



The Mobility Consequences of the Reduction or Cessation of Driving by Older Women

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OVERVIEW

Driving one's own car is the option used by most persons in the United States today to obtain the mobility necessary to maintain their connections to society. However, recent medical advances have made such significant increases to life expectancy that **prospects for outliving one's personal ability to safely operate an automobile have dramatically increased for many persons**. This is because the usual consequences of the aging process include an increase in functional disabilities and a reduction in the skills and abilities needed to drive an automobile¹⁻³. At the same time, prospects for obtaining mobility by any means other than driving oneself have not markedly improved.

When persons with diminished capabilities continue to drive, an increased safety risk is created for all members of society. But, when older drivers face the prospects of reducing or terminating their driving (because of declining skills or for other reasons), they often have expectations of substantially reduced mobility. Such expectations lead in turn to a reluctance among these older drivers, family members, and government agencies to terminate an older person's driving privileges. Thus, the point at which older persons voluntarily give up or are forced to relinquish their driving privileges is often seen by elders and those around them as a watershed event with large implications regarding independence, self-sufficiency, and social responsibilities.

Some researchers have suggested that there may often be serious consequences for older persons when those persons cease to drive, because their overall mobility will decline. Consequences which are mentioned in the literature include a loss of personal independence, social isolation, and a reduction or lack of access to essential services.

While some of these issues have been addressed by prior research efforts, no comprehensive overview has been produced that ties all of the related factors together in a comprehensive explanation of causes and consequences. Many questions remain: If an older person reduces or stops driving, how great is their loss of mobility? What other changes follow from the loss of mobility? Are there viable options to reduce the loss of mobility when a person stops driving? What lessons about personal mobility can we learn from those who have ceased to drive and those who never drove?

Ecosometrics, Incorporated is working on a project called "The Mobility Consequences of the Reduction or Cessation of Driving Among Older Persons." The sponsors of this project are the U. S. Department of Health and Human Services and the National Highway Traffic Safety Administration. Through a review of the literature and any research currently being conducted as well as through a series of focus groups, the goals of our project are to:

- 1) Identify factors that influence older persons to reduce or to stop driving, to determine how they make such decisions, and which types of persons are likely to stop driving and which are not;
- 2) Document the changes in mobility and travel behavior which result when driving is reduced or ceased;
- 3) Identify changes in the lives of older individuals and those around them resulting from reductions in or losses of personal mobility; and
- 4) Determine the programmatic implications of the research findings of this project.

The problem is a large one. People 65 years of age and older are projected to represent 13 percent of the population in the year 2000 and 20 percent by the year 2030⁴. The fastest-growing demographic group in the U. S. at the moment is persons 85 years of age and older. By the year 2000, one out of every three drivers will be over the age of 55, according to the American Automobile Association⁵. Furthermore, the vast majority of Americans have grown up in a culture which strongly depends on automotive transportation for mobility, and most Americans (including the elderly) now live in communities which are not served well or frequently by public transit services.

This presentation will touch on some of these issues as they directly pertain to women. We will also discuss the state of existing research in this area. These issues are particularly relevant to women as women live longer than men do (leading some to label old age as a woman's issue).

AGE AND GENDER DIFFERENCES IN DRIVER LICENSING

According to results from the 1990 Nationwide Personal Transportation Survey (NPTS), 82 percent of women between the ages of 60-64 have driver's licenses, and they hold them until age 80, when the percentage of women holding licenses declines and reaches a level of 25 percent of all women over age 85. There were appreciable increases in the percentages of women holding driver's licenses between the 1983 and 1990 NPTS surveys, from 75 percent to 82 percent in the 60-64 age range and from 12 percent to 25 percent in the 85+ age range. Older women are less likely than older men to hold driver's licenses, and the decline in having licenses occurs earlier for women than for men, beginning in their mid-fifties. (But the onset of this difference is beginning to start later, as shown by a comparison between the 1983 and the 1990 NPTS data.) Especially among the higher age brackets, the differences between men and women in driver licensing is substantial: as mentioned, above age 85, only 25 percent of all women still hold driver's licenses, while 55 percent of all men in this age group hold licenses. The percentages of persons holding driver's licenses for a wide range of age groups, based on NPTS data, are shown in Table 1 which indicates the gender differences as well.

Table 1 and Figures 1 and 2 focus on the differences in driver licensing among those persons 60 years of age and above, using data from the 1983 and 1990 NPTS surveys, the Survey of Assets and Health Dynamics among the Oldest Old (AHEAD, 1993 data), and surveys from five counties in the state of Maryland conducted by Ecosometrics, Incorporated from 1987 through 1989. These figures support the conclusions noted earlier:

- at the higher age levels, men more frequently hold driver’s licenses than do women,
- this distinction appears to be narrowing over time, and
- the percentage of persons with licenses among both men and women is increasing overtime.

Table 1
Percentage of Licensed Drivers Among Elderly Age Groups, By Gender NPTS,
AHEAD and Maryland Deeds Assessment Surveys

Men						
	60-64	65-69	70-74	75-79	80-84	85+
NPTS 1983	93.20%	90.50%	78.50%	78.20%	64.90%	47.50%
NPTS 1990	95.70%	93.60%	92.80%	86.70%	82.60%	55.10%
AHEAD	***	92.50%	89.50%	85.70%	80.10%	55.40%
Maryland	97.60%	95.11%	92.46%	81.82%	93.33%	71.43%
Women						
	60-64	65-69	70-74	75-79	80-84	85+
NPTS 1983	75.20%	61.80%	59.70%	38.10%	30.90%	11.70%
NPTS 1990	81.70%	77.60%	73.60%	61.50%	49.30%	24.60%
AHEAD	83.30%	79.50%	68.70%	60.50%	46.00%	24.50%
Maryland	88.90%	87.10%	70.10%	65.90%	44.10%	31.58%

*** There was an insufficient number of respondents available for this age group.

There are slight differences between the percent of women who hold licenses at various ages and how many continue to drive. Using data from the AHEAD and Federal Highway Administration (FHWA) surveys, we see that between the ages of 70-74, 74 percent of women are still licensed but only 70 percent continue to drive. These numbers change in the over 85 category, with 26 percent of the women still licensed but only 22 percent continuing to drive ⁶.

Figure 1
Percentage of Licensed Drivers by Age and Gender, 1983 and 1990 NPTS

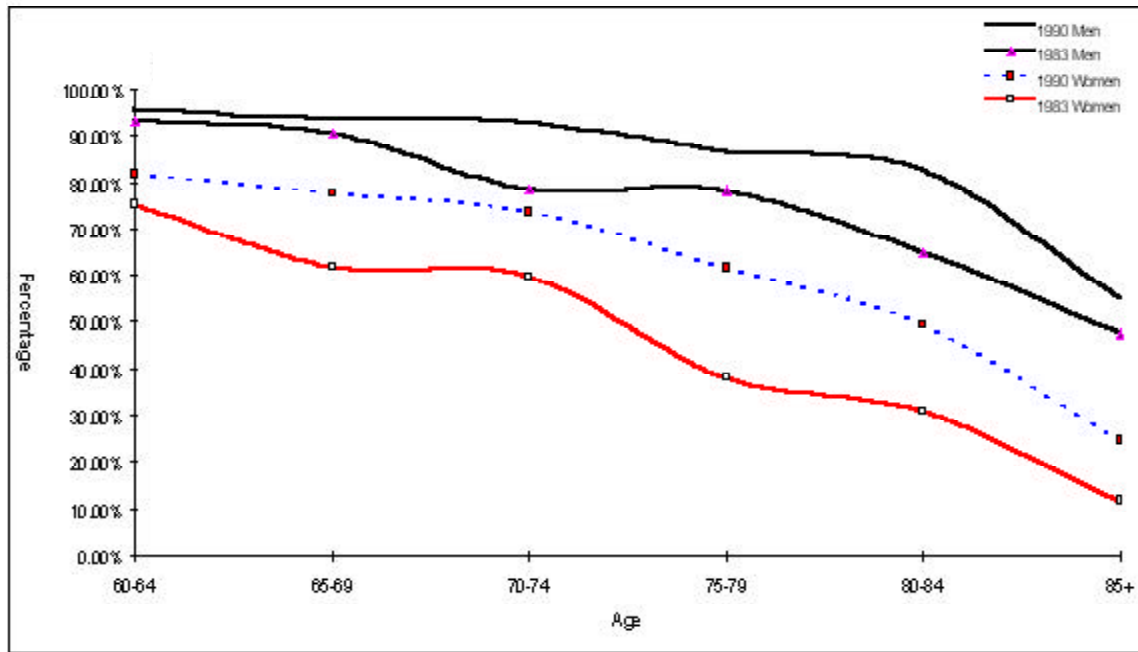
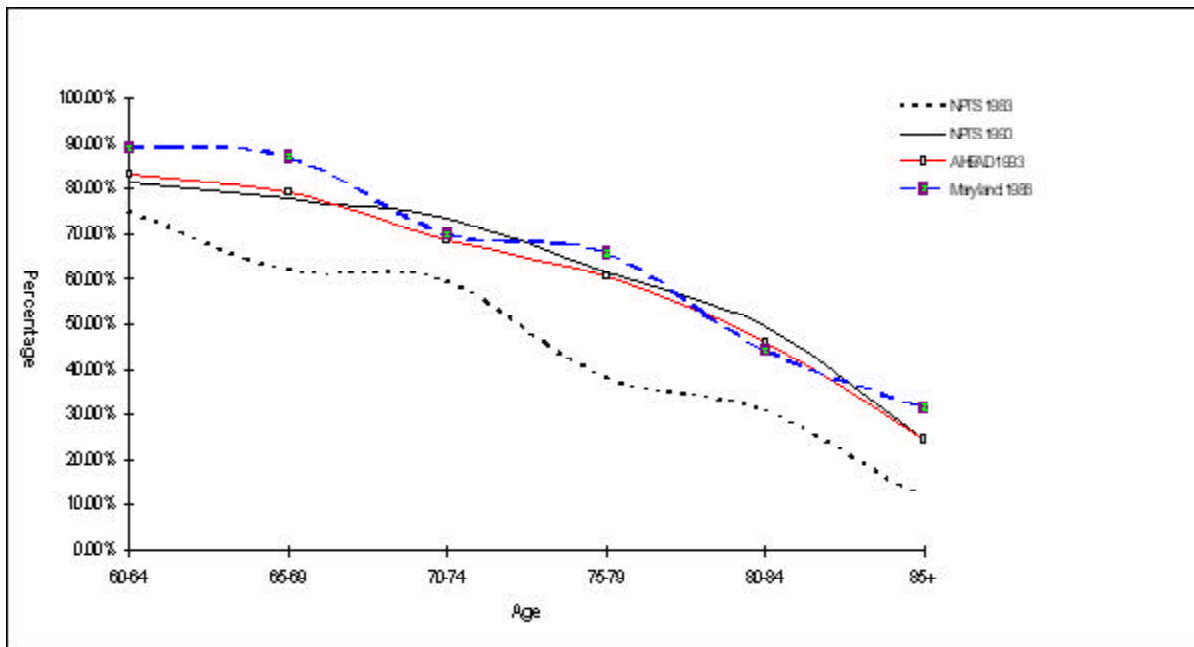


Figure 2
Percentage of Licensed Drivers by Age Group, Women Only



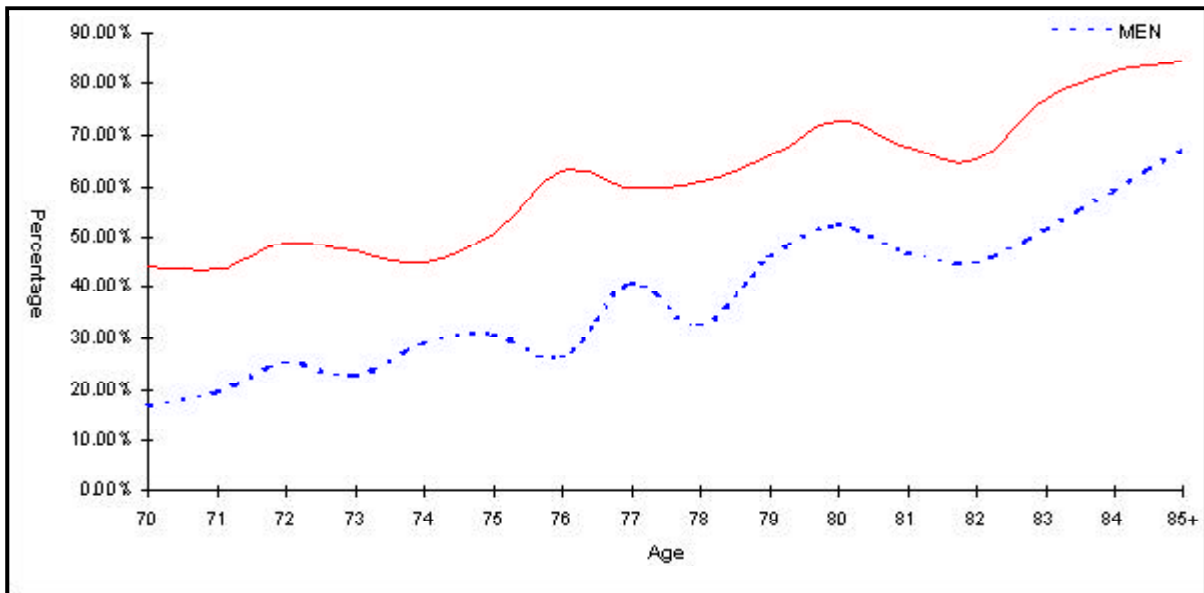
REDUCTION AND CESSATION OF DRIVING

Several studies have found differences between older males and female drivers in terms of decisions to limit or stop driving.

Women Who Limit Their Driving

From the literature, there are many reports that older persons limit their driving in numerous ways. These include: reducing their number of trips, reducing trip lengths, not driving at night, on superhighways, or in inclement weather, and focussing on essential rather than higher order (or social) trip purposes. We have data from the AHEAD survey which support the observations concerning reductions in overall driving and trip lengths, disaggregated by age and gender, as shown in Figures 3-5. Figure 3 illustrates that women limit their driving about 20 percent more than men do. This 20 percent difference holds for limiting trip lengths as well, with women limiting their trip lengths about 20 percent more than men do from age 65 upward. As can be expected, a comparison of Figures 4 and 5 shows that fewer women than men drive over 10,000 miles per year (15% to 43% in the 60-64 age group). Thirty-nine percent (39%) of women age 60-64 drive over 5000 miles per year compared to 67 percent for men; these percentages drop to just under 3 percent for women and just under 9 percent for men over age 85. Taken all together, these figures show that limitations increase with age and that women are more likely than men to limit their driving.

Figure 3
AHEAD Survey: Persons Limiting Driving, by Age and Gender



Winter⁷, in her study of the effects of driving cessation on the older adult (using a pool of people whose licenses had been restricted or revoked by their local Department of Motor Vehicles (DMV)), also found that previous amount of driving correlated negatively with gender (in other words, women drove less than men). She also found that the amount of driving avoidance correlated with gender, whereby the women in her study avoided specific driving situations more than men. This fits in with the self restricting driving behaviors discussed previously.

Figure 4
Age Group Vs. Annual Mileage Driven, NPTS 1990, Women Only

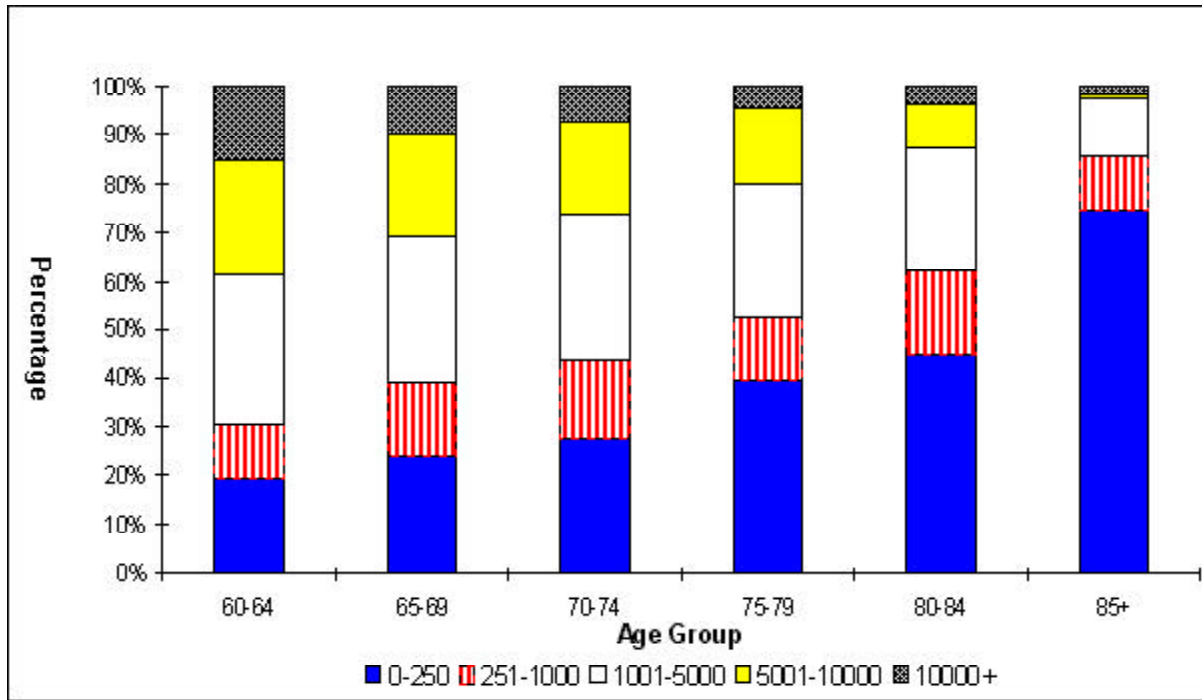
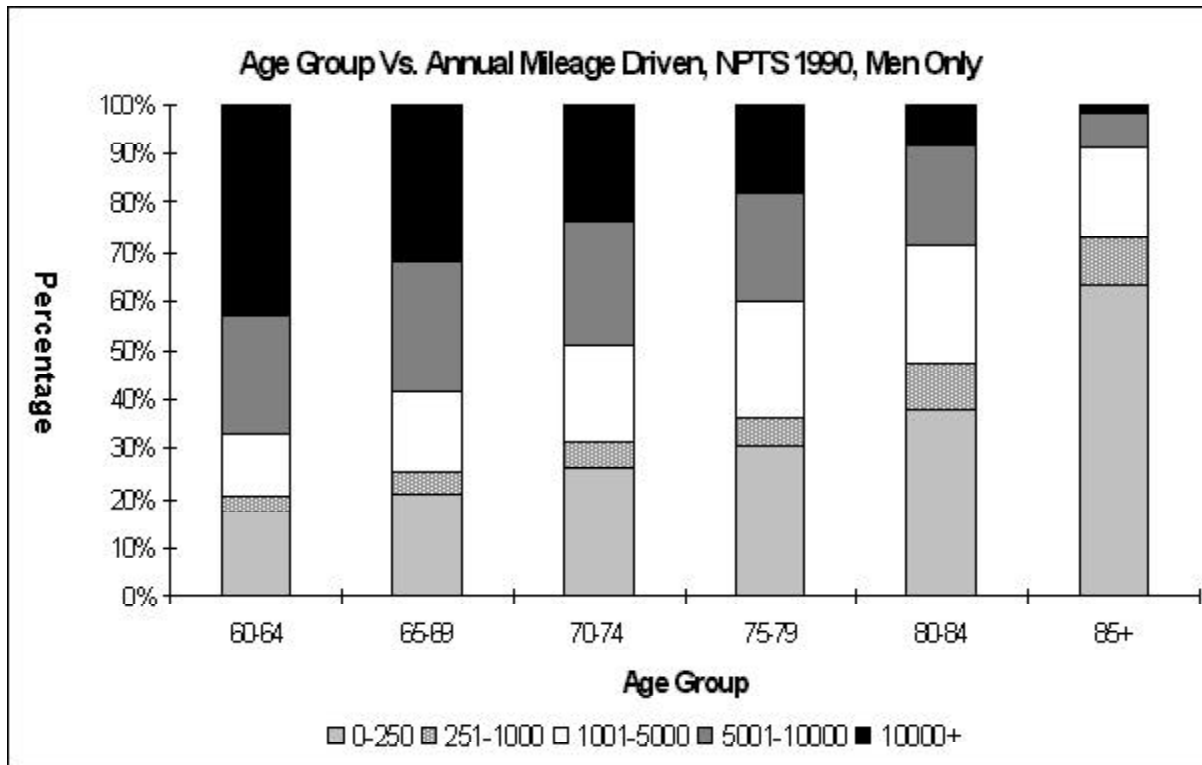


Figure 5
Age Group Vs. Annual Mileage Driven, NPTS 1990, Men Only



Women are more likely to voluntarily stop driving than men⁸ or, phrased differently, men are more likely to continue driving than women^{9,10}. This can be due to the psychological implications of the role of being the driver: men see driving as part of their identity, whereas women do not. Men tend to start driving earlier and subsequently to drive more miles than women¹¹; men also have, for the most part, been the main provider of transportation for their families^{12,13}. The study by Marottoli et al.¹⁴ on driving cessation among the elderly found that women in general are less likely than men to drive; those that did drive tended to drive fewer miles than men overall and they were driving less than they had previously (based on New Haven EPESE data and the follow up). But current trends are changing the male-dominated driving roles, since many more women are driving at a younger age and are becoming much more independent and self-sufficient for their travel needs¹¹.

There is substantial evidence that a significant part of the “I ain’t givin’ up my license ‘til they pry it outa my cold hands” attitude is attributable to older men. In devising strategies for dealing with such attitudes, it will be necessary to determine their roots: some may be ego issues, such as the need to feel in control of situations; others may be family role related, as in the older man who chauffeurs his wife around town; others might include a fear of the loss of mobility or also a simple denial of the decline in abilities that accompany the aging process. Eisenhandler¹⁵ found that women without access to a car were more aware of old age as a prominent feature of their identity because their ability to get around as freely as they would wish was restricted. However, in focus groups conducted in Portland, Maine, with people who were limiting their driving, the women were no more willing than men to give up driving—even if the women were aware of and adapting to their own driving limitations. In fact, one woman said, “When you scare the living daylight out of yourself, I think it is time to stop, as far as I’m concerned.”

For some persons, the reluctance to stop driving may be related to multiple factors, and these situations may prove particularly challenging when trying to convince such persons to make the transition from driver to passenger. If the issue is phrased as “give up their driving,” there will naturally be a much greater resistance to change, as “giving up” and “quitting” have seriously negative connotations. If the issue comes as a directive from an outside source such as the DMV, the older driver might be more likely to resist driving cessation. Winter⁷ found that older individuals who had their licenses revoked by the DMV were still likely to drive—one even the blamed the DMV by saying that the DMV “forced me to drive illegally by taking away my license.” Dobbs and Dobbs¹⁶ in their Edmonton, Alberta study of the psychological, social and economic consequences of delicensing the elder driver found a similar scenario among people with dementia who had been given a driver evaluation. Almost 10 percent of those patients whom the doctor had recommended to stop driving were still driving after the recommendation. Granted the DMV did not yet, in all cases, revoke the license in question, but that was the next step. The Dobbs’ are in the process of analyzing some of their results by gender.

Loss of confidence and cost were cited as possible reasons why women stop driving⁶. Loss or lack of confidence could be a factor, particularly if efficacy theory is taken into account. Efficacy is the amount of self-confidence a person has in his/her ability to perform a specific task; a person with low perceived efficacy, or confidence, in their ability to perform a certain activity will tend to avoid that task¹⁷. Several studies on balance confidence^{17,18} found that women are disproportionately more likely to say they are afraid of falling than men and a greater percentage of women in the studies also reported related activity avoidance. According to Bandura’s efficacy framework, perceived capability is more predictive of behavior in a given domain than actual physical ability¹⁸. In these instances it is used to explain activity restriction beyond what is warranted in some post-fall patients in the study. For our purposes it is an avenue to explore the reasons why women restrict, and subsequently stop, driving earlier than men do.

In the Portland focus groups, one woman stopped driving because her car died and she could not afford either to fix it or to buy a new one. Another woman stopped driving because her husband was now retired and liked to do all the driving, and that was fine with her. Accidents, medical conditions and family intervention were other reasons cited for driving cessation among our focus group participants.

Hu's study¹⁹ found that older women were much more likely to stop driving than older men. The onset of conditions such as Activities of Daily Living (ADL) losses, Parkinson's disease, a first stroke, heart disease and cataract surgery all had statistically significant influences on women's decisions to cease driving but not on men's decisions. Men were more often influenced to cease driving by higher education, limitations on gross mobility, a second (not a first) stroke, and arthritis. Both men and women were influenced by advancing age and reduced vision. Campbell et al.²⁰ ran different regression models for predicting driving cessation for males vs. females. They found that in addition to increasing age, activity limitation, syncope, and macular degeneration were factors for both men and women. Stroke sequelae was also a factor for men, whereas retinal hemorrhaging and Parkinson's disease were significant factors for women.

Physical activity levels have been found to be related to driving cessation. Lawrence and Jette²¹, while looking at the disablement process, found an indirect relationship between gender and activity level with women having lower levels of activity than men; these lower activity levels were associated with more lower and upper body functional limitations and Instrumental Activities of Daily Living (IADL) disabilities. The study underscores there are many potential benefits from focussing on physical activity levels as a "fruitful" intervention strategy for preventing disability, particularly among older women. Women in the non-institutionalized population had higher disability rates than men in a comparison of 1980 and 1990 census data²². Marottoli et al.²³ found that individuals who stopped driving experienced lower activity levels and increases in depressive symptoms over a 6-year interval.

Living arrangements influence the driving behavior of women and men differently for women and men who live alone. Hu's study²⁴ found that older men living alone were more likely not to drive, whereas older women living alone have an increased probability of continuing to drive. Many older adults are living alone now, due in part to the death of a spouse and in part to high separation and divorce rates. The number of older adults living alone may increase in the future as the percentages of baby boomers who live alone or marry late and have no children are higher than for any previous cohort²⁵.

The presence of a spouse or significant other greatly influences whether or not an older person will drive. Gerontologists have long noted the manner in which such partners assist each other to cope with the losses of old age²⁶. We have all heard the stories of a non-driving spouse with good vision "assisting" the driving spouse with poor vision. This is particularly true for the many older women who have never learned to drive and for older men with significantly younger spouses. In a study of adults 50 years of age and older, Kington et al.²⁷ found that individuals who lived in households with other adults were less likely to drive. The study theorizes that elderly people may be more likely to choose to stop driving when there are alternatives available such as other adults to drive them around.

Our focus group in Maine found men more likely to blame external factors for their need to decrease driving than were the women; they blamed the discourtesy by others, the increased technology of cars, and driving different (new) cars for their increased difficulty in maneuvering on the roads. "The environment is unfriendly to them." The women in the focus groups tended to express more personal reasons for why they were limiting their driving—they couldn't see as well at night or did not feel comfortable driving in construction or at very high speeds. It will be interesting to see if the next sets

of focus groups that Ecosometrics conducts will yield similar information. Table 2 contains a summary of some of the comments from the focus group that was conducted with six older women (all over the age of 70) who are reducing or changing their driving behaviors.

Table 2

Summary of Focus Group in Portland, Maine with Women Who Reduced Driving:

Significant Comments

1) Question regarding how life has changed since they reduced driving:

“You lose your independence.”

One woman said that she continues “to have ... independence with quite a few limitations.”

2) If I had to stop:

“It would be the end of the world for me.”

“I really get humble, hate to ask [for rides].”

“I would stay home, crawl into my shell, and not come out.”

After not driving all winter, one woman said, “When I get it [the car] out I feel like I’ve sprouted wings, I feel like I can go where I want to, when I want to.”

3) The biggest problem: “It’s our pride that hurts.” [Having to ask for rides.]

4) How will you know when it’s time to stop driving?:

“When the stress level from my driving gets high enough, I’ll probably throw my keys away.”

“When you scare the living daylights out of yourself, that’s when it’s time to stop.”

5) Advice to a friend who is contemplating stopping driving:

“Hang in there as long as you can, face it when you have to.”

THE CONSEQUENCES OF REDUCING OR CEASING DRIVING

What are the mobility consequences of the reduction or cessation of driving among older women?

Items such as loss of independence, loss of a spouse’s independence, increased isolation, depressive symptoms, and increased financial costs have all been named as consequences of stopping driving and also of reducing driving. When an older driver begins to restrict their driving, they impose limitations on what they can and cannot do, where they can and cannot go. Examples of this include the library book that never gets picked up, the shows that aren’t seen because they take place in the evening, and the work or volunteer opportunities that are missed because the location is in a difficult to reach place. When

older adults stop driving or lose access to a vehicle, the ability to travel to and from a job each day is greatly hindered. For many, particularly older women in poverty, the ability to travel to a job interview almost disappears²⁸.

One outcome of the paucity of research conducted on driving cessation in general is that there is even less information on the effects on women in particular. Peter Rothe²⁹ conducted a study to determine the extent to which losing a license affects older adults. He surveyed 904 senior drivers, conducted focus groups with 230 elderly people and conducted open-ended interviews with 130 senior motorists who recently experienced injury-producing accidents. From this he gathered that the license to drive is synonymous with self-respect, social membership, independence and quality of life. The loss of the right to drive creates a crisis in the older adult's life; that it does create a crisis supports the proposition that quality of life and personal transportation are closely related. Other research points to the automobile and driver's license as a sign of youth, power, and masculinity, positing that the loss of a license presents more of a threat to men than to women³⁰. This is in line with the theory that women are more internally motivated and men are more externally motivated.

Asking for and accepting rides from family and friends is difficult for an older person, particularly one raised in the tradition of independence and self-sufficiency. Women may have an easier time asking for rides than men do because of the more social and other-oriented ways in which women are socialized in our society. However, as a woman in one of our focus groups put it: "You really get humble, you hate to ask..." In our focus group with people over 70 who had stopped driving, we found feelings of a loss of independence and a loss of some control in life among both men and women, with few noticeable distinctions between the genders.

Older persons try to compensate for not driving by obtaining rides with family members and friends, through utilizing public transportation or specialized paratransit, by taking taxis, and by walking. There are costs, either physical, emotional or monetary, attached to each of these options. Life after reducing or stopping driving has been likened to having one's independence with quite a few limitations.

SUMMARY AND ASSESSMENT

Public pressures are increasing on State driver licensing authorities, legislators, and doctors to discourage or prevent risk-prone older drivers from continuing to drive. Comprehensive information about the impacts of driving reduction or cessation might influence future public policy toward license restrictions, steps to extend years of safe driving by older motorists, education to influence driver's self-regulation, and the provision of suitable alternatives to driving.

Seniors should be encouraged to grow into new roles. The idea of "graduating from driving" has a much more positive connotation than "giving up" your driver's license. The Central Plains Area Agency on Aging (AAA) in Wichita, Kansas developed a proactive approach to driving cessation consisting of two key elements: planning ahead for retirement from driving, and learning to drive safely longer. The premise of this approach is that the decision to stop driving should be intrinsically motivated and made by the individual for him- or herself. Once an older driver has explored all the available transportation alternatives and has a plan for the transportation options to use once he or she stops driving, the driver should be more likely to stop driving voluntarily³¹. Also, the existence of innovative alternative transportation programs that enable older persons to get around without feeling as dependent or " beholden" to others as they might otherwise feel if they had to constantly ask someone else for a ride. The Independent Transportation Network in Portland, Maine is an example of one such innovative program.

When making projections of the number of future drivers, assumptions about driver licensing and driving among females are critical. Using the assumption that females will drive at the same rate as males in the future creates a huge difference from the projected numbers of future older drivers based on a continuation of current trends, especially within the highest age groups. In the age groups of 80 and above, men drivers now outnumber the women drivers by about 2 to 1. If one assumes that an equivalency in driver licensing will be reached (that is, no gender difference in the percentages of elders holding driver's licenses), the current situation will be exactly reversed, and the number of female drivers will be almost double that of male drivers in the oldest age brackets. This would have the impact of adding one-third more oldest drivers to the roads in the year 2040. A change of that magnitude would create a very significant change from other scenarios projected for the future.

FUTURE DIRECTIONS: THE BIG UNANSWERED QUESTION

The biggest unanswered question at this time is "What difference will gender play in the reduction or cessation of driving by older adults in the future?" At present, our older adults are still from cohorts in which driving is more often performed by men, and older women are more likely to "retire" from driving than are older men. There is strong evidence that many patterns of driving behavior in younger cohorts are, increasingly, showing fewer and fewer gender-based differences. Will this make the cohorts of young females now in their 20s and 30s less likely to retire from driving in their 80s and 90s? Will they retire more frequently than males or at the same rates? The gender/cohort question remains unanswered by current research; having an answer would offer us a much clearer crystal ball regarding the driving patterns of older Americans in the next century.

SUMMARY

The women in this group were adapting to any functional and environmental circumstances that caused them to limit or change their driving behaviors. All were familiar with or had availed themselves of public transit or the Independent Transportation Network, a service unique to Portland. However, the presence of viable alternative transportation options did not appear to make the transition from driving to not driving any easier for these women. The general attitude was one of constant adaption until they have to face the actual moment of driving cessation. They did not want to plan for that moment, but would deal with it when it occurs.

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