance and Ease of Visiting Friends

In general exdrivers ranked ($X=3.5$, $SD=2.5$) the ability to visit friends as unimportant. Only three subjects gave visiting friends a very important rating, while the other subjects rated the activity 4 or below. Exdrivers rated ease

of obtaining transportation the lowest ($X=3.7$, $SD\ 2.6$) of any category. Two of the three respondents who rated visiting friends as important, responded 4 for ease of obtaining transportation. On the other hand, drivers ranked visiting friends higher ($X=5.7$, $SD=1.8$) and easier ($X=6.7$, $SD=0.7$) than exdrivers, indicating they had "ready access" to transportation. None of them rated it less than a 5.

Importance and Ease of Attending Clubs and Meetings

The last question pertaining to social activities referred to their ability to attend clubs and other meetings. This activity represented the least important category to drivers ($X=5.3$, $SD=1.7$) although they rated it as more important than did the exdrivers ($X=4.6$, $SD=2.7$). As with other ratings the exdrivers ($X=5.3$, $SD=2.5$) indicated greater difficulty than drivers ($X=6.3$, $SD=1.7$) in obtaining transportation.

Importance and Ease of Attending Church Functions

Both groups rated attending church moderately important. Once again drivers ($X=6.3$, $SD=1.0$) ranked the activity more important than exdrivers ($X=5.7$, $SD=2.0$). One exdriver said, "It's very important. I don't get to go like I'd like to, but it's important to get to church. I have to wait for them (family) to invite me, and they're all busy working, and so I

don't see them very often." Attendance at church represented another activity which had no intermediate responses from exdrivers ($X=5.2$, $SD=2.9$) as far as ease in obtaining transportation. Seven subjects rated it easy to obtain transportation, while three rated it difficult. One respondent who ranked this activity as unimportant did not rate ease of transportation. The exdrivers' comments indicated they had more support from family and church friends to accomplish this activity than they did for most other activities.

Agree/Disagree Forced Choices

Whereas the first seven forced choice responses investigated activity areas which form the most common activities requiring transportation, the last six statements probed broader feelings about driving and automobile ownership. The rating scale ranged from (1) disagree to (7) agree. The data in Table IV-3 and the graphs in Appendix H depict responses to the questions.

Revocation of License Was or Would Be The Only Reason Subjects Quit Driving

The first statement asked whether the subjects considered their desire to drive so important that revocation of their

Table IV-3

Comparison of Exdriver and Driver
Means and Standard Deviations on
Other Forced Response Questions

Question*	14	15	16	17	18	19
Exdriver Avg	1.55	4.18	5.09	2.09	2.44	4.00
SD	1.81	2.75	2.77	2.43	2.30	3.00
Driver Avg.	3.75	3.33	4.27	1.50	5.82	2.58
SD	2.99	2.61	2.76	1.73	2.40	1.98

*Question Key :

- 14. Only quit driving if license is (was) revoked.
- 15. Difficult to find alternate means of transportation (see text).
- 16. Feel older if could not drive.
- 17. Automobile is more trouble than it is worth.
- 18. Insurance costs are fair for older drivers.
- 19. Bothered by others perceiving older drivers less skillful (see text).

Responses are rated on a scale of 1 (disagree) to 7 (agree).

license was or would be the only reason they would or had stopped driving. Exdrivers ($X=1.5$, $SD=1.8$) strongly disagreed with this statement, while the drivers ($X=3.75$, $SD=2.99$) had varied responses. This question duplicates an earlier question which asked, "What factor made you quit driving?", and therefore provides a means to check consistency of responses. The exdrivers' responses to this statement exactly reflected their answers to the earlier question. Ten subjects had voluntarily stopped driving and one had their license revoked. On the other hand, six of the drivers indicated they would voluntarily make the decision

and five stated they would stop driving only if their license was revoked. One driver's comment was, "No, never, they'll take it away."

Availability of Alternate Convenient Modes of Transportation

For exdrivers, the rating of this question provided an overall check of the consistency of earlier answers and a direct comparison to the drivers' answers to this question. For the drivers it explores their perception of becoming an exdriver. Exdrivers ratings ($X=4.2$, $SD=1.8$) indicate modest difficulty finding alternate convenient modes of transportation. Drivers ($X=3.3$, $SD=2.6$) indicated it would be easier to obtain transportation than what the exdrivers actually experienced. However, the standard deviation, reflects substantial variations in their responses.

Perception of Feeling Older After/Upon Losing Driving Privileges

In regard to whether subjects would feel or felt older with loss of driving privileges, exdrivers ($X=5.1$, $SD=2.8$) felt older because they could no longer drive. However, the ratings varied, seven respondents agreed that they felt older while three disagreed and one gave a rating of 4. The drivers ($X=4.3$, $SD=2.3$) had an even more mixed response to

the statement; four drivers agreed they would feel older, four disagreed, one did not respond, and the other three varied in their responses.

Perception of Automobile as More Trouble than It Is Worth

The responses to this question indicate all but two exdrivers strongly disagreed ($X=2.1$, $SD=2.4$) with the statement and these two strongly agreed with the statement. Most exdrivers proudly commented on how well they had maintained their automobiles. All but one driver ($X=1.5$, $SD=1.7$) disagreed with the statement.

Perceptions of Insurance Costs as Fair

Two exdrivers considered the question irrelevant to them and chose not to respond to the question because they no longer purchased insurance. Exdrivers who responded disagreed ($X=2.4$, $SD=2.3$) with this statement more than drivers. Six of the exdrivers disagreed with the statement, while three of them gave ratings of 4, 5, and 7. Drivers ($x=5.8$, $SD=2.4$) felt insurance costs were fair. Eight drivers agreed with the statement, one rated it a six, while only 2 disagreed.

Views of Others Perceptions of Older Persons Driving Ability as Less Skillful

The purpose of the last statement was to determine whether the subjects felt the general populace judged older drivers unfairly in their driving. Unfortunately, the phrase, "It bothers me ..." prefaced the question and made it unclear how to definitively interpret the responses. From subjects' comments and their numeric replies, some clearly reacted to being bothered by the assertion that elderly drivers lacked skill, while others responded directly to whether they felt elderly drivers lacked skill. Therefore, the groups' means and standard deviations should not be compared. Rather, the following table summarizes their responses:

	Bothered			Elderly less skillful	
	Yes	No		Yes	No
Exdrivers	2	2		3	3
Drivers	2	7		1	4

Note the fact that others might consider them less skillful did not generally bother the drivers. Although it appears as though drivers disagreed more strongly that older persons are less skillful drivers, it is difficult to draw this conclusion from such a small sample size.

Overall Comparison of Exdrivers and Drivers

Table IV-4 provides a summary of the means and SDs of each exdriver and driver for the first seven forced choice responses, which included the importance of the activity and transportation ease in performing it. A comparison of the exdrivers and drivers can be made using the group means for both categories. The mean for exdrivers for importance of the activities was 5.18 while for drivers it was 6.17. Therefore, it becomes obvious that the drivers perceived the various activities to have more importance than did the exdrivers. Even more striking is the comparison of the two groups for ease in obtaining transportation. For this category the mean for exdrivers was 4.51, while for drivers it was 6.54. Exdrivers found convenient transportation moderately difficult to obtain, while drivers experienced little difficulty.

The scatter graph shown in Figure IV-1 also depicts the individual means of ease versus importance for the entire sample. Overlapping points obscure three points. This display of the data explored a possible correlation between ease and importance of activities. For example, if transportation became more of a problem for a group, did the importance of the activities also decrease? The graph

Table IV-4

Individual Exdriver and Driver Responses for
(a) Importance and (b) Ease Questions

Subject	Mean (a)	SD (a)		Mean (b)	SD (b)
x-1	6.43	0.98		7.00	0.00
x-2	6.14	0.90		6.29	1.25
x-3	4.14	1.95		2.86	1.77
x-4	7.00	0.00		3.57	2.07
x-5	4.71	2.21		5.00	2.58
x-6	4.43	2.70		6.14	2.27
x-7	4.57	3.05		6.14	2.27
x-8	3.29	2.75		1.00	0.00
x-9	5.33	2.66		7.00	0.00
x-10	6.29	1.89		2.86	2.48
x-11	4.86	2.54		2.43	2.51
AVG=	5.18	X=1.97		4.51	X=1.56
d-1	6.29	0.95		7.00	0.00
d-2	7.00	0.00		7.00	0.00
d-3	5.57	0.79		5.86	0.90
d-4	6.43	0.53		7.00	0.00
d-5	6.57	1.13		4.29	2.43
d-6	6.43	0.79		7.00	0.00
d-7	6.00	1.29		7.00	0.00
d-8	7.00	0.00		7.00	0.00
d-9	5.86	1.46		6.57	1.13
d-10	6.29	1.25		6.71	0.49
d-11	6.57	1.13		6.57	1.13
d-12	4.00	3.00		6.43	1.51
AVG=	6.17	X=1.03		6.54	X=0.63

Correlation of Importance and Ease For Exdrivers and Drivers

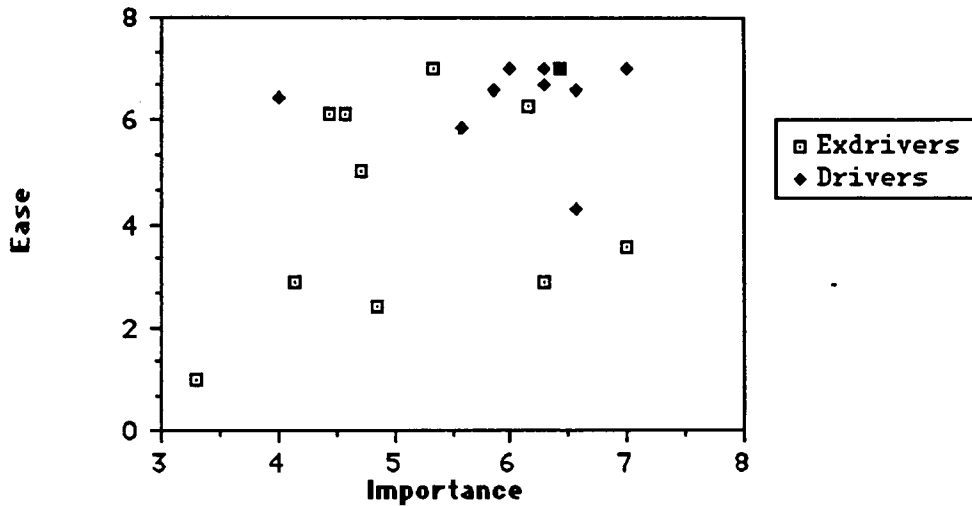


Figure IV-1 . Correlation of Importance and Ease for Exdrivers and Drivers

demonstrates that no such correlation exists for exdrivers. However, note that most of the driver's responses cluster in the upper right corner signifying once again that activities are both important and easy to perform, demonstrating a strong correlation. The exdrivers' data points are more scattered but do show that activities are less important and more difficult to perform.

Discussion of the Findings

The preceding data illustrate that the interview surveys yielded an abundance of findings. The primary and subsidiary

research question provide the best format for discussing the meaning of the results.

Subsidiary Research Questions:

(1) What factors make some older drivers voluntarily stop driving?

Questionnaire item 3 directly addresses this question, although questionnaire items 2, 4, 5, 6, 14, 17, and 18 indirectly provide insight into the answer to this question. As the primary themes demonstrate, deteriorating health conditions constituted the major reason to terminate driving. The majority of subjects cited poor vision as the principal cause and strokes, heart attacks, and nervousness as secondary reasons. Only one subject noted the expense of an automobile as the critical factor. The drivers accurately projected that health conditions, in particular reduced visual acuity, would ultimately cause them to terminate driving. Thus, health reasons, primarily reduced vision, seem to be the primary reason for voluntarily ceasing to drive.

Interestingly 10 of the 11 exdrivers quit driving voluntarily even though both drivers and exdrivers strongly valued the automobile. From comments by the subjects, licensing agencies appear to be extremely lenient. In fact, not all drivers have to pass a licensing agency vision

examination to obtain a driver's license. As such, a visual examination does not constitute a restriction except in the most blatant cases. Indeed, of the 11 exdrivers, the licensing agency required only one to relinquish their driving privileges. Surprisingly, none of the subjects perceived any degradation of driving skills (contrary to studies), although a few noted a degradation of their vision (e.g., wearing glasses, reduced visual acuity at night). Despite deteriorating vision and reaction times, older drivers and exdrivers did not have unusually poor driving records, a factor consistent with their rating of their driving skills as good. Limitation of rush hour and night time driving and extended trips at high speed probably contributed to their "safe-driver" records¹. Nevertheless, the driver sample appeared sharply divided as to whether they would ever voluntarily surrender their driving privileges while the exdrivers confirmed the necessity of relinquishing their driving.

(2) What bothers the older person most about the loss of driving privileges?

The subjects' responses clearly show that older persons strongly feel the loss of freedom and independence when they

¹The interview questionnaire did not explicitly examine the type of driving performed. These observations are derived from comments volunteered during the interviews.

lose their driving privileges. Comments presented in the results section underscore feelings of depression and helplessness on the part of some exdrivers, while drivers expressed fears and anxiety when considering the prospect. Drivers and exdrivers agreed on these feelings, although exdrivers expressed an additional intensity in their negativity beyond the drivers' projections.

(3) Do the perceptions of drivers and exdrivers differ with regard to the loss of driving privileges?

Questionnaire items 1, 15, and 16 relate to the loss of driving privileges. Comparing the ease, convenience and availability of alternate transportation, both exdrivers and drivers described modest difficulty in finding alternate means of transportation. On the quantitative rating scales, exdrivers rated dependence on other transportation slightly more difficult than drivers projected it would be, consistent with their overall mean of 4.5 for difficulty in obtaining transportation in the seven activity ratings. Drivers appeared to assume that their physical conditions would be unaltered; they did not envision health deterioration or decreased vitality which normally accompanies the loss of driving privilege. For example, one driver noted that she enjoyed challenges and adeptly improvised solutions. Many drivers optimistically cited that alternate means of

transportation existed, but few recognized that they would have to sacrifice time and convenience. However, drivers and exdrivers differed much more substantially on the psychological impacts. As shown in the discussion of the primary research question, exdrivers described more dramatic changes in their self-image and felt older than drivers anticipated. While drivers correctly recognized that a loss of freedom and independence would occur, qualitative comments showed a substantial difference between the actual and envisioned intensity and impact of this loss.

Primary Research Question

From the perspectives of older persons between 60 and 95 years of age, with and without driving privileges, how seriously does the anticipated or actual loss of driving privileges impact their lifestyle and psychological well-being?

Two areas in the questionnaire identify influences on psychological well-being: direct questions and themes. Table IV-5 summarizes these results. Drivers perceived that the loss of driving privileges would be a worrisome and problematic event. However, exdrivers' responses revealed that the drivers optimistically underestimated the impact. Exdrivers explicitly reported negative changes in their self-image (73%), agreed that they felt older from the loss of

Table IV-5

Psychological Impacts of Loss of Driving Privilege

	Drivers Would (n=12)	Exdrivers Did (n=11)
Affect self-image	33%	73%
Feel older	4.27±2.7	5.09±2.8
Bothered most:		
• loss of independence	7	8
• loss of freedom	7	4

driving privilege, and concurred with the drivers' projections in having felt a loss of independence and freedom. Note that if one adopts Carp's theory of "defensive memory work" in which the exdrivers minimize the impact of the loss, actual differences between driver and exdriver perceptions even exceed than those observed in this study.

From the subjective responses of the sample it is possible to deduce that the loss of driving privileges creates major impacts on psychological well-being. To become dependent and less free affects an individual's self-esteem and self-concept (Carp, 1988). Most older drivers have been drivers and owners of automobiles all of their adult years. They have known the convenience and freedom offered by personal automobiles. In addition, many of them commented on helping older relatives and friends who could not drive. It seems logical that losing this mobility would generate

feelings of dependence and loss of freedom, and ultimately change one's self perception. And while this change may not be as critical to the planners and regulators, it is a factor which nursing must consider. In the final chapter, the implications of these results to nursing and society are presented.

CHAPTER V

IMPLICATIONS, CONCLUSIONS AND RECOMMENDATIONS

Introduction

The results presented in Chapter IV indicated that lifestyle and psychological impacts were associated with the loss of driving privilege. In Chapter V the implications of this work, from both microscopic and macroscopic views are discussed. The chapter terminates with conclusions and recommendations for further investigations.

Implications for Nursing

Nursing, as a therapeutic process, cares for individuals and their responses to health problems. It deals with client interactions on a personal level. Similar studies commonly present data as an aggregate of the group or, at best, grouped sample results. However, from the perspective of nursing, this study highlights the importance of also looking at the individuals and their situations. Indeed, data frequently showed large fluctuations around the mean. For example, one exdriver would rate an activity very important and very difficult to accomplish, while another exdriver would rate the same activity as unimportant and easy to

accomplish. This difference can be attributed to personal situations. By reporting only the mean for cases such as this, readers would only receive an indication of average importance and difficulty. The impact of the loss of driving, which may be extreme for some, may be lost in the averaging of group data. Yet nurses rarely treat the average person. Rather, practitioners sample from the entire population and encounter the extremes as well as situations "in between". Thus, in examining the implications for nursing, individual responses become equally as important and revealing as the group data.

As shown in Chapter I, the average age of the population is increasing, with older persons representing the largest growth category. The demands for gerontological nursing continue to rapidly expand within the nursing profession. Gerontological nurses can frequently expect to encounter older exdrivers or older persons whose loss of driving privileges are imminent. Presently, a realistic appreciation for the impact of the loss of driving privileges does not appear to exist among practitioners. Health care choices and counseling sensitive to the particular needs of these people need to be routinely offered. Although nursing diagnostics recommend obvious and general solutions to the lack of transportation (e.g., find alternate transportation), they fail to acknowledge and treat the influences on the

psychological well-being of the individual affected. This loss deserves the attention and sensitivity of practitioners. Indeed, some of the individual cases presented in this study, showing both positive and negative adaptations, may be useful to nurses when counseling or directing individuals facing a loss of driving privilege.

As part of the nursing process, psychological ramifications of being or becoming an exdriver should be assessed. The study has revealed that strong changes in self-image associated with the inability to drive occur but are underestimated by current drivers. In addition, none of the subjects reported favorable (positive) psychological changes, and in some cases the changes were profoundly negative. Understandably long established, enjoyed habits prove difficult to change. When persons have been able to move freely, assuming dependent roles can be quite difficult. In general, these subjects "grew up" knowing the personal automobile as their only source of ground transportation. In addition, adapting to alternate forms of transportation, previously unexplored or used when younger, can seem overwhelming.

Nursing diagnoses related to the effects of loss of driving privileges include diversional activity deficit, powerlessness, disturbance in self-concept, and social isolation. The loss of driving privilege may serve as a

causal factor in these conditions. However, the interventions suggested lack specificity to provide sensitive and meaningful solutions (Carpenito, 1988; Thompson, McFarland, Hirsch, Tucker, 1986). Similarly, this descriptive study does not generate recommendations for specific interventions. However, within the scope of the theoretical models discussed in Chapter I and the nursing diagnoses already developed, nursing can move forward to provide meaningful interventions to improve the psychological well-being of older persons. Both Kuypers' and Bengtson's and Orem's models are general, qualitative, and comprehensive. Although this study did not explicitly ask exdrivers to identify activities which were not possible (only importance and difficulty), qualitative statements, such as the inability to routinely obtain groceries or the lost desire to obtain medical care constitute "partial deficits" consistent with Orem's model. Furthermore, the key themes identified in this study can be accommodated in Kuypers' and Bengtson's social breakdown and reconstruction models to help nurses understand the benefits of early constructive interventions, before the breakdown cycle progresses irreparably.

While small sample size and varied responses prevented application of the coupled Kuypers' and Bengtson-Orem model on a group level, an individual case illustrates utilization

of the concepts. One elderly person with a serious health problem voluntarily stopped driving to satisfy her family's safety concerns. Referring to Figure I-1 of the Social Breakdown Syndrome, the health deficit provided a precondition for psychological breakdown. Previously a very independent, active and outgoing person, this subject's relocation to be physically closer to family, separated her from established activities and friends. This exdriver became dependent upon a new set of people for transportation and assumed the predicted dependent role. She rated activity importance rating as 7, compared to her ease of participating in activities 3.6. This indicates an emerging developmental self-care deficit further corroborated by her comments. From the discussions with this subject, it appears clear that she will soon assume the predicted next stage of self-identification as sick unless interventions successfully provide her with social interactions.

In summary, nurses deal with "entire patients", including both physical and emotional components, on an individual level. The results of this study demonstrate the substantive physical and emotional aspects related to the ability to drive which nurses must recognize and consider when caring for older persons.

Societal Implications

Not only does this study have implications for nursing, but also for society in general. The dependency of Americans on the automobile to meet daily transportation needs is predicted to grow (Rosenbloom, 1988). This, in conjunction with the increased suburbanization of the elderly implies that transportation problems for the elderly will increase. Dependence upon the automobile appears to be a uniquely American problem since European and Oriental cultures have well-developed public transportation systems which serve all age groups. Furthermore our culture inherently embraces, the American love affair with automobiles, stemming from puberty throughout life. Thus, one would expect that the loss of driving privileges would be less severe in other societies. Perhaps this is why although the transportation problem for older persons has attracted some national attention, it is not universal. One must ask the following question: If the present younger and future generations comprehended the psychological ramifications of the loss of driving privileges, would they demand and support convenient, alternate modes of public transportation? Certainly, improved public transportation would have a broad and beneficial impact. Automobile fatalities would probably diminish from approximately 40,000 per year to some lower

value. The environment would deteriorate less rapidly with the increased efficiency of public transportation. And, society must ask if alternate modes of transportation accessible to the elderly are not developed, how will we provide the elderly, and ultimately ourselves, with acceptable alternatives?

Conclusions

The following conclusions may be drawn from this study:

1. Primarily, deteriorating health conditions (particularly reduced visual acuity) prompt exdrivers to voluntarily relinquish their driving privileges.
2. The majority of exdrivers voluntarily stop driving. In this study the licensing process did not contribute to becoming an exdriver; the rules for obtaining drivers' licenses appear to be overly lenient.
3. Drivers accurately project that health problems will cause them to cease driving. However, some anticipate their loss of driving privileges will be regulated and some voluntary.
4. The anticipated and actual loss of driving privileges generate feelings of loss of independence and freedom. In

addition, the loss of driving privileges may have a strong affect on self-image, making one feel older.

5. The majority of drivers and exdrivers consider themselves as good drivers.

6. Most older drivers and exdrivers do not feel policemen discriminate against older drivers.

7. In general, activities become less important and more difficult to achieve for older exdrivers than older drivers.

8. While the literature argues that older persons maintain permanent residency, nearly half of the exdrivers experienced a residential move to accommodate to the loss of driving privilege.

10. Most importantly, the loss of driving privileges impacts the lifestyle and psychological well-being of older exdrivers even in a community tailored to meet their transportation needs.

11. Nursing has not recognized nor studied the full ramifications of this loss for older persons in order to develop successful interventions. Therefore, as advocates for older persons, gerontological nurses must demonstrate more active involvement in addressing the challenges of this problem.

Recommendations for Further Investigations

Although the literature proposes that the loss of driving privileges could negatively affect the psychological well-being of older persons, a more comprehensive study would be needed to establish a significant relationship between the loss and decreased well-being. Although intuitively expected, the small sample size and descriptive design of this study, prohibits drawing such a conclusion. The difficulty occurs in trying to isolate the loss of driving from other variables normally present which contribute to both the loss of driving and the effects which are being measured.

In retrospect at least two additional questions should be added to this survey:

1. What activities are no longer possible since the loss of driving privileges?
2. Are there ways (physically or mentally) you could have prepared yourself for the loss of driving privileges?
How would you advise older drivers to prepare for this loss?

Since this geographic setting had an excellent transportation system for older persons, it would be interesting to repeat this descriptive study in a less accommodating location to determine if exdrivers experience more severe losses. In addition, replication using a larger

sample might: (a) determine if the wide variance in some forced choice responses reflects reality or exists as a statistical limitation, and (b) permit finer discrimination among contributing variables.

Further investigations should attempt to determine the extent this loss has on self-concept, self-esteem, self-image, feelings of loss of control and powerlessness, as well as possibly creating social isolation. None of the questionnaire items directly asked about social isolation, although this could be an important effect. It may be difficult, however, to separate the effect of driving on social isolation from other factors which influence the issue. For example, the loss of close friends and the decreased desire and opportunity to make new friends normally accompanies aging, and may be a contributing factor independent of driving status. Nevertheless, a richer, more detailed understanding of the consequences of the loss of driving privileges could lead eventually to concrete, varied, and successful interventions. Finally, a longitudinal experimental study involving a mode of transportation habit change for the younger-older driver merits consideration. Indeed perhaps the adjustment and acceptance of different independent means of travel at a younger age could ease the negative feelings and maintain self-concept.

In summary, this nonexperimental, descriptive study provided an introductory description and insight into the impact the of anticipated and actual loss of driving privileges has on the lifestyle and psychological well-being of older persons. Using an investigator developed interview survey, a sample of 23 older persons volunteered to participate in interviews. Data showed that exdrivers generally rated activities to be less important and more difficult to accomplish. However, responses varied based on individual circumstances. The dominant thematic responses of loss of independence and freedom from the open ended questions in addition to the comments accompanying responses to the forced choice items demonstrated negative psychological effects plus altered self-images for the exdrivers. While drivers identified the same dominant themes as drivers, their comments and ratings indicated a substantial difference in the perceived intensity of impact from the loss.

The ramifications of the loss of driving privileges for older persons represents a new area of study for gerontological nursing. As such, the topic provides fertile material for nursing research. Although nursing diagnoses allude to the availability of transportation, there appears to be a surprising lack of sensitivity to the problem as well as practical interventions for the problem. Therefore,

gerontological nurses must seriously consider this problem since they have the potential to beneficially ease the impact which the loss of driving privileges can extol on older persons.

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APPENDIXES

APPENDIX A

WRITTEN CONSENT FROM SENIOR CENTER



PUBLIC SCHOOLS **RECREATION DEPARTMENT**

2800 STONE SCHOOL ROAD, ANN ARBOR, MICHIGAN 48104 994-2326

Douglas H. Walker, Director

February 26, 1988

Dr. Mildred Fenske
c/o Donna J. Wehe
3553 Burbank Drive
Ann Arbor, MI 48105

Dr. Fenske,

I am willing to help Donna Wehe find seniors for her master's research project. We will schedule times when she may make a 5 minute presentation describing her project and soliciting their involvement. She may also post information regarding her request for volunteers on our bulletin board.

As i mentioned to her on the phone, people attending our Center have received numerous requests over many years for help on research projects. I have no idea what their response will be, but she is welcome to ask.

Sincerely,

Kay Forsythe

Kay Forsythe
Senior Adult Program
Burns Park Senior Center

APPENDIX B

WRITTEN CONSENT FORM FROM AGENCY



CITY OF ANN ARBOR, MICHIGAN

727 Miller Avenue, Ann Arbor, Michigan 48103
Phone (313) 994-2828

Ann Arbor
Housing Commission

March 4, 1988

Dr. Mildred Fenske
c/o Donna J. Wehe
3553 Burbank Drive
Ann Arbor, Mich.

Dear Dr. Fenske:

I was recently contacted by Donna J. Wehe concerning a research project she is involved with. She has explained what the study is about and has sent me a copy of her research proposal and interview questions. I have reviewed the materials and find the project very interesting and valuable.

As Senior Tenant Services Coordinator for the Ann Arbor Housing Commission, I enthusiastically give my permission for Ms. Wehe to give a presentation about the study and solicit volunteers among the residents of our Senior apartment complexes.

Sincerely,

Thomas E. McHugh
Sr. Tenant Services Coord.
Ann Arbor Housing Comm.

cc: File

APPENDIX C
PARTICIPANT INFORMATION SHEET

Study Informational Message

I would like to tell you about and request your help for a study I am conducting as part of the requirements for my Master's degree in nursing. The purpose is to look at how driving effects the lifestyle of senior citizens. Two groups are needed: one group are persons who currently drive; the other group of persons will be exdrivers.

If you choose to volunteer for the study, your participation would involve a personal 20 minute taped interview to answer some questions related to driving. You would describe your thoughts, feelings, and experiences. I will conduct all of the interviews at a time most convenient for you. To make the interview as easy and comfortable as possible for you, I could either come to your home or meet with you at the senior center. Your interview will be identified by a number so that your name will not be used. All information will remain confidential--this means your name will not be identified in any of the findings. In addition, all information will be summarized for presentation.

If you are 60 to 95 years of age and could contribute to this study, please provide your name and phone number on the sign up sheet. I will contact you to schedule a time within the next week.

Participation in this study is voluntary and you may withdraw at any time by notifying me at the address or phone number below.

If you have questions or decide later that you could contribute to this study, please feel free to contact me.

Thank you.

APPENDIX D
INTERVIEW SCHEDULE FOR DRIVERS

Interview Schedule for Drivers

Code Number _____

During the first part of this interview, I am going to ask for some personal information. Please feel free to interrupt me at any time and ask questions, especially if you do not understand a question. I would like you to feel free, open, and comfortable to respond honestly. All written interviews are coded with a number, and your name will not appear on the interview. Any information you provide will remain confidential. At any time, you may stop the interview. I appreciate your willingness to participate in this study.

Age: _____

Gender: _____

Race:

White _____ Black _____ American Indian _____ Asian _____
Hispanic _____

Marital Status:

Single _____ Married _____ Divorced _____ Widowed _____

Educational Status:

Less than 12th grade _____ High School Diploma _____
Some College _____ Graduate Studies _____

Number of Living Children: _____

Number of Children Living within 30 Miles of You:

Type of Residence:

Own Home_____ Rental Home_____ Apartment_____ Trailer_____
Retirement Center/Home for the Aged_____

Does Anyone Live with You?

Spouse_____ Other_____ Live Alone_____

What is Your Major Means of Transportation?

Taxi_____ Walking_____ Bus_____ Private Automobile_____
Transported by relatives or friends_____

Do You Own and Operate Your Own Automobile? _____

Is Your License Restricted in Any Way? _____

During the next part of this interview, I am going to ask you questions and I would like you to answer by telling me your thoughts and feelings.

1. What would bother you the most about no longer being able to drive?

Prompt: What would happen to you if you could no longer drive?

Prompt: Would the loss of your driving privileges affect how you felt about yourself?

2. How would you rate your driving skills (good, fair, poor)?

3. What factors would make you quit driving?

Prompt: What will be the reason for you to stop driving?

Prompt: Two examples are cost of insurance or accidents.

4. Have you ever had a problem getting your license renewed?

Prompt: Two examples are inability to pass the written or vision test.

5. Have you had any traffic violations or accidents in the past two years? How many? What were they?

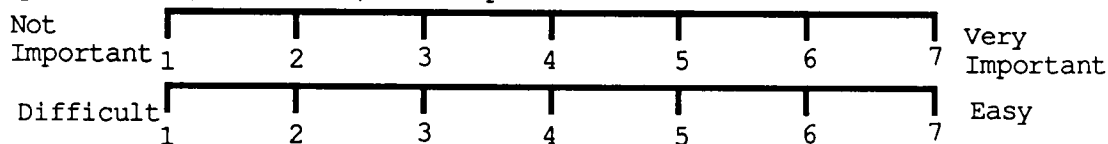
6. Do you feel policemen are stricter with older drivers? What makes you feel that way?

In the third part of this interview I would like you to rate your judgment about a statement along a line. Here is a card with the responses. I will read you a statement and you tell me your response. Please take your time and tell me if you would like the statement repeated.

There will be two ratings for the next seven statements. With these two ratings I am measuring: (a) whether you judge it important or unimportant to have personal transportation to attend to various categories of personal needs; and (b) how easy or difficult it is for you to attend to these personal needs due to the availability of transportation. Only whole number responses are desired(e.g., 1, 2, 3, ...).

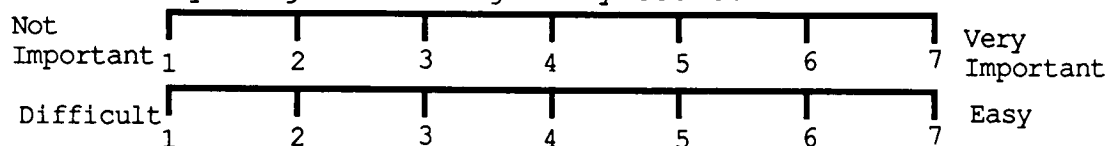
Category: Health

7. Ability to get to health care providers such as: doctor, eye doctor, dentist, chiropractor.



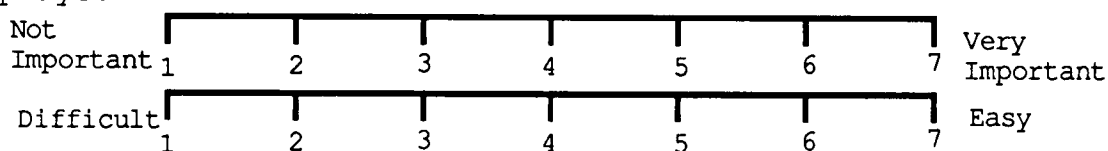
Category: Sustenance

8. Ability to get to the grocery store.



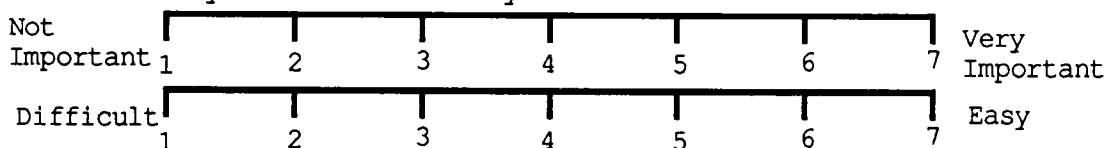
Category: Entertainment

9. Ability to go on outings such as: restaurants, movies, plays.

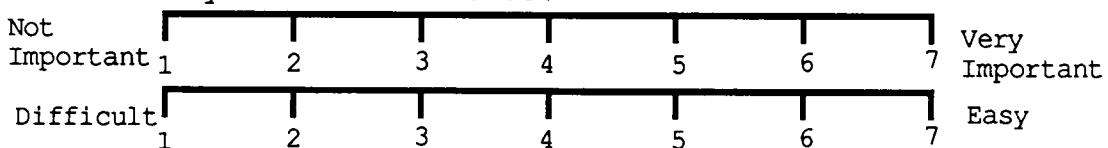


Category: Social and Church

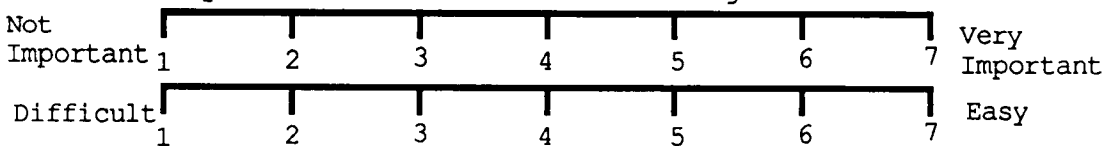
10. Ability to visit family.



11. Ability to visit friends.



12. Ability to attend clubs and meetings.



13. Ability to attend church.

Not	1	2	3	4	5	6	7	Very
Important								Important
Difficult	1	2	3	4	5	6	7	Easy

For the next six statements I would like you to respond by indicating the degree to which you agree or disagree with the statement.

14. I will probably only quit driving if my license is taken away.

Disagree	1	2	3	4	5	6	7	Agree
----------	---	---	---	---	---	---	---	-------

15. It would be difficult to find other means of convenient transportation if I could not drive.

Disagree	1	2	3	4	5	6	7	Agree
----------	---	---	---	---	---	---	---	-------

16. I would feel older if I could not drive.

Disagree	1	2	3	4	5	6	7	Agree
----------	---	---	---	---	---	---	---	-------

17. An automobile is more trouble than it is worth.

Disagree	1	2	3	4	5	6	7	Agree
----------	---	---	---	---	---	---	---	-------

18. Insurance costs are fair for older drivers.

Disagree	1	2	3	4	5	6	7	Agree
----------	---	---	---	---	---	---	---	-------

19. It bothers me that people, in general, believe older persons are less skilful drivers.

Disagree	1	2	3	4	5	6	7	Agree
----------	---	---	---	---	---	---	---	-------

APPENDIX E
INTERVIEW SCHEDULE FOR EXDRIVERS

Interview Schedule for Exdrivers

Code Number _____

During the first part of this interview, I am going to ask for some personal information. Please feel free to interrupt me at any time and ask questions, especially if you do not understand a question. I would like you to feel free, open, and comfortable to respond honestly. All written interviews are coded with a number, and your name will not appear on the interview. Any information you provide will remain confidential. At any time, you may stop the interview. I appreciate your willingness to participate in this study.

Age: _____

Gender: _____

Race:

White _____ Black _____ American Indian _____ Asian _____
Hispanic _____

Marital Status:

Single _____ Married _____ Divorced _____ Widowed _____

Educational Status:

Less than 12th grade _____ High School Diploma _____
Some College _____ Graduate Studies _____

Number of Living Children: _____

Number of Children Living within 30 Miles of You:

Type of Residence:

Own Home_____ Rental Home_____ Apartment_____ Trailer_____
Retirement Center/Home for the Aged_____

Does Anyone Live with You?

Spouse_____ Other_____ Live Alone_____

What is Your Major Means of Transportation?

Taxi_____ Walking_____ Bus_____ Private Automobile_____
Transported by relatives or friends_____

Did You Own and Operate Your Own Automobile? _____

Was Your License Restricted in Any Way? _____

How Long have you been an exdriver? _____

During the next part of this interview, I am going to ask you questions and I would like you to answer by telling me your thoughts and feelings.

1. What bothered you the most about no longer being able to drive?

Prompt: Did anything happen to you because you could no longer drive?

Prompt: Did the loss of your driving privileges effect how you felt about yourself?

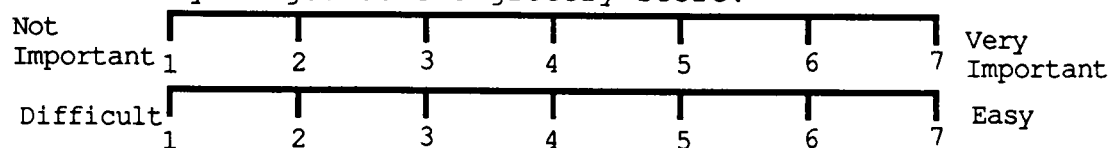
2. How would you rate your driving skills (good, fair, poor)?

3. What factors made you quit driving?

Prompt: What was the reason that you stopped driving?

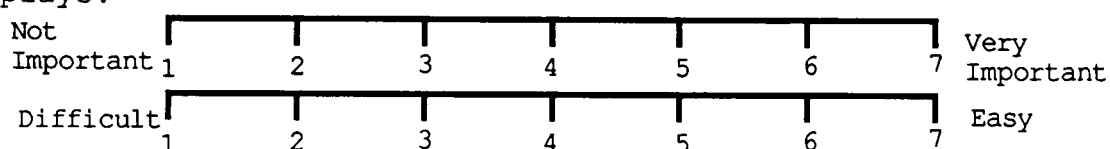
Category: Sustenance

8. Ability to get to the grocery store.



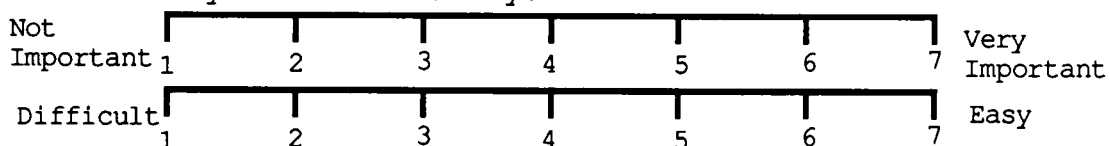
Category: Entertainment

9. Ability to go on outings such as: restaurants, movies, plays.

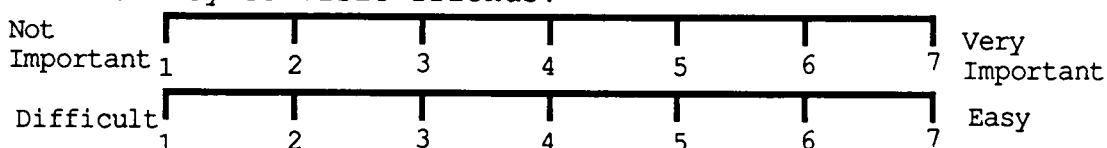


Category: Social and Church

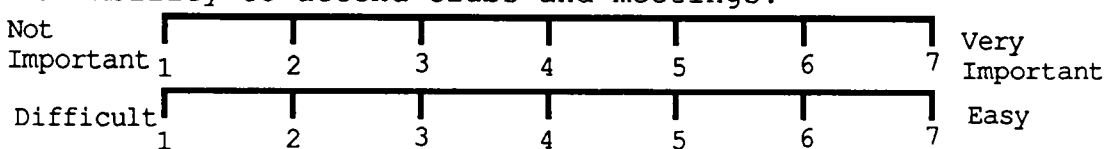
10. Ability to visit family.



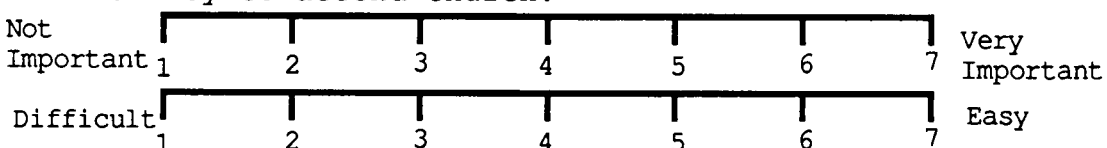
11. Ability to visit friends.



12. Ability to attend clubs and meetings.

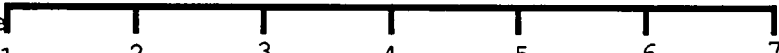


13. Ability to attend church.

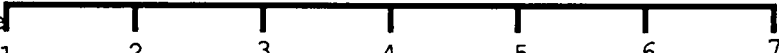


For the next six statements I would like you to respond by indicating the degree to which you agree or disagree with the statement.

14. The only reason I quit driving was because I had my license revoked.

Disagree  Agree

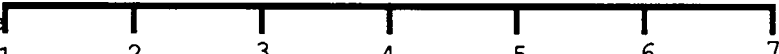
15. It has not been difficult to find other means of convenient transportation.

Disagree  Agree

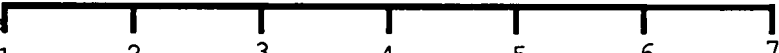
16. I feel older since I lost my driving privileges.

Disagree  Agree

17. An automobile is more trouble than it is worth.

Disagree  Agree

18. Insurance costs are fair for older drivers.

Disagree  Agree

19. It bothers me that people, in general, believe older persons are less skilful drivers.

Disagree  Agree

APPENDIX F
SUBJECT CONSENT FORM

Subject Consent Form

I, _____,
consent to have my conversation with Donna Wehe taped on a
tape recorder.

I understand that the information on the tape will be
used in a Master's degree thesis. I understand that the
information will be reviewed by the thesis advisor regarding
interpretations made by the researcher.

I have been informed that there is no risk to this
procedure and that all information I provide will remain
confidential. I know that the tapes will be stored in a
locked file cabinet in the researcher's home for 3 years. At
the end of that time Donna Wehe will erase the tape and
destroy any written information from the tapes.

I understand my participation is entirely voluntary and I
may withdraw at any time prior to the completion of the
study.

Signed _____

Witnessed _____

APPENDIX G
PROTOCOL FOR TAPING

Protocol for Taping

I would like to talk to you about taping this interview. I will listen to the tape of our interview in addition to the tapes of the other people who volunteered for the study. I will summarize all the information to use in a discussion of the effect the loss of driving privileges has on the lifestyle of senior citizens.

The tape will be kept confidential with no name attached to it. It will be stored in a locked file cabinet in my home for 3 years and then erased. Your name will not be used in the written paper. There is no risk in this procedure.

I will send you a copy of the results of my study this fall.

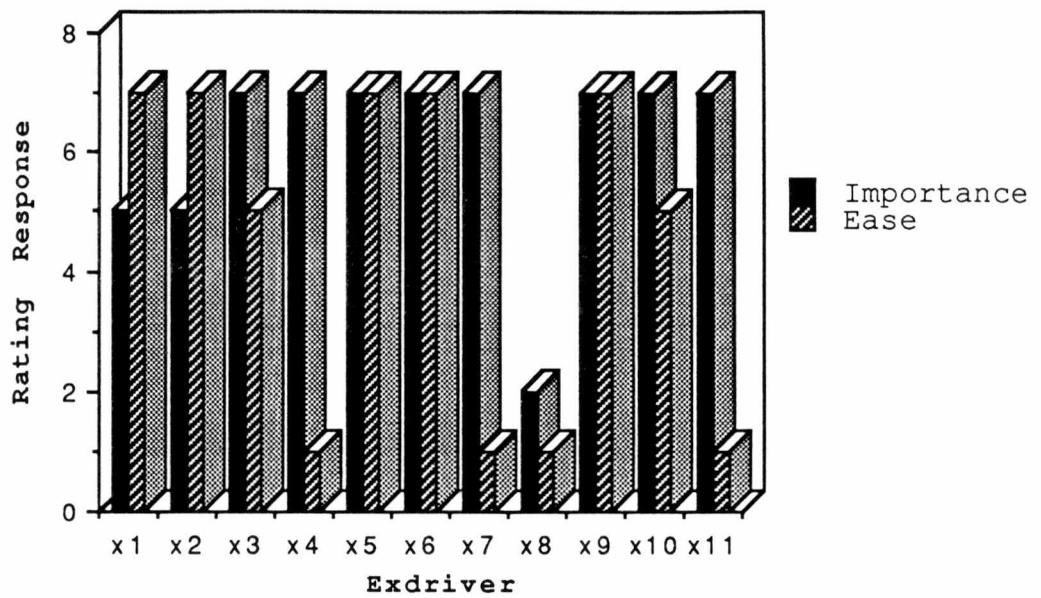
If you want to stop taping at any time, please tell me and we will stop.

Please relax and don't worry about your responses. There are no right or wrong answers. I am not going to ask you for any information which you do not know. The only guideline which we must follow during the taping is to go through the questions and stay on the topic of driving.

APPENDIX H

GRAPHS OF DRIVER AND EXDRIVER RESPONSES

Exdriver Importance and Ease of Obtaining
Health Care (n=11)



Driver Importance and Ease of Obtaining
Health Care (n=12)

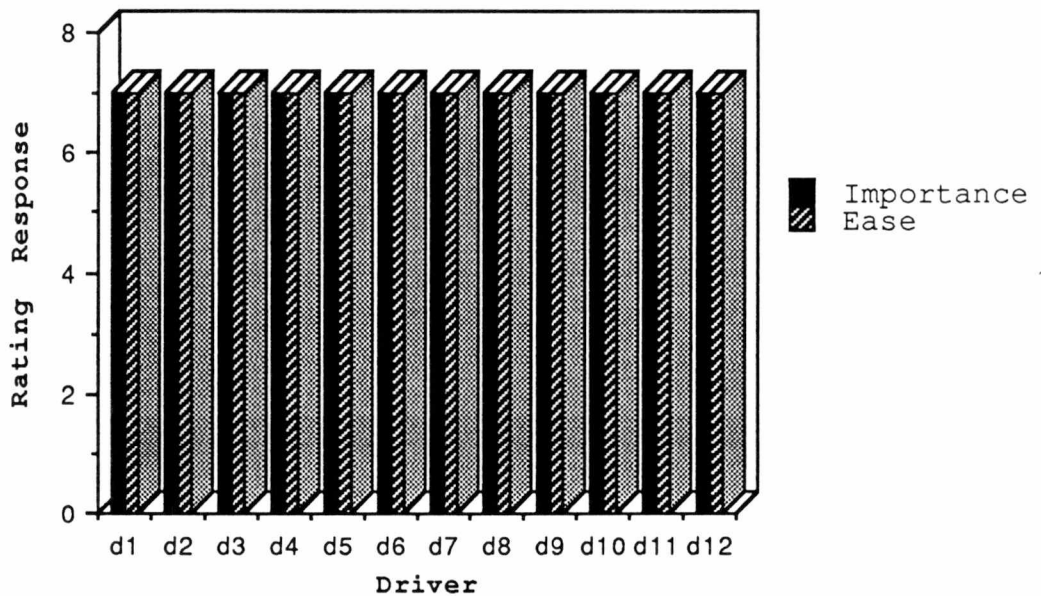
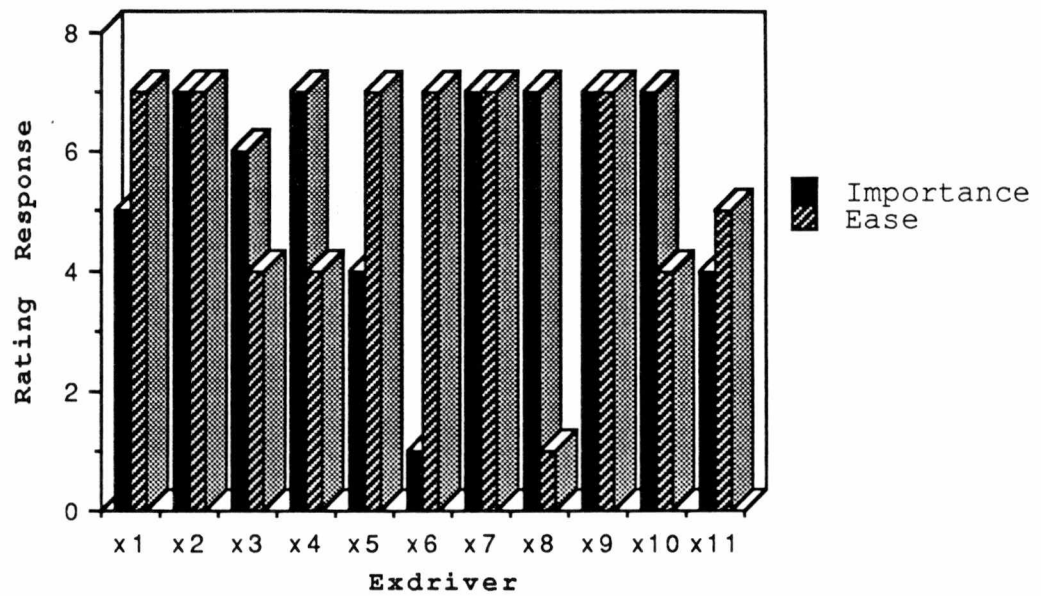


Figure H-1. Importance and Ease of Obtaining Health Care.

Exdriver Importance and Ease of Obtaining
Sustenance (n=11)



Driver Importance and Ease of Obtaining
Sustenance (n=12)

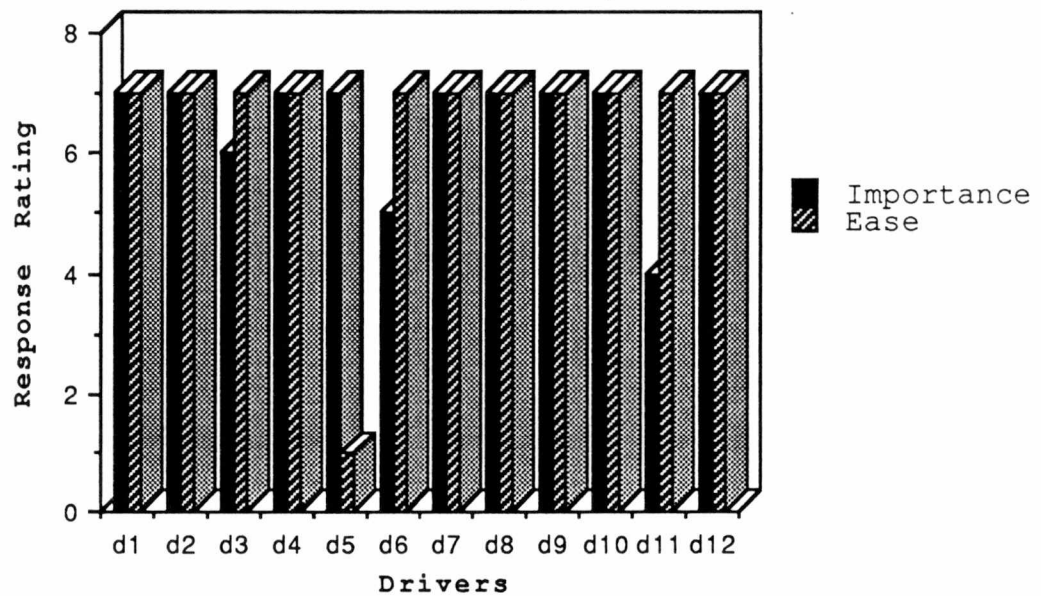
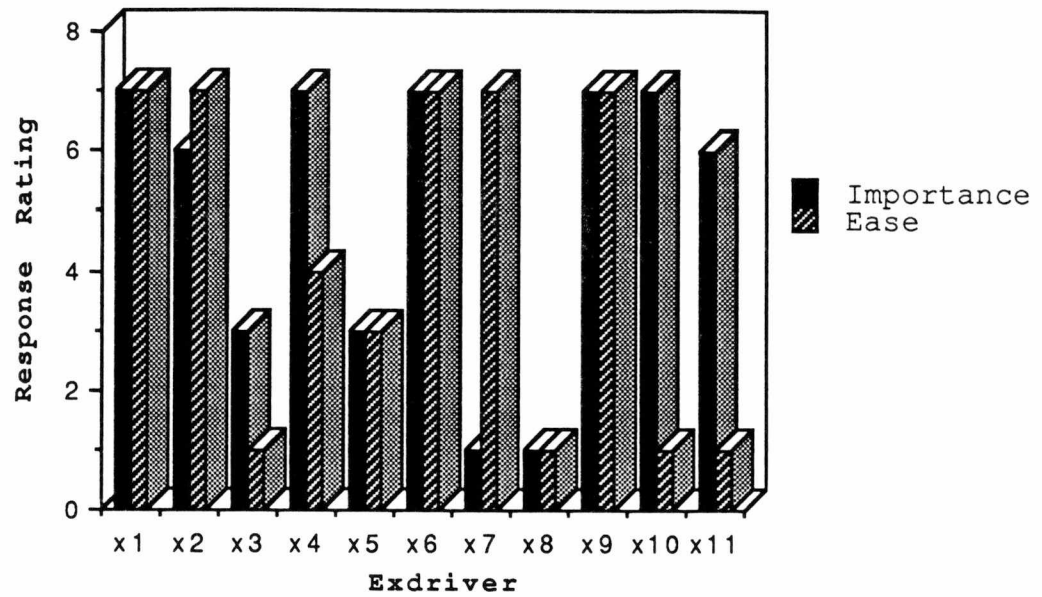


Figure H-2. Importance and Ease of Obtaining Sustenance.

Exdrivers Importance and Ease in Participating
in Outings (n=11)



Drivers Importance and Ease to Participate
in Outings (n=12)

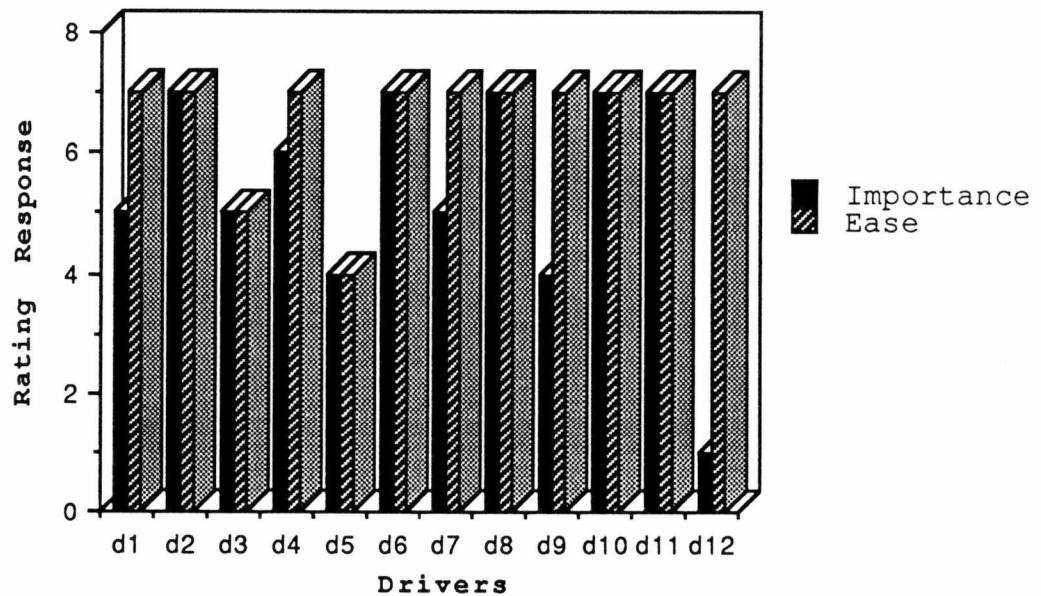
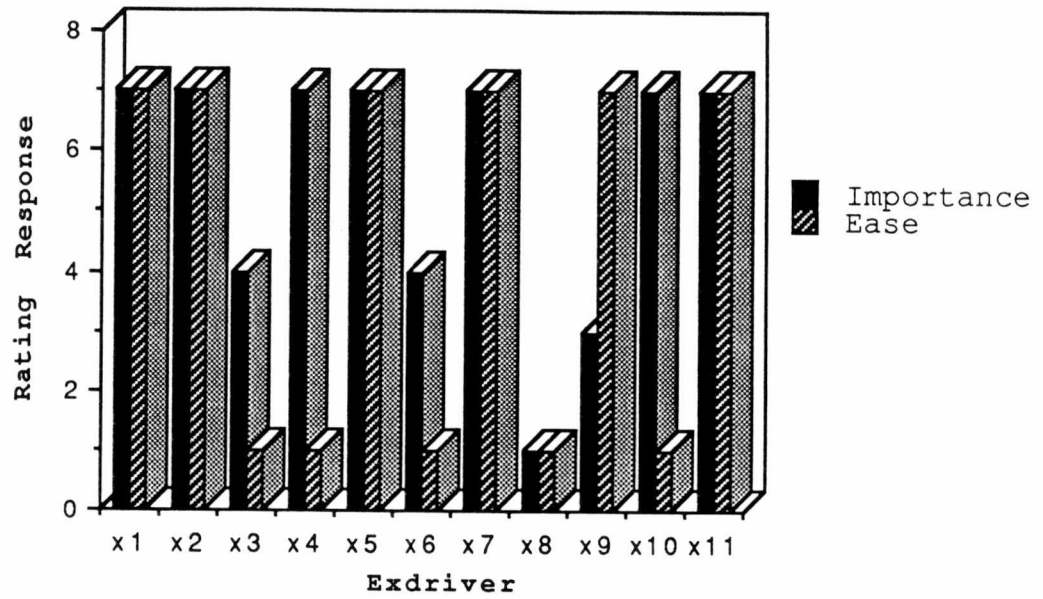


Figure H-3. Importance and Ease of Participating in Outings.

Exdriver Importance and Ease in Visiting
Family (n=11)



Driver Importance and Ease in Visiting
Family (n=12)

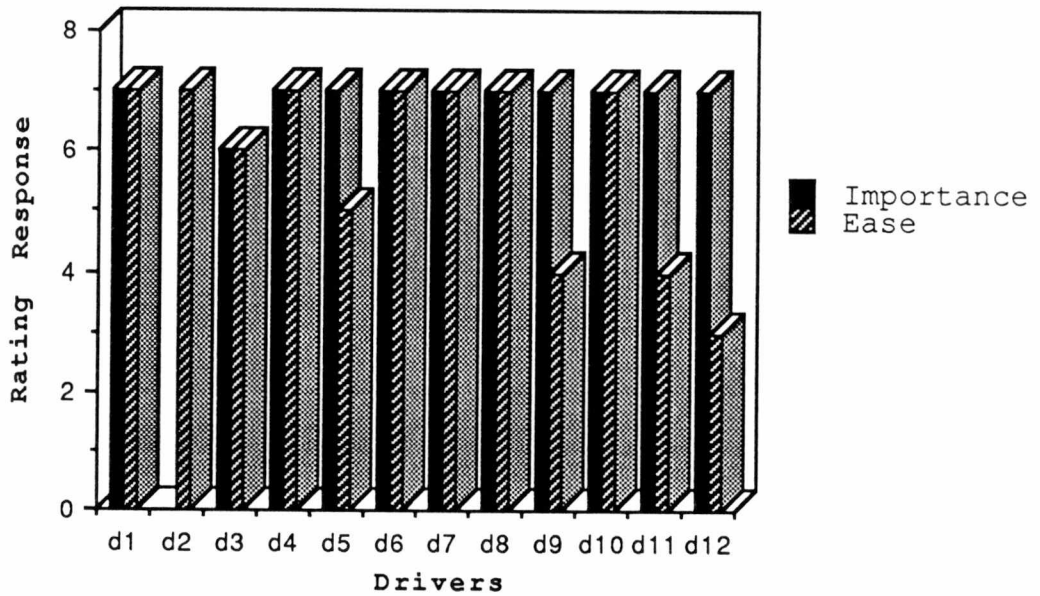
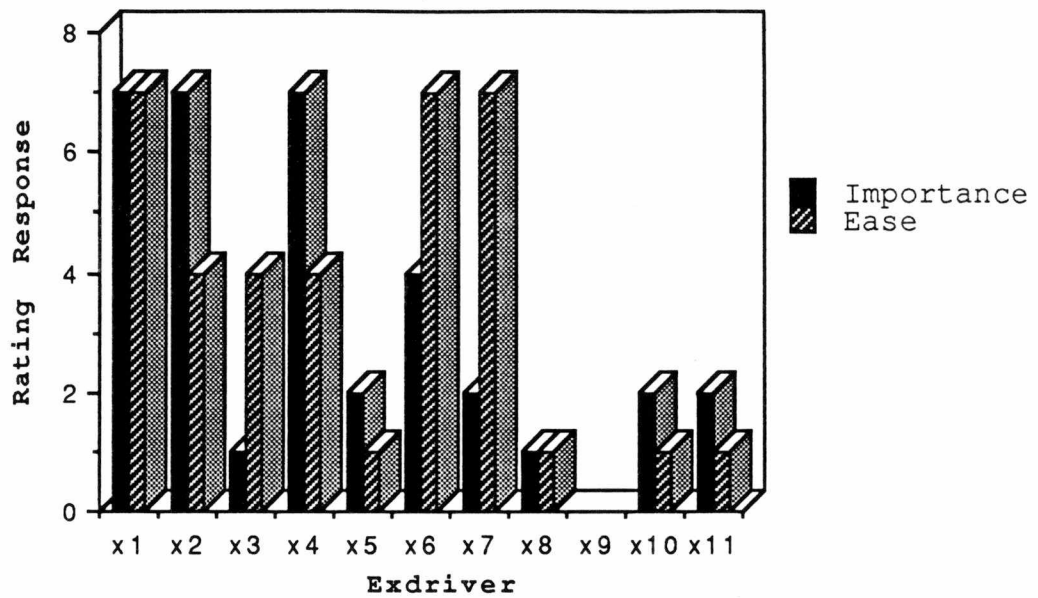


Figure H-4. Importance and Ease of Visiting Family.

Exdriver Importance and Ease of Visiting
Friends (n=11)



Driver Importance and Ease of Visiting
Friends (n=12)

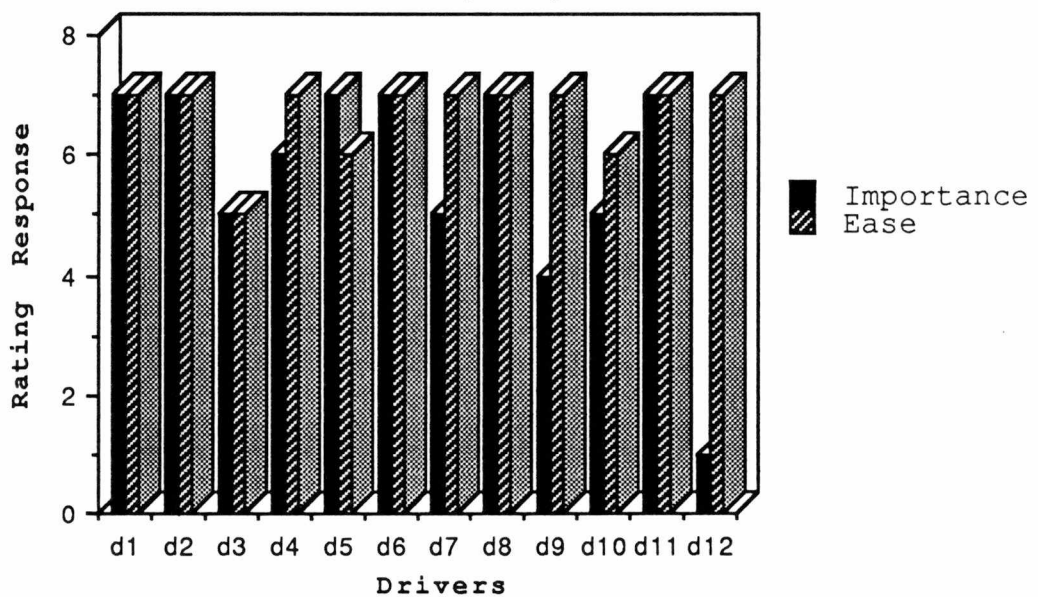
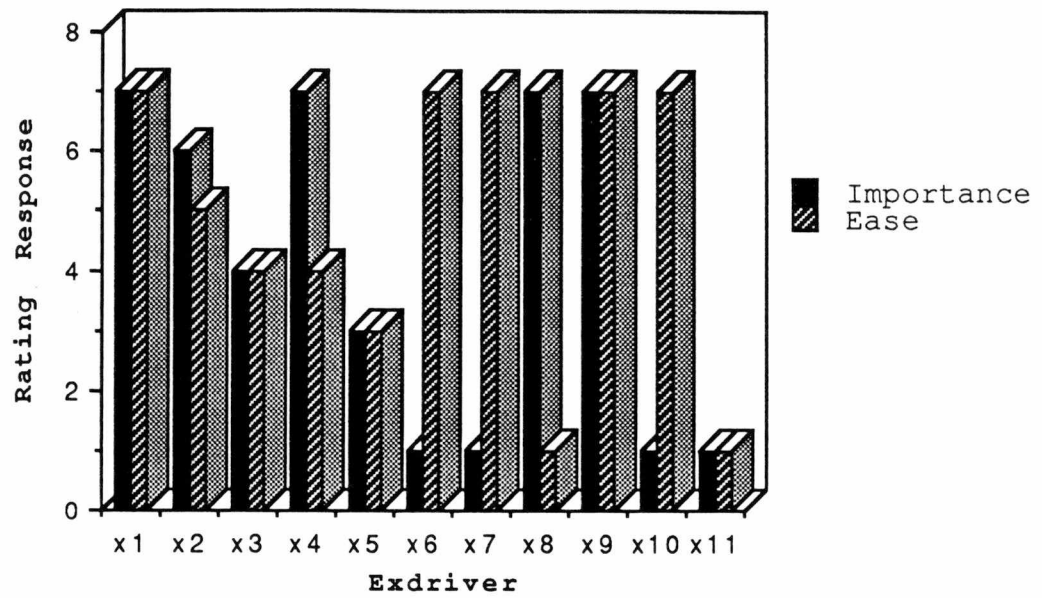


Figure H-5. Importance and Ease of Visiting Friends.

Exdriver Importance and Ease in Attending
Social Functions (n=11)



Driver Importance and Ease of Attending
Social Functions (n=12)

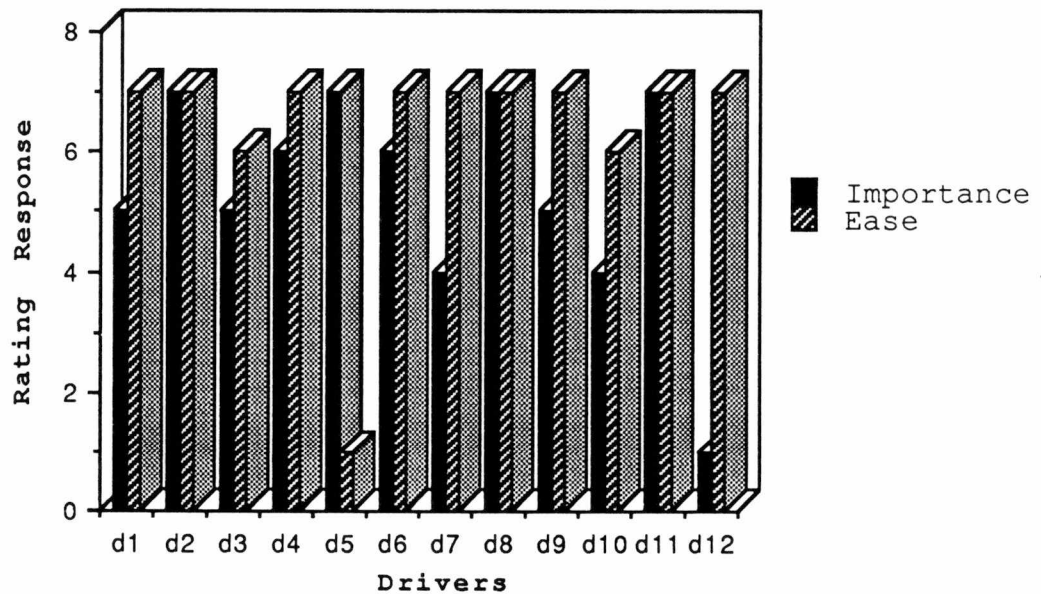
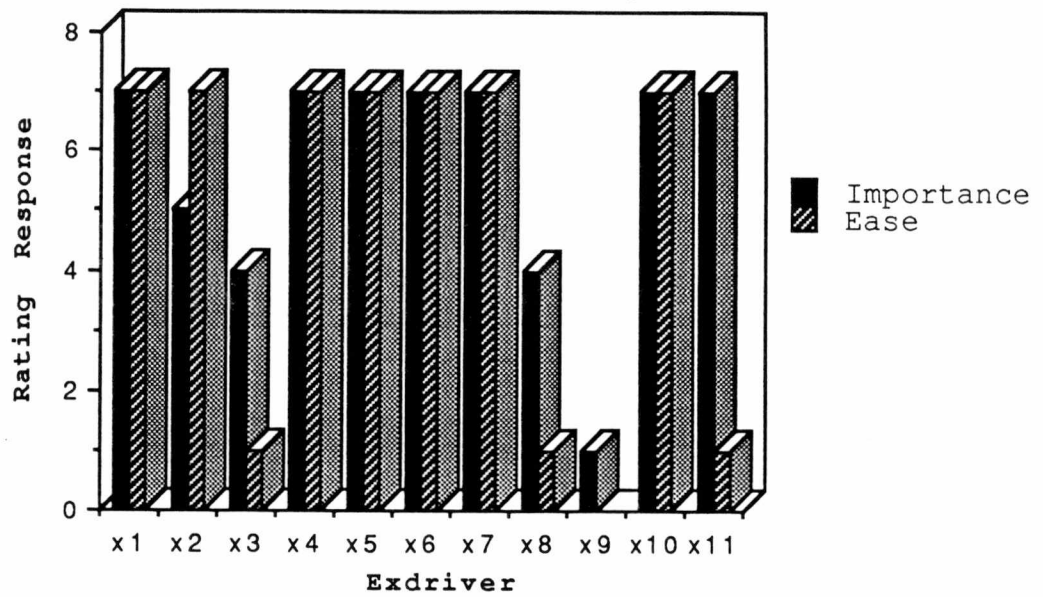


Figure H-6. Importance and Ease of Attending Social Functions.

Exdriver Importance and Ease in Attending Church Functions (n=11)



Driver Importance and Ease in Attending Church Functions (n=12)

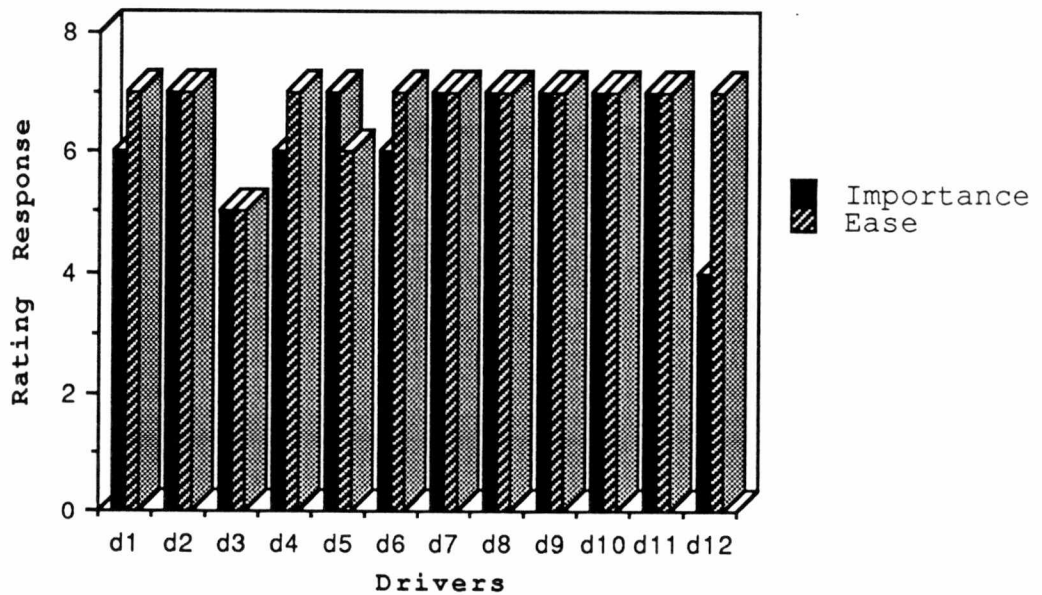
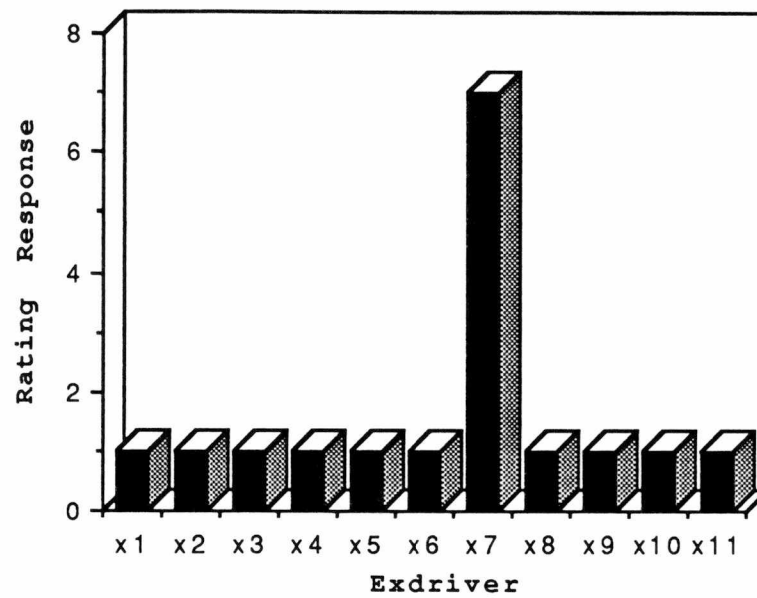


Figure H-7. Importance and Ease of Attending Church Functions.

Exdriver Quit Only Because License Revoked



Driver Will Quit Only if License Revoked

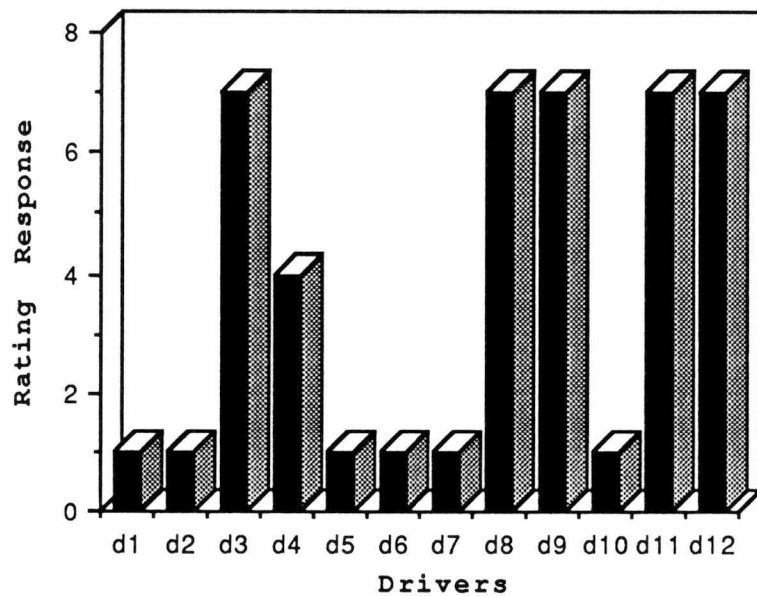
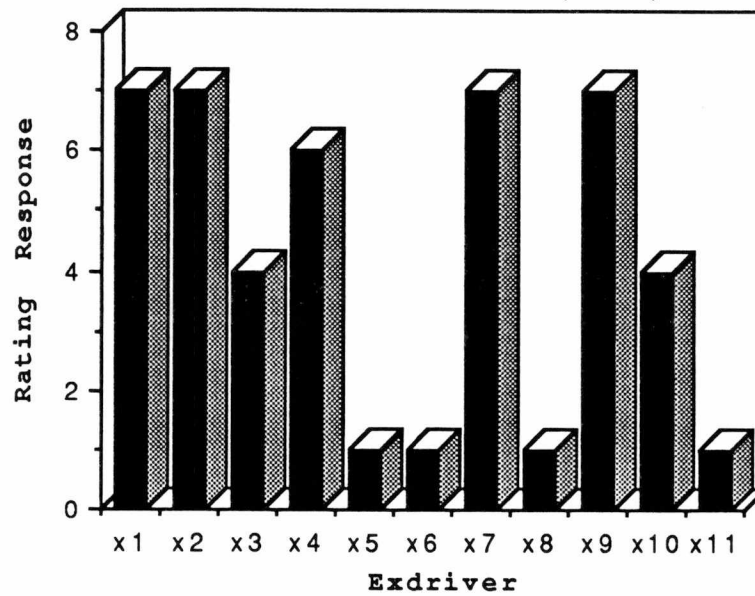


Figure H-8. Driving Privileges Relinquished Only if Revoked.

Exdriver Transportation is Difficult Since
Unable to Drive (n=11)



Driver Transportation Difficult if Unable
to Drive (n=12)

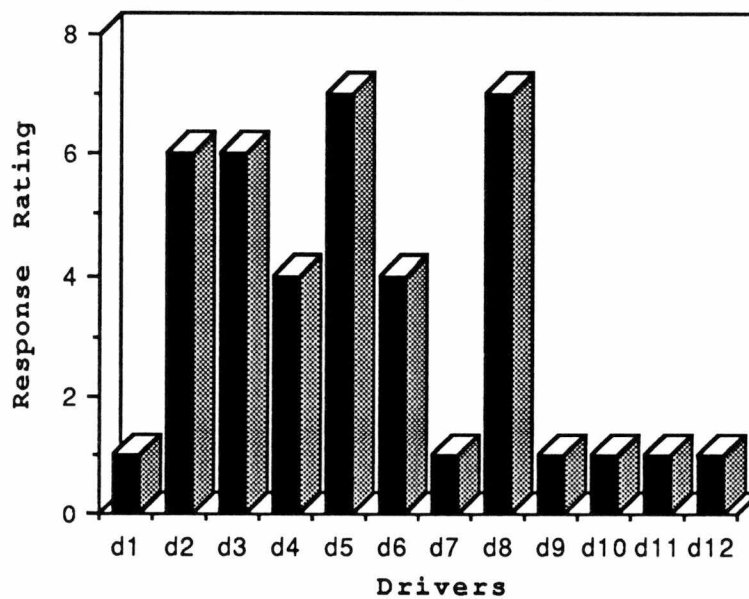
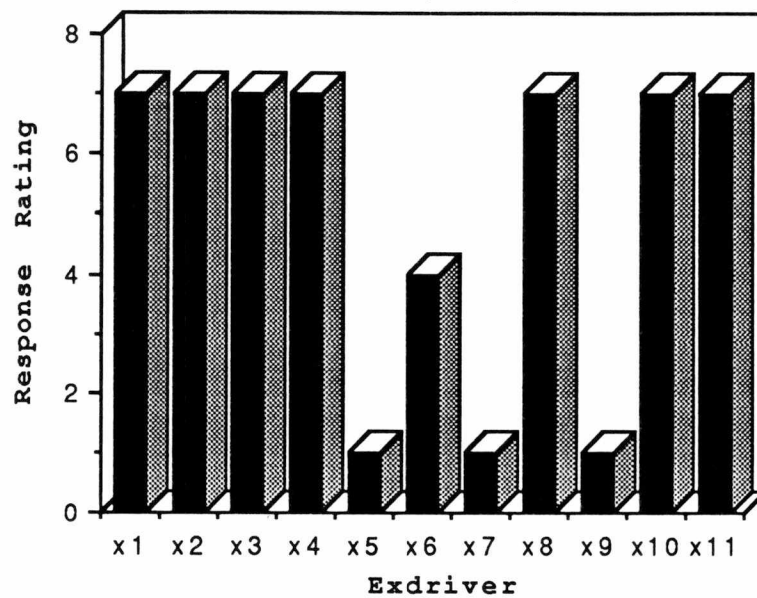


Figure H-9. Responses to Whether Obtaining Transportation is Difficult.

**Exdriver Feels Older Because Unable to Drive
(n=11)**



**Driver Would Feel Older if Unable to Drive
(n=12)**

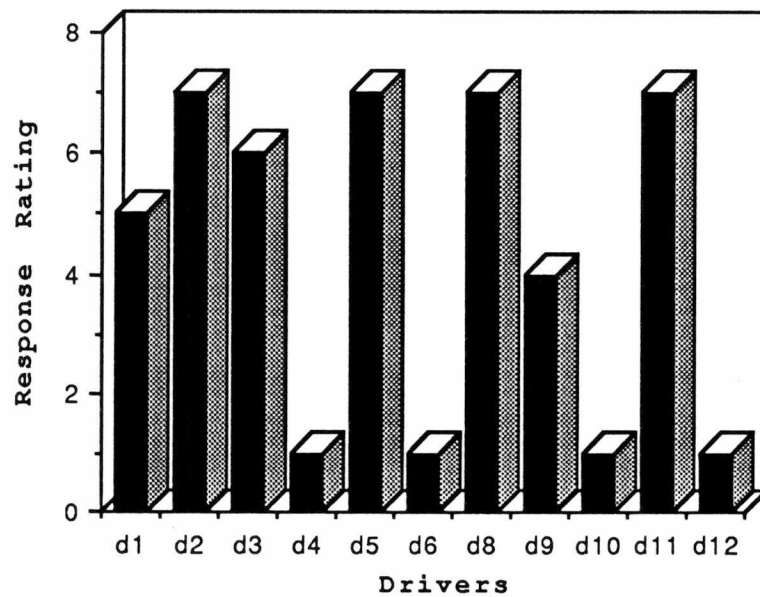
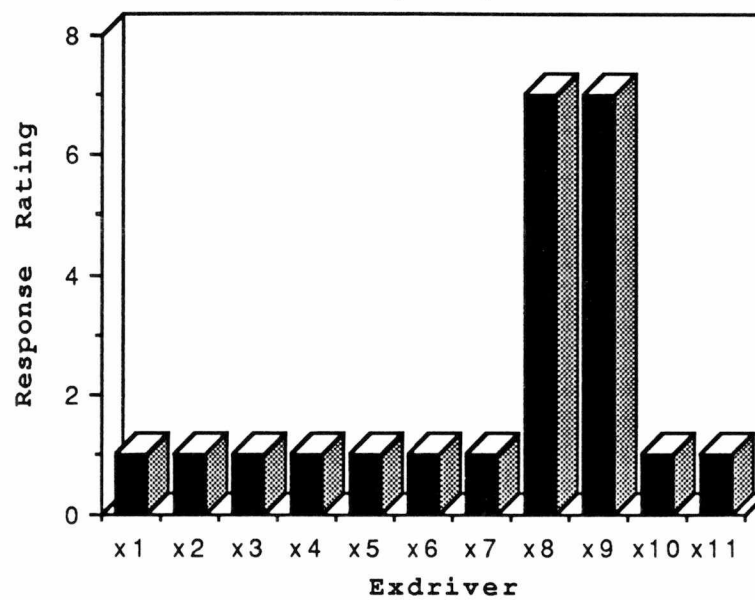


Figure H-10. Perceptions on Feeling Older After Losing Driving Privileges.

Exdriver Reaction to Automobile is Problematic
(n=11)



Driver Reaction to Automobile is Problematic
(n=12)

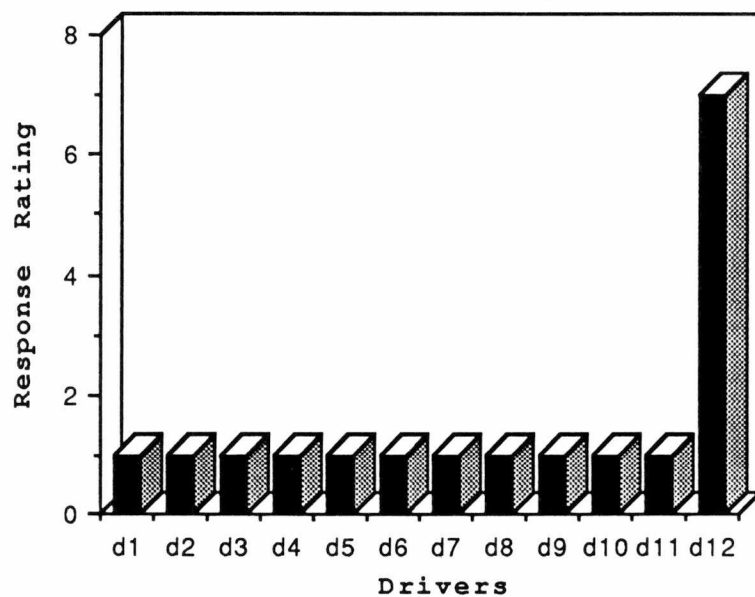
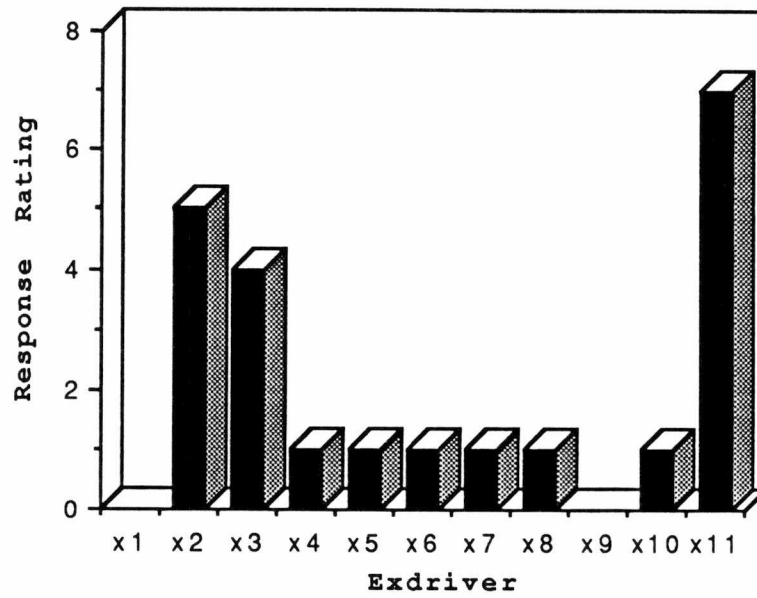


Figure H-11. Views of Automobile as Problematic.

**Exdriver Perception Whether Insurance Costs
are Fair (n=11)**



**Driver Perception Whether Insurance Costs
are Fair (n=12)**

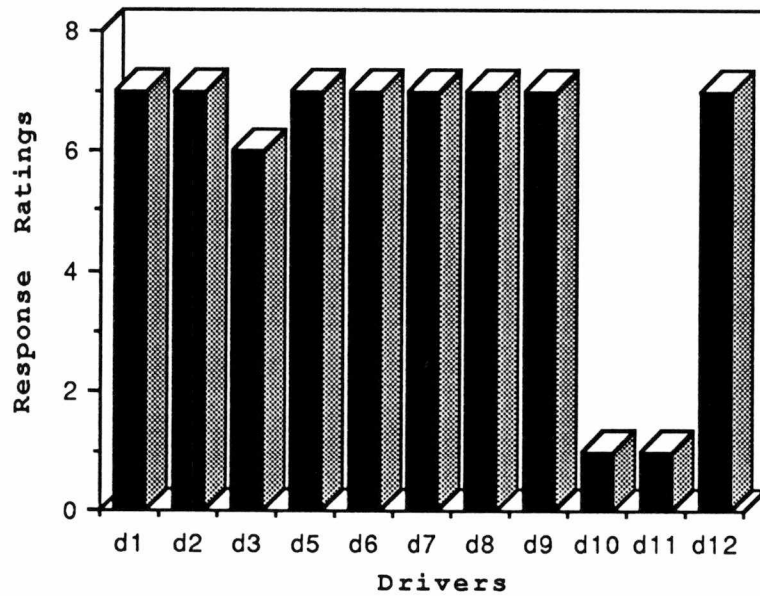
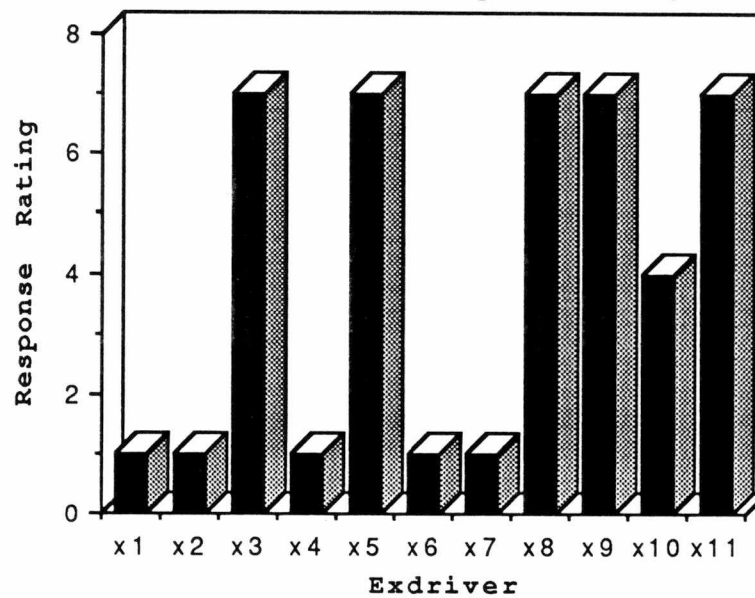


Figure H-12. Perceptions of Insurance Costs as Fair.

Exdrivers View of Others Perception of Older
Persons Driving Skills (n=11)



Drivers View of Others Perception of Older
Persons Driving Skills (n=12)

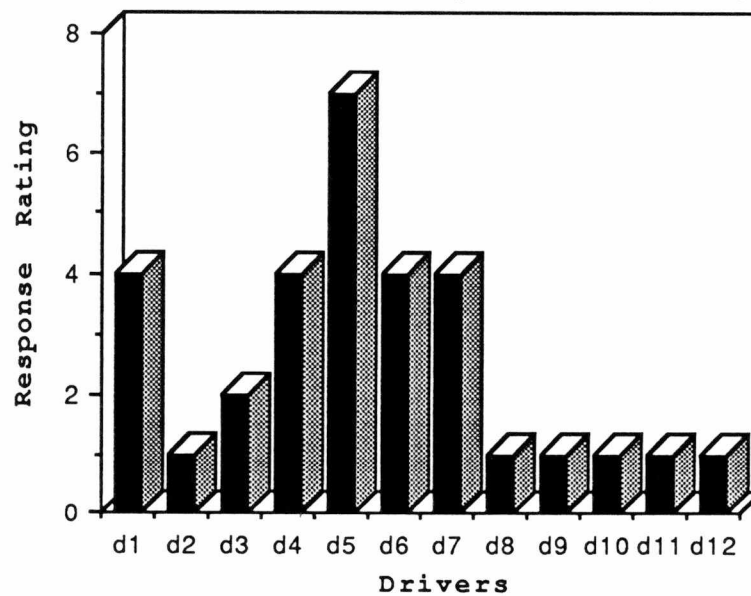


Figure H-13. Views of Other Peoples Perceptions of Older
Persons' Driving Ability as Fair.

VITA

Donna Johnson Wehe was born in Shenandoah, Iowa on December 4, 1949. She attended Marycrest College in Davenport, Iowa and was accepted into the Navy Nurse Corps Candidate Program during her junior year. In May 1973 she received her Bachelor of Science in Nursing degree and promptly reported to Officer Candidate School in Newport, Rhode Island.

After six years of active duty in the United States Navy, serving in various nursing positions, she began her civilian professional nursing career at a large community teaching hospital in Ann Arbor, Michigan as an Nursing Education Coordinator.

During the summer of 1984, she and her husband moved to Knoxville, Tennessee and entered The Graduate School of The University of Tennessee, Knoxville that fall. During the course of her Master's work she became the proud mother of two lovely and vivacious daughters. During the Master's program, the family temporarily moved back to the Michigan area. She received the Master of Science in Nursing degree in August 1989.

The author holds a membership in Sigma Theta Tau and the American Nurses Association and continues her military service in the Navy Reserves. Ms. Wehe is employed by the Catherine McAuley Health Center in Ann Arbor, Michigan.