Driving-related adaptation patterns among elderly drivers in Israel: Description, antecedents and well-being outcomes

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Executive Summary

Objectives: The main objective of the study was enhancing knowledge about and understanding of the phenomena of driving in old age in Israel in order to develop recommendations for effective intervention policies and intervention programs intended to extend the years of safe driving and quality of life for elderly persons. More specifically, the objectives were:

(1) To identify various patterns of driving, including complete cessation of driving, holding a driver's license and the extent of actually using it, and no longer holding a driver's license; (2) To assess the factors that correlate with driving-related patterns of adaptation (driving-related needs, importance of driver's license, driving-related self-efficacy, self-imposed limitations, use of alternative means, psychosocial and socio-demographic characteristics); (3) To determine the associations between the different driving-related patterns of adaptations and general well-being, in terms of self-esteem and satisfaction with life.

Methodology: A stratified random sample was drawn from the Israel Ministry of Transportation. The sample included 50% men and 50% women, aged 70+. Two thirds of them had a driving license and one third of them were persons whose license had not been renewed up to, but no more than, three years before the sampling process. Names from this list were randomly selected and telephone numbers were located. Participants were contacted by telephone and asked to take part in a study on driving behaviors. People who agreed to participate in the study were further screened by telephone according to three criteria: Speaking Hebrew or Russian; holding a driver's license or had one at least three years prior to the study; and mental competence, based on a short telephone test. Persons, who were found to fit, were further interviewed at their homes based on structured questionnaires. Altogether, 860 persons were interviewed (a response rate of 49.2% of those whose telephone numbers were located).

Findings: The sample was divided into three groups according to status of license and actual driving: Licensed drivers (n=670), licensed non-drivers (n=36), and no-longer licensed (n=154). Most of the non-licensed did not renew their license voluntarily. The group of drivers was comprised of more men, Israeli born, younger and better educated people than the two groups of non-drivers. The level of education, percent of persons living with a partner and working decreased along the license/driving status groups from the licensed drivers to the no-longer licensed. The group of drivers also ranked higher on economic status than the group of those without a license. The three groups did not differ in their place of residence, years living in Israel, and volunteering. The drivers systematically reported being healthier than the other two groups as based on self-evaluation of health, visual acuity, number of chronic diseases and number of drugs taken. Regarding psychosocial factors, the drivers reported being less often lonely than the no-longer licensed, related more importance to their driver's license, and reported higher confidence in driving abilities than the two other groups. Need for a car due to physical disability was ranked lower by the drivers than the non-drivers, but no differences were detected regarding other needs for which a car is essential. The drivers drove more often, were less likely to avoid driving under difficult conditions, and used less public transportation than the non-licensed. They were also involved in more car accidents as drivers than the other two groups, but in fewer car accidents with injuries. The drivers started to drive about five years earlier than the no-longer licensed. The significant differences between the three groups indicate a general trend of gradual decrease in personal resources from the licensed drivers through the licensed non-drivers group to the no longer licensed persons. Results of a multivariate analysis indicate that the best predictors of stopping to drive in old age are vision problems, relating less importance to a driving license, worse health, and older age. In general, our findings indicate that the cessation of driving is a progressive process. When facing deterioration in driving capabilities, many elders avoid driving under difficult conditions until they stop driving. This is a difficult process of self-adaptation. One of its expressions in the study is our finding which showed that the licensed drivers ranked themselves higher on satisfaction with life and self-esteem than each of the two non-driving groups. The contribution of driving to elders' well-being is also expressed in the best predictors of each of both indicators of well-being, when controlling for

socio-demographic, health, psychosocial, and driving-related factors, which were: owning a license and driving, relating importance to driving or loving to drive. These findings clearly indicate that driving plays an important role in older persons' well-being. We also found significant gender differences. Women reported less driving experience, and less confidence in their driving abilities than men. Women were also more likely to avoid driving under difficult conditions. In addition, more of the women voluntarily did not renew their driver's license, and ranked lower on well-being.

Recommendations for policy and implementation arising from the study: Considering the importance of driving in old persons' well-being, we suggest investing in policies and programs that will extend the years of safe driving in young and old age, as well as independence and well-being. This can be implemented in a number of ways:

1. Currently Israeli authorities either renew or revoke driving licenses as based on a rapid eye examination and a physician's short report. In order to maintain driving capabilities and prepare old drivers for changes in their driving habits compulsory educational programs for old drivers should be developed and implemented. Such programs will provide more comprehensive assessment than the current diagnoses of driving capabilities, and the recommendations for either cessation or further driving behavior, as well as education for careful driving and self-limitations.

2. In such programs, special attention and reinforcement through education and encouragement should be provided to women or other groups of drivers, who objectively can continue driving but underestimate their driving capabilities.

3. The first step in building such programs should be an evaluation of existing programs and adaptation of the successful ones to Israeli drivers and the various subgroups within it.

4. The Ministry of education should consider driving as one of the basic skills needed to function properly in adult life. Considering this, driving education programs should be included in high school curriculi. Developing attitudes and skills in safe driving should be the major issue in these programs. This will allow all adolescents to start driving with certain restrictions at a relatively young age, ensure

safe driving throughout their lifespan, and extend the years of safe driving in old age. Such programs exist in many of the states of the USA.

5. The limitation of this study is its cross sectional design, which limits our ability to assess causality among the various factors. Considering this, and the prospect that new cohorts of elders will be comprised of people with higher education and economic status and with higher percents of drivers, especially among women, lead us to suggest conducting longitudinal studies of old drivers on a regular basis, in order to accumulate updated data on driving-related issues and adjust the policies and programs to the changes in the drivers' characteristics and needs.

6. Inexpensive and comfortable public transportation should be further developed in order to enable frail and physically handicapped people, who cannot drive, or lack financial resources to maintain mobility, independence, and well-being for longer years.

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1. Introduction

In postmodern societies driving is considered a basic skill, allowing mobility for practical and leisure purposes as well as active social involvement. Possessing a driver's license and the prerogative of driving is of special value for older persons as it allows them to maintain a non-age related and non-stigmatized identity, thus contributing to their perceived independence and self-esteem (Eisenhandler, 1990; Hakamies-Blomqvist & Washlstrome, 1998). However, car accidents have become the 'hidden epidemic' in postmodern societies (World Health Organization, 2003), and, in comparison to younger age groups, the percentage of elderly persons involved in car accidents as drivers and as pedestrians is relatively high, and their injuries are more often fatal. Controversial findings are reported regarding the question of whether driving at old age increases the risk for occurrence of car accidents. Despite this, and the high variability in elder's health and functioning, age-related licensing testing regulations are discriminatory, and undermine the current approach of empowering elderly persons, and enabling them to continue living independently as long as possible in their natural environments. Furthermore, studies show that cessation of driving in old age accelerates dependency, depression, decline in physical functioning, and social contacts (Marottoly et al., 1997; Fonda, Wallace, & Herzog, 2001; Ragland, Satariano, & MacLeod, 2005). Cessation of driving also increases mortality (Foley, Heimovitz, Guralnik, & Brock, 2002), even when alternative transportation is available (Baily, 2004; Gilhooly, Hamilton, Gow, Pike, & Bainbridge, 2004). In addition, elderly persons who cease driving are at a higher risk for entry into long-term-care facilities, even if in similar health conditions (Freeman, Gange, Munoz & West, 2006). Therefore, societies have to find the golden pathway in addressing this dilemma for the benefit of all - the elderly and society at large. Finding effective solutions depends on acquiring enough knowledge and understanding of the phenomena of driving at old age. Since behaviors, as well as perceptions of behaviors, are culture-dependent, it is important for every society to develop its own database.

2. Objectives of the study

This study was designed to enhance knowledge about and understanding of the phenomena of driving in old age in Israel. More specifically, the objectives were:

(1) To identify various patterns of driving, including complete cessation of driving, holding a driver's license and the extent of actually using it, and no longer holding a driver's license.

(2) To assess the factors that correlate with driving-related patterns of adaptation (driving-related needs, importance of driver's license, driving-related self-efficacy, self-imposed limitations, and use of alternative means, psychosocial and socio-demographic characteristics).

 (3) To determine the associations between the different driving-related patterns of adaptation and well-being, in terms of self-esteem and satisfaction with life.

3. Hypotheses

A. **Driving-related adaptation patterns (DAP), life satisfaction and self-esteem**

A.1. Life satisfaction and self-esteem are higher among those holding a driver's license than among those who gave up their license or whose license has been revoked, and are higher among those who employ "normative" or successful" patterns of DAP than among those who employ "pathological" patterns of adaptation.

B. **Driving-related adaptation patterns and independent variables**

B.1. People who are younger, have better health, better vision and hearing, a higher level of education and a higher economic status, who started driving at a younger age, and who were involved in fewer car accidents, are more likely to continue driving. Men are more likely than women to keep their driver's license and to continue driving.

B.2. People who have greater mobility needs due to a handicap or for other reasons are more likely to keep their driver's license and to actually drive.

B.3. People who can depend on family or friends to drive them, and /or have available and accessible public transportation are more likely to stop driving than their counterparts.

B.4. People who have greater mobility needs due to a handicap or other reasons are more likely to own a car, to own a bigger car, and to have assistive devices in their cars.

B.5. People who are younger, have better health, better vision and hearing, a higher level of education and a higher economic status, who started driving at a younger age, and who were involved in fewer car accidents, are more likely to use successful or normative patterns of compensation (continue driving with limitations and/or using public transportation) than those choosing the pathological pattern (home bound)**.**

B.6. People who score higher on driving importance and driving-related self-efficacy are more likely to continue driving than people who score lower on these variables.

C. **Driving-related self-efficacy**

C.1. Driving related self-efficacy is directly and positively correlated with self-esteem.

C.2. Subjective evaluation of one's general health, vision and hearing, as well as level of education and self-assessed economic status, directly and positively correlate with driving-

related self-efficacy.

C.3. Age, and the age the license was issued, are negatively correlated with driving-related self-efficacy and perceived importance of driving.

C.4. Women score lower than men on driving-related self-efficacy, and importance of driving.

4. Methods

Sample and process: The Israeli Ministry of Transportation provided a stratified random sample of old drivers (aged 70+), 4000 men and 4000 women. Two thirds of them had a driving license and one third of them were persons whose license was not renewed up to three years before the sampling process. Names from this list were randomly selected and telephone numbers were located. Participants were contacted by telephone and asked to take part in a study on driving behaviors. Those who agreed to participate in the study were further screened by telephone according to three criteria: 1) whether they speak Hebrew or Russian; 2) hold a driver's license or had one at least three years prior to the study; 3) mental competence, based on 8 questions from a scale designed to assess cognitive functioning by telephone (Schnaider et al., 2003). Persons who successfully passed the mental test, and were found to fit the two other criteria, were asked to allocate time for a home interview. Before the interview, they were asked to sign a consent form, and informed that they could stop the interview if they choose to do so at any time. This procedure of telephone screening and interviewing was repeated until we reached 860 participants. Information about the number of dropouts is presented in Table 1. Altogether, we conducted home interviews for 860 persons out of 1747 names that were pulled out of the original list (a response rate of 49.23%). If we consider as the total sample only those whom we reached by phone, then the response rate increases to 56%. The response rate negatively correlated with age group, so that it decreased from 52.6% in the youngest group (aged 70-75) to 33.9% in the oldest group of people aged 86+. The distribution of the participants in the study according to gender is the same as that of the total sample received from the Ministry, with 50.2% men and 49.8% women. Among persons whose telephone numbers were located, 20% could not be reached after 5 telephone calls, due to either wrong numbers or disconnected telephones, and 57% refused to participate. Death or health/functional limitations were causes for 18.6% of dropouts, and 4.4% due to change of address.

Questionnaire: The questionnaire was developed on the basis of a theoretical model, current literature, and the outcomes of an exploratory qualitative study that focused on patterns of driving of older Israelis. The methodology used in the exploratory study was based on grounded theory (Glaser & Strauss, 1967; Strauss, A. L., & Corbin, 1990). The questionnaire was pre-tested in 20 interviews with old drivers, at which time it was further

revised, and then translated to Russian and back translated according to the accepted procedure.

Dependent variables

Driving-related adaptation patterns were measured based on three dimensions of adaptation: *Selection*- by questions about whether the driver still holds his/her driver's license (yes/no), and whether they actually drive (yes/no), or if not, the reasons for cessation of driving; *Optimization* – by questions about car ownership (yes/no), and if positive, questions about car size (big/medium/small), assistive devices in the car (yes/no) and description of the devices to the "yes" answer (due to lack of distribution on the categories of responses, these data were not included in the report); *Compensation* – by a number of questions: 1) Frequency of driving at the time of the interview and two years prior to the interview or prior to cessation of driving, 2) Degree of avoidance of difficult driving conditions, which was assessed by 16 different conditions and combined into an index based on the average score of the 16 responses, 3) Use of alternative transportation modes, such as being driven by a relative, with seven options and yes/no responses. 4) Frequency of use of public transportation. These questions were developed on the basis of previous studies (Baily, 2004; Gilhooly et al., 2004; Ragland et al, 2004; Siren & Hakamies-Blomqvist, 2004), the conditions in Israel, and an exploratory study. Based on the responses to the above questions drivers were divided into three categories: Successful, who continue to drive and reach all the places (100%) they used to in the past and are still relevant for them; normative - driving with compensations such as increased use of public transportation or walking, driving with proxy, etc., while reaching between 50%-99% of places relevant for them; and pathological - not driving and reaching less than 50% of the relevant places. Another division was made according to driving status: Licensed and driving; licensed and not driving; and no longer licensed. The characteristics of all the constructed indices are presented in Table 2. Driving-related adaptation patterns were considered independent variables in reference to well-being, which was evaluated by two measures: *Self-esteem* - through Rosenberg's (1965) self-esteem scale, which is comprised of 10 items measuring personal dispositions on a 5 point Likert-type scale (higher scores indicating higher self-esteem). Cronbach's alpha for this scale was found to be moderate (0.73) (Table 2). *Life satisfaction* was assessed by the degree to which respondents are satisfied with 11 areas of life including their physical health, mental abilities, relationships with friends and family members, ability to help the family, with life in general (Carmel & Bernstein, 2003), with their standard of living, achievements in life, social activities, leisure activities, involvement in society, and feeling safe (Cummins, Eckersley, Pallant, van Vugt., & Misajon, 2003). All the responses were

graded on a 5-point scale, from 1=not at all satisfied, to 5= very satisfied.
Cronbach's alpha for this scale was 0.85. Higher composite scores indicate higher levels of life-satisfaction.

Independent Variables

1) Socio-demographic variables included age, gender, level of education, self-assessed economic status, place of birth, year of immigration to Israel, marital status, number of children, place of residence, working for pay and volunteering. 2) Driving history was assessed by responses to questions about self and/or family/friends involvement in car accidents, age when the first driver's license was issued, and frequency of driving in the past, 3) Health status was measured by an item for self-evaluation of one's general health, on a 6-point scale, "yes/no" answers to a list of 12 medical conditions (AMD and glaucoma included) that had been assessed by a clinician, and whether or not the person requires eye glasses. Vision was initially assessed by self-evaluation of visual acuity on a 6 point scale, followed by "yes/no" answers to 4 questions regarding difficulty to see at long distances and short distances. Hearing was evaluated by two questions: Self-evaluation of hearing competence, and use of a hearing aid. 4) Driving-related need due to handicap or physical limitation was assessed by single question on a 6-point Likert scale (1= to a great extent to 6= not at all), and the extent of use of car for various needs included 11 items, with responses given on a 6-point scale. The index was built on the average scores (Cronbach's alpha=.86). 5) Reliance on support in transportation was assessed by 2 items asking: "To what degree do you trust your family/friends to a) drive you wherever you need and b) when you are sick", using a 6- point scale of responses. 6) Availability, accessibility and use of public transportation were assessed by items referring to distance and cost of public transportation, and frequency of using various kinds of public transportation. In addition an open question addressed the barriers to using public transportation (the responses to this question have not yet been analyzed). 7) The importance of driving was measured by questions referring to the importance of the driver's license, love of driving, and a 9 item index asking about the subjective importance and role of driving in one's life (Cronbach's alpha=.85) (Eisenhandler, 1990; Gilhooly et al., 2004; Parry et al., 2004; Yassuda et al., 1997). 8) For assessing self-efficacy, the driving related self-efficacy measure was used (Bandura, 2001). It included 15 items relating to different driving situations and ratings from "1= cannot do at all to 10= certainly can do" on the degree of confidence in driving in each situation. The index was built on the average score of responses to all items (Cronbach's alpha=0.96) (Table 2). In addition, a single general item was included – "In general, to what extent do you feel confident in your driving abilities?" with a 6-point scale

from 1=not at all confident to 6=very confident. Social support was evaluated by two measures: A single question asked "In general, do you feel lonely"? Responses were graded on a 5-point Likert scale from 1=all the time to 6=never. In addition, an index was built on the basis of level of agreement to three statements referring to availability of social support in case of need, closeness and trust in close people, with a 5-point scale for responses (Table 2).

Statistical analyses

Univariate associations between independent and dependent variables were assessed by Chi-Square tests, and Spearman and Pearson correlation coefficients, according to the scales of the variables and indices. Indices for similar items were created on the basis of factor analyses, and internal reliability was evaluated by Cronbach's alpha. In order to assess the unique contribution of the various independent variables to the explanation of the dependent variables, multivariate analyses on the dependent variables, life satisfaction, self-esteem, driving-related self-efficacy, and driving status were performed by using linear regression analyses. In the first stage, the independent variables that were found to significantly correlate with either self-esteem or satisfaction with life were included in the multiple regression equations of these variables. In the second stage, only the variables that were found to be statistically significant in any of the regression analyses were included in the final equations, which were presented in 4 panels, so that a new group of independent variables was added progressively in each panel. The same procedure was used for building the final equations for the self-efficacy variables.

5. Results

Comparisons among three groups according to driving license and actual driving

The sample was first divided into three groups according to status of license and actual driving: Licensed drivers (n=670), licensed non-drivers (n=36), and no longer licensed (n=154). A comparative description of the three groups and the total sample and on socio-demographic variables is presented in Table 3. As can be seen, the group of licensed drivers was significantly younger than the other two groups and was comprised of a higher percentage of men and persons with a higher level of education. The group of those who no longer held a license was the oldest, with the lowest percent of people with above high school education (43% versus 53% and 55%), and the highest percent of women (61% versus 53% and 47%). In addition, in comparison to the other two groups, a higher percentage of licensed drivers were Israeli born. More among the licensed and those who had a license but did not

drive worked for pay in comparison to those who no longer hold a license. The percent of persons married or living with a partner decreased along the license/driving status groups from the licensed drivers to the no-longer licensed. The group of licensed drivers also ranked higher on economic status than the group of those without license. The three groups did not differ in place of residence, years in Israel, and volunteering. Although we prepared questionnaires in the Russian language, our sample included only one new immigrant from Russia.

The licensed drivers systematically reported being healthier than the other two groups as based on self-evaluation of health and visual acuity. Regarding number of chronic diseases, and number of drugs taken on a regular basis those who held a license (whether driving or not) ranked themselves lower. However, the group of licensed non-drivers ranked higher than the other two groups on hearing. The three groups did not differ in the use of aiding devices such as hearing aids or eye glasses (Table 4). The distributions on psychosocial coping resources are presented in Table 5. Licensed drivers report being lonely less often than the no-longer licensed, but score lower on trusting family or friends with transportation in case of need. The scores on the index of driving self-efficacy differ among the three groups, indicating a trend whereby the licensed drivers score highest, the group of licensed but no-longer driving lower, and the group of no-longer licensed lowest, while according to the average score on the single general question for self-efficacy, the group of licensed but not driving ranked itself lowest. Need for a car due to physical disability was ranked lower (higher score=lower need) by the licensed drivers group in comparison to licensed non-drivers. The three groups did not differ on an index evaluating other needs, for which a car is essential. However, the licensed drivers ranked the importance of the driving license higher than the other two groups, but not the love of driving (Table 6).

Regarding patterns of driving, the drivers tend to drive more times per day than the licensed non-drivers drove before they had stopped driving, but less than the no-longer licensed group drove before losing their license. The licensed drivers were also less likely to avoid driving under difficult conditions than the other two groups when still driving, and a significantly lower percent among them arrive to the various sites by alternative means or use public transportation. The group of people no-longer with a license uses public transportation more often than the two licensed groups (Table 7). The three groups also differ significantly in their driving history (Table 8). Both groups of licensed drivers (driving and not driving) received their driving license at a significantly younger age than those without a license. The licensed drivers were involved in more car accidents as drivers

than the other two groups, but in fewer car accidents with injuries. Significantly more of them had serious accidents in their families' and friends' history.

These findings, which show significant differences between the three groups, indicate a general trend of gradual decrease in personal resources from the licensed drivers through the licensed non-drivers group to the no longer licensed persons. On some of the variables the last two groups scored quite similar, while on a smaller number of variables the two licensed groups scored similar. Considering all the significant differences, it is not surprising that the licensed drivers ranked themselves higher on satisfaction with life and on self-esteem than each of the two non-driving groups (Table 9).

Comparisons between drivers and non-drivers

Based on the similarity between both groups of non-drivers, they were combined into one group and all the univariate analyses were repeated (Tables 10 to 16). As expected, the findings were quit similar to those reported on the three groups: When compared to the non-drivers, more of the drivers were males. The drivers ranked themselves significantly higher on almost all personal resources including being younger, better educated, living with a partner, of higher economic status, born in Israel, working for pay, and volunteering (Table 10). They were also healthier according to self-rated health, number of chronic diseases, number of drugs consumed and vision acuity (Table 11). The drivers reported being less lonely than the non-drivers, but did not differ on social support and ranked lower on trusting family members to be driven if necessary. As can be expected, the drivers ranked significantly higher on both measures of driving-related self-efficacy (Table12). The drivers had less need for transportation due to physical limitations and related more importance to having a driving license. The results for extent of using the car for various needs (Table 13), and for frequency of driving (Table 14) were similar in both groups because for the non-drivers, these questions were formulated so that they referred to their habits prior to cessation of driving (Table 13). As can be expected, the drivers reported less avoidance of driving in difficult road and weather conditions than the non-drivers prior to cessation of driving. They also reported a lower use of all kinds of public transportation than the non-drivers, and assessed the cost of public transportation as less expensive. In both groups, over ninety percent reported high availability of public transportation (Table 14). On average, the drivers started driving about 4.5 years earlier than the non-drivers, and as drivers

experienced relatively more car accidents (Table 15). The drivers scored higher on satisfaction with life and self-esteem (Table 16).

Results of a multivariate logistic regression showed that the best discriminating variables between drivers and non-drivers in order of importance were: vision, importance of driving license, health, and age, so that elders who stopped driving reported having significantly more vision problems, related more importance to their driving license, ranked themselves lower on health status and were older. Driving-related self-efficacy was close to significance.

The small group of people (4%) holding a driver's license but no longer driving could be viewed as a group in transition. When compared to the two other groups, regarding some resources they resembled the drivers (higher level of education, younger age at getting a driver's license and age at starting to drive, less chronic diseases than the group with no license), while on other variables (older age, place of birth other than west, lower self-evaluation of health status, lessened role of driving in life, greater use of alternative means of transportation to arrive at desired destinations), they more closely resembled the non-drivers. With respect to two interesting variables, this intermediate group was significantly different from the other groups in relating much less importance to their driving license, and evaluating their driving abilities much lower (24% of the group felt unselfconfident versus 0% of the drivers and 5% of the not licensed - when still driving).

Comparisons among three driving-related adaptation groups

The sample was further divided into three adaptation groups: Successful, normative and pathological as based on two variables, drivers versus non-drivers and percent of possible venues to which the individual arrives from the total places to which he/she was accustomed to going either by driving or by other means such as being driven, use of public transportation or walking. The "successful" group included only drivers who continued to get to 100% of the locations they had gone to in the past. The "normative" group was comprised of people who reported reaching 50% to 99% of the locations they used to, either by driving their car or by means other than driving. The "pathological" group consisted of people who reached less than 50% of the locations they used to go to in the past. The comparisons of these groups on socio-demographic variables (Table 17) indicate that the successful and normative groups were significantly younger than the pathological group, with a higher percentage living with a partner, and still working, and working more hours, while none of the interviewees in the pathological group were working and only 3 participants in this group were volunteering. The groups did not differ on gender, education, and economical status, place of residence place of birth and years in the country. Significant

differences were found among the three groups on indicators of health and
functioning. People in the successful adaptation group rated themselves as healthier than
those in the other two groups according to self-rated health, number of chronic diseases,
number of drugs taken, vision and hearing, but not on using assistive devices such as glasses
and hearing aids (Table 18). Regarding psychosocial resources, the successful and
normative groups ranked themselves significantly lower than the pathological group in
feelings of loneliness. The successful group, however, ranked lower on trusting family or
friends to help with transportation than the normative group, probably because they had not
tried it yet. As was expected, the successful group ranked significantly higher on one of the
measures of driving-related self-efficacy, but although the trend was similar, the results on
the index were not statistically significant (Table 19). Regarding needs, consistent with the
reports on health status, the pathological group ranked higher than the two other groups on
need of car due to physical disability. The successful group ranked higher than the two other
groups on importance of driver's license but not on love of driving (Table 20). Regarding
patterns of driving (Table 21), the pathological group scored highest on avoidance of
driving under difficult conditions, arrived to relatively more places by other means than self-
driving. The normative group, however, reported using more often public transportation
than the successful and pathological groups, probably because the pathological group has
more difficulties in using it, while those in the successful group use their cars. Except for
the proximity of train stations, no significant differences were found on availability and
perceived cost of public transportation. The three groups differed significantly on age of
starting to drive: On average, the successful group started driving at the youngest age (24
years), while the normative began a year later (25 years), and the pathological group started
driving at the oldest age (30 years). The same order appeared in the results regarding the
percents reporting accidents as drivers, so that significantly more persons reported being
involved in car accidents in the successful group, less in the normative group and least in the
pathological group, but the groups did not differ significantly in occurrence of accidents in
the last two years or six months and on serious accidents to relatives (Table 22). As can be
expected, the successful group reported significantly higher levels of self-esteem and
satisfaction with life while the pathological group reported the lowest levels on these
variables (Table 23).

In order to assess the role of driving in old persons' wellbeing, multiple regression analyses
were conducted on self-esteem and satisfaction with life. Pearson correlation coefficients of
all the independent variables with these dependent variables are presented in Table 24.
Based on these analyses independent variables that were found to significantly correlate
with either self-esteem or satisfaction with life were included in the multiple regression

equations. In the next step, the variables that were not statistically significant in any

of the two regression analyses were excluded. The results are presented in four panels; in the

first only socio-demographic variables were included, health status variables were added to

the second, psychosocial resources were added to the third panel, and variables related to

driving and use of public transportation were added to the fourth (Tables 25-28).

The results for the explained variability of life satisfaction (LS) are presented in Table 25. In

the first panel, all four socio-demographic variables were found to significantly contribute to

the explanation of LS, so that women and less educated persons (less than a university

degree) were less satisfied with their lives than their counterparts. In addition, the older the

people were, and the lower they ranked on economic status, the lower they scored on LS. In

the second panel except for gender, all of these variables remained statistically significant.

The indicators of health status: self-rated health, vision, and the number of diseases, added

significantly to the explanation of LS, indicating that the healthier people are the more

satisfied they are with their lives. The health variables added about 15% to the 12% of

explained variability by the first panel. The third panel with the psychosocial variables of

social support, and reliance on family for mobility added another 16%, and the fourth panel

of driving-related variables, an additional 5%. Altogether the model explained 48% of the

variability in satisfaction with life. The best predictors of LS in the final model were an

interaction of being in the driving group and perceived importance of driver's license, so

that those who continued to drive and gave high importance to driving were more satisfied

with their lives than their counterparts. The second best explanatory variable was driving

versus non-driving. Then, in order of importance, loneliness, importance of driver's license,

social support, driving-related self-efficacy in different conditions (index), number of

chronic diseases, self-rated health, economic status, general assessment of driving-related

self-efficacy, number of drugs consumed, avoidance driving under difficult condition, and

education were significant contributors to the explanation of LS. In another regression

analysis, where only the driving-related factors were included (not presented), all of these

variables explained 19% of the total variance of LS. These findings indicate that driving-

related factors play an important role in old persons' well-being, even when controlled for

other important factors such as health and social support.

A smaller percent (26%) of the variability of self-esteem (SE) was explained by the same

model (Table 26). The socio-demographic variables explained only 3% of the variance in

SE, the second panel with health variables added another 5%, the psychosocial variables

added (panel 3) 14% percent to the explained variance, and the addition of the driving-

related variables added another 4%, for a total of 26%. Although in the first panels (1 or 2),

gender, economic status, and three indicators of health and functioning significantly explained SE, they lost power in the final equation. The best predictors of higher SE in the final panel in order of importance were: The interaction between being a driver and love of driving, still driving, loving to drive, experiencing less feelings of loneliness, percent of places reached by means other than driving, social support, and the general evaluation of ones driving-related self-efficacy. These findings indicate that driving-related factors play an important role in old persons' SE, even when controlled for other important factors such as health, education, economic status and psychosocial variables. This was further supported in a regression analysis conducted on SE with only driving related variables (not presented), where the explanatory variance reached 13%.

Driving-related self-efficacy

One of the purposes of this study was to promote the understanding of elderly persons' perceived driving-related self-efficacy. This was assessed by two variables: one consisted of a single item (DSE), and the other an index of 15 items (CD). The correlation between these two variables was high (r-.55), yet indicated that they assess somewhat different phenomena, with the single item providing a general assessment of one's perceived self-efficacy in driving, and the index relating to confidence in driving in a number of specific road conditions. As presented in Tables 5,12,19,24 a number of variables significantly correlate with DSE and CD: Licensed drivers ranked higher on DSE and CD than licensed non-drivers and no-longer licensed, women ranked lower on DSE and CD. Statistically significant correlations were found between both measures of self-efficacy and a series of indicators of personal resources. The higher people ranked on education the more confidence they had in driving under difficult conditions (CD), and the better their economic status, the higher were their scores on DSE and CD. In addition, the younger and healthier people were (according to all measures of health and functioning), as well as less lonely and with more social support, the more confident they were in their driving abilities (according to DSE and CD). DSE and CD correlated positively with the extent of using the car, role of driving, importance of license and love of driving, and negatively with avoidance of driving in difficult conditions and using other means of transportation than driving one's car. The older people were when starting to drive, the lower they scored on DSE and CD. Statistically significant positive correlations were found between DSE and CD scores and respondents' scores on self-esteem and satisfaction with life (Table 24).

The results of a regression analyses on DSE and on CD appear in Tables 27, 28. The results indicate that the comprehensive model explains 37% of the variance of DSE. The best predictors from the first three panels were gender, self-evaluation of vision, and social

support. These variables lost their explanatory power in the final model. The percent of variance explained in the third panel was 13%. The driving-related variables added 24% to the explained variance, so that the final model explained 37% of the variance on this variable. The best predictors of self-efficacy in the final model in order of importance were: Less avoidance of driving in difficult conditions, love of driving, role of driving, importance of driving license and social support.

The same model explained 58% of the variance on the index of CD. While the first panel with the socio-demographic variables explained 11% of the variance, the second to which health variables were added, explained 18%, social support added only 1% to the explained variance by the second panel, and the driving related variables added another 40% to the total of 58%. The variables that remained significant in explaining CD in the last panel in order of importance were: Less avoidance of driving in difficult conditions, love of driving, gender, self-evaluation of hearing, percent of places arrived by other means than driving, and education.

Gender differences

Comparisons of men and women on socio-demographic characteristics indicate that the percents of men and women in the sample were quite similar (50.2% men and 49.8% women, as expected, due to the stratified sampling. The women in the sample reported higher education levels than the men. In addition, a higher percentage of the women were of Western origin, while more men were of Asian and African backgrounds. Regarding work outside the home, significantly more men reported working, and on average, working more hours, but more women reported volunteering, with no gender differences in hours of volunteering. No differences were found regarding self-reported economic status but a lower percentage of the women were married or living with a partner (Table 29). Significant gender differences were found on indicators of health and functioning, so that women ranked lower than men on self-perceived health and vision and higher on number of chronic diseases and drugs taken. No significant differences were found on hearing, and use of eye glasses. However, a significantly lower percentage of women reported using hearing devices.

Regarding psychosocial coping resources, women more often reported feelings of loneliness, but did not differ from men in their trust in family and friends' assistance in transportation in case of need. As expected, women scored lower on both measures of perceived self-efficacy in driving Table 31. Yet, in contrast to the expected, gender differences were not found in the necessity of car due to physical disability, or for other

needs, as well as in perceived importance of the driving license or the love of
driving (Table 32).

Women scored lower than men on driving status and on almost all the indicators of patterns
of driving (Tables 3 and 33): There were significantly less women in the group of licensed
drivers (47% versus 53%), while there were significantly more women in the groups of
licensed non-drivers (53% versus 47%), and no longer licensed (61% versus 39% - Table 3).
Regarding driving patterns, women reported driving less often than men to all sites at the
time of the study and two years earlier, were more likely to drive with self-limitations, more
often avoided driving due to difficult road or climate conditions and ranked themselves
lower than men on driving-related confidence. However, women compensated for this by
using more public transportation in town, and other means for arriving to important places.
Both genders ranked similarly on the ease of use of public transportation, reporting a high
level of availability of buses and taxis, but significantly less proximity to the train. In
addition, both genders similarly perceived the price of public transportation so that about
57% viewed it as reasonable, and about 23% didn't know, probably due to not using it
(Table 33). Both genders were similarly dispersed in the three adaptation groups.

Regarding history of driving, the findings presented in Table 34 indicate that on average
women received their driving license at an older age than men (about 5 years older). No
significant differences were found with regard to recent accidents as drivers, except for
accidents as a driver with injuries, where women reported being involved in fewer
accidents. More men than women were professional drivers, and their license was revoked
or driving discontinued as per a physician's order, whereas more women than men chose to
discontinue driving on their own volition. Finally, similar to previous Israeli findings,
women ranked themselves significantly lower than men on both indicators of wellbeing -
satisfaction with life and self-esteem. However, the average score of both groups was
relatively high, above 4 on a scale from 1 to 5 (Table 35).

Considering the gender differences found in status of driving and patterns of driving, we
probed the question - what is the role of driving and mobility patterns in elderly men and
women's well-being by using two linear regression analyses. The results are presented in
Tables 36-39.

Life satisfaction of men was explained mainly by a younger age, better economic status,
better health, higher social support and less feelings of loneliness, being a driver,
importance of driver's license, confidence in driving, DSE, and the interaction between
driving status and importance of driver's license. The whole model (panel 4) explained 48%
of the variance of men's LS, and 49% of the women's LS. The best predictors of higher

women's LS were higher education, economic status, and health (according to self-rated health, number of chronic diseases and number of drugs taken), social support, and less feelings of loneliness. Among the driving-related variables, the best predictors were having a driving license, confidence in driving in difficult conditions, and driving self-efficacy (Table 36, 37).

Regarding self-esteem, the explained variance among men was 34%, while among women it was only 27%. Among men, the best predictors of SE were: Reliance on family for assistance in being driven for medical purposes, less loneliness, importance of driving license, less avoidance of driving under difficult conditions, higher percent of places arrived, DSE, and the interaction between being a driver and relating importance to the license. Among women, from the first three panels only the number of drugs taken, social support and feelings of loneliness were statistically significant predictors. Among the driving-related variables, only love of driving, the interaction between love of driving and driving status, and DSE were significant predictors (Tables 38, 39).

Men and women were also compared on the extent of using the car (currently for the drivers, and while still driving for the non-drivers). The results, which are presented in Table 40, in order of importance for the total sample, indicate that both genders use the car mostly for visiting family and friends, shopping and errands. Next, for medical purposes, and least for various leisure activities, which are ranked in the middle of the 6-point scale. Men use the car significantly more for going to the movies or theaters, lectures, and physical fitness, while women use it more for trips.

6. Discussion

The main objective of the study was enhancing knowledge about and understanding of the phenomena of driving in old age in Israel. More specifically, the objectives were:
(1) To identify various patterns of driving, including complete cessation of driving, holding a driver's license and the extent of actually using it, and no longer holding a driver's license;
(2) To assess the factors that correlate with driving-related patterns of adaptation (driving-related needs, importance of driver's license, driving-related self-efficacy, self-imposed limitations, and use of alternative means, psychosocial and socio-demographic characteristics); (3) To determine the associations between the different driving-related patterns of adaptations and general well-being, in terms of self-esteem and satisfaction with life.
The analyses, thus, focused on explaining differences in well-being among groups according to their driving status, their driving-related patterns of adaptation to old-age losses, and genders by socio-demographic, health, psychosocial, and driving-related variables. The

antecedents of driving-related self-efficacy were assessed as well. Finally, models
for assessing the roles of these groups of variables in the well-being of the various groups of
participants were put to test.

In general, the sample comprised a selective group of elderly persons who either held until
recently or still hold a driving license. Considering the medical and vision tests that old
drivers have to go through every year in order to renew their driving license, and our
selection which was based on success in a telephone cognitive test, the vast majority of
participants in this study were still healthy and functioning independently or with some
minor limitations. It was, therefore, not surprising to find that their scores on both indicators
of well-being - self-esteem and satisfaction with life - were quite high. For example, in
comparison to the 1994 national of elderly aged 70+, who were randomly selected and were
cognitively and physically able to participate in an interview, these values were significantly
lower (Carmel, & Bernstein, 2003).

Driving status and well-being

The sample was divided into three groups based on holding a driving license and actually
driving: Licensed drivers (n=670-78%), licensed drivers who do not drive (n=36-4%), and
no-longer licensed (n=154-18%). Distributions on most of the variables indicated a trend
whereby the licensed drivers scored highest on personal resources including younger age,
socio-economic status, health, frequency of feeling lonely, and driving-related self-efficacy,
the licensed but no-longer driving score lower, and those who no-longer hold a license score
lowest. Since both groups of those who did not drive scored similarly on most of the study
variables, further analyses were conducted on drivers versus non-drivers (with or without a
driver's license). Furthermore, although all the participants were asked about their needs for
driving, driving habits and role of driving, whether current (for drivers) or before the
cessation of driving (for non-drivers), the drivers expressed less need for driving due to
physical limitations and scored higher on a number of driving-related variables including
self-confidence in driving, importance of driving license, and the role of driving in their
lives. The drivers also reported less avoidance of driving under difficult road conditions. It
is important to note that among the non-drivers, 87.3% voluntarily did not renew their
driving license. These findings clearly indicate that many old Israelis are conscientious
drivers. When their confidence in their driving abilities decreases, they take the initiative
and either drive less under certain conditions such as night, heavy traffic, long distances,
bad weather and other difficult road and traffic conditions, or voluntarily do not renew their
driving license. Our findings support previous reports from other countries (Brabyn et al.,
2005; Burkhardt et al., 1996; Charlton et al., 2006**;** De-Raedt & Ponjaert- Kristoffersen,

2000; Ragland et al., 2004; Sabback & Mann, 2005, Xuehao Chu Center for Urban Transportation Research, 1994). There are also studies which show that elderly drivers are willing to endorse certain restrictions more than others. For example, older Canadian drivers are more willing to endorse those restrictions that have a smaller affect on their autonomy and ability to access the community, such as driving with vehicle adaptations and driving only during daytime hours, and are less willing to endorse restrictions such as limiting distances and having another licensed driver in the car (Marshall et al., 2006). Considering this, further analyses should be conducted on our data to assess the prevalence of various kinds of self restrictions. Results of a multivariate logistic regression pointed out the best discriminating factors between drivers and non-drivers, indicating that elders who stopped driving were those who reported having significantly more vision problems, related less importance to their driving license, ranked themselves lower on perceived health and were older, and less confident in their driving capabilities. These findings support previous studies focusing on the specific functioning factors which cause driving cessation, most of which indicate that among the medical factors, vision problems and medical conditions affecting vision are the major reasons for limiting driving and driving outcomes (Ball, 1997; Freeman, Gange, Munoz & West, 2006; Freeman, Munoz, Turano & West, 2005; Gilhotra, Mitchell, Ivers & Cumming, 2001; Knigton, Reuben, Rogowski & Lillard, 1994; Owsley et al., 1998; Ragland, Satariano & MacLeod, 2004; Shinar & Scheiber, 1991). The more recent and longitudinal studies focus on evaluating specific cognitive functions in addition to general health (Anstey et al., 2006; Edwards et al., 2008). Cognitive evaluations were, however, not performed in our study, since one of our selection criteria was successfully passing a cognitive test.

The small group of people holding a driver's license but not driving resembled the drivers in some characteristics and the no-longer licensed in others, yet it scored lower than both groups in perceived importance of the driving license and in self-confidence in driving abilities. As such, it should be considered a group in transition, exemplifying the gradual process of cessation driving that elders go through.

In general, our findings indicate that in terms of social, psychological health and functioning resources, as well as driving-related experience and functioning, the group of drivers is a stronger social group, while those who do not drive (with or without a driver's license) are the weaker group. This resources-based relatively objective assessment is supported by the groups' subjective self-evaluations of their well-being, in terms of self-esteem and satisfaction with life, which were ranked significantly higher by the drivers in comparison to the non-drivers.

Driving-related adaptation groups

Based on Baltes's theory (Baltes & Baltes, 1990), the sample was divided into three groups of persons who were assessed with regard to their adaptation to old age-related losses. Those deemed "successful" were people who were still driving and arriving at all the important and relevant places for them (29% of the sample). The normative group included those who had partially changed their lives due to various limitations, and reached less of the places that they used to in the past (from 50% to 99%), by driving or by means other than driving (68%), and the, so called pathological group of persons who no-loner held a driving license and reduced significantly the percent of places (to less than 50%) that they arrive to (about 3%). Considering that in general, the sample was comprised of healthy and functioning people, the pathological group was significantly small. As could be expected, although these three groups did not differ significantly in most socio-demographic variables, they did differ in their psychosocial resources as well as in their self-evaluation of health and functioning. Persons in the successful group were relatively younger, more of them were living with a partner and working, while no one in the pathological group was working. In addition, those in the pathological group were least healthy and most lonely, with the highest need for a car due to physical disabilities, and ranked themselves lowest on driving-related self-efficacy. As can be expected, the pathological group also ranked itself lowest on self-esteem and satisfaction with life, while the successful group ranked itself as highest.

It is interesting to note that the successful group started driving at the youngest age (24 years versus 30). Similarly, in the division between drivers and non-drivers, on average, the drivers started to drive about five years younger than the non-drivers. These findings indicate that starting to drive at a young age and having more years of driving experience delays the cessation of driving in old age.

The role of driving and driving-related factors in old persons' well-being

In order to assess the unique contribution of the various psychosocial and health resources, as well as the driving needs and abilities, and especially the role of driving in elderly persons' perceived general well-being, multivariate analyses were conducted on the indicators of well-being, self-esteem and satisfaction with life. Our findings indicate that the best predictors of satisfaction with life are related to driving, so that being a driver and relating a high importance to driving explain life satisfaction better than other significant

predictors of satisfaction with life such as indicators of health, social support, loneliness, education, economic status, and driving-related self-efficacy. All of the variables included in our model, explained a rather high percent (48%) of the variance on life satisfaction. The same model explained a smaller variability of self-esteem (only 26%). The best predictors of higher self-esteem in the final panel in order of importance were: Still driving, loving to drive, experiencing less feelings of loneliness, percentage of places reached by means other than driving, social support, and the general evaluation of ones driving-related self-efficacy. In both models the first two predictors of well-being were related to driving and importance or love of driving. Thus, the findings of both analyses indicate that driving-related factors play an important role in old persons' well-being, even when controlling for other important factors such as health, vision, education, economic status and psychosocial variables.

These findings also indicate that both measures of well-being although strongly correlated (r=.59), represent different dimensions of well-being and are explained by somewhat different variables. For example, the same model better explains life satisfaction than self-esteem, and health factors play a less important role in people's self-esteem in comparison to their role in satisfaction with life. Despite this, driving related factors are important explanatory variables of both indicators of well-being.

Confidence in driving abilities of elderly persons

One of the purposes of this study was to promote the understanding of elderly persons' perceived driving-related self-efficacy. This was assessed by two variables: One comprised of a single item (DSE), and the other an index of 15 items (CD). The results of regression analyses conducted on both measures indicate that the best predictors of the general evaluation of one's driving efficacy in order of importance are less avoidance of driving under difficult conditions, love of driving, relating high importance to the driving license and more social support. The same factors also explained the score on confidence in driving as based on 15 items. In addition, better self-reported hearing ability, a higher percent of places arrived by other means than driving, being male and higher education were associated with higher confidence in one's driving. A relatively high percent of the driving related self-efficacy was explained by our model (37% of the variance in general self-efficacy, and 58% of people's confidence in their driving abilities). As could be expected, the driving-related variables contributed most to the explanation of driving-related self efficacy (24% to the explanation of DSE and 40% to the explanation of CD). From all the socio-demographic and psychosocial factors studied, gender, education and social support remained the only significant predictors of driving-related self-efficacy, so that women,

persons with low education and less social support feel less confident in their driving abilities. These factors which are important in contributing to one's general self-esteem, probably also contribute to self-evaluation of more specific abilities, including driving capabilities.

In general, our findings indicate that people who feel less confidence in their driving abilities are more likely to avoid driving under difficult conditions than their counterparts, and these subjective evaluations of driving abilities correlate with health, education, love of driving and importance of driving. However, the direction of causality among these factors cannot be assessed due to the cross-sectional design of our study. Only longitudinal studies can reveal which of the variables influence the others.

<u>Gender differences</u>

The results of comparisons of men and women on socio-demographic characteristics in our sample differ from those previously reported and from the national statistics for older Israeli adults. In contrast to previous reports, the women in our sample reported higher education levels than the men, and similar rather than worse economic status (Carmel, & Bernstein, 2003; Mashav, 2007). A higher percentage of the women were of Western origin, while more men were of Asian and African backgrounds. Although more men reported working for pay, more women reported volunteering. However, similar to the national statistics and previous reports, more women than men reported feeling lonely, a lower percentage of the women were married or lived with a partner, and women ranked lower than men on indicators of health, including self-perceived health, number of chronic diseases and vision, as well as on the study's indicators of well-being – satisfaction with life and self-esteem (Carmel, & Bernstein, 2003; Mashav, 2007). All of these findings indicate that Israeli women holding a driver's license in old age are of higher socio-economic status than the total population of Israeli women in the same age group. Despite this, these women still rank themselves lower than men in health and well-being.

Regarding driving-related characteristics, similar to reports from other countries (Hakamies-Blomqvist et al., 2005; Siren et al., 2004), women in our sample underestimate their driving capabilities. This crucial difference probably explains why despite the advantage in socio-economic resources and the lack of gender differences in age, love of driving and perceived importance of driver's license, the women in our study scored lower than men on driving status and patterns of driving. There were significantly less women in the group of licensed drivers (47% versus 53%), but more women in the groups of licensed non-drivers (53% versus 47%), and no longer licensed (61% versus 39%). Regarding patterns of driving, women reported driving less often than men to all sites at the time of the study and two

years earlier. In addition, more women than men drove with self-limitations and more often avoided driving due to difficult road or climate conditions.

These differences can be partially explained by the gender differences found in the participants' history of driving. On average, women received their driving license at an older age than men (about 5 years older), more men than women were professional drivers, and women tended to drive less frequently than men. These factors indicate that old women have less driving experience than men, in terms of years of driving and frequency of driving, which explains their lower confidence in driving capabilities especially in view of age-related health and vision losses. Less driving experience among women is reported in other countries as well. For example, in Finland, older women have less access to driving than older men, which limits their mobility (Siren & Hakamies-Blomqvist, 2006). Our findings regarding women's disadvantages in driving experience and confidence in driving abilities, as well as in perceived health status and vision, explain the finding that more women than men chose to discontinue driving on their own volition (92% versus 80%). This gender-related phenomenon is quite similar to reports from other countries, where several studies have indicated that, although the percent of women drivers is increasing (Burkhardt et al., 1996; Eberhard, 1996; Rosenbloom, 2001), women are more likely than men to stop driving in old age, and they cease to drive at a younger age than men (Burkhardt et al., 1996; Marottoly et al., 2000). Women are also more likely to underestimate their driving capabilities (Hakamies-Blomqvist et al., 2005; Siren et al., 2004). Studies focusing on factors related to self-cessation or limitations in driving indicate that feelings of driving-related stress (Hakamies-Blomqvist & Washlstrome, 1998), as well as being concerned about an accident or crime and a reduced need for driving (Ragland et al., 2004) were reported as one of the main reasons for self-cessation of driving, especially among women. We actually found that women compensate themselves for driving cessation or driving with limitations by using more than men public transportation in town, and other means for arriving to places important to them.

In conclusion, our findings indicate that the reasons for earlier cessation of driving among women in comparison to men can be explained by the objective factors of less driving experience and worse health. However, our findings as well as those of a previous report, which showed that more elderly men than women with poor vision drove at night (Brabyn, 2005), lead us to suggest an additional and/or alternative explanation. Women seem to be more sensitive and perceptive of their capabilities than men, and are also more likely to admit encountering difficulties, to accept their limitations and adapt to the new conditions. In general, self-limitations and self-cessation of driving are more often outcomes of the

drivers´ subjective evaluations of their capability to drive rather than of objective functioning.

 Finally, it is interesting to note that gender differences related to driving are similar across Western societies despite the current differences in percents of women holding driving licenses and actually driving in these societies.

Use of public transportation

Over ninety percent of the participants reported high level of availability of buses and taxis in terms of proximity, but less proximity to trains. Accessibility was assessed by price of using public transportation. The vast majority evaluated it as inexpensive or reasonable (74.5%) and 23% responded that they do not know because they do not use it. Actually, only 2.3% of the participants evaluated it as expensive. No gender differences were found in this regard. The attitudes regarding the cost of public transportation either express the objectively low prices for senior citizens or/and the fact that this was a selective sample of people from relatively high to middle socioeconomic status (with an average rank of 4.29 on a 6-point scale for economic status and 53% with more than a high school education). Further analyses of our open questions will allow us to assess barriers to the use of public transportation.

In general, our findings indicate that most participants perceive public transportation as easy to use. As can be expected, people who have stopped driving tend to use public transportation more often than those who continue to drive. However, the worse their health and functioning, the less they use it and the less they leave home. For example, the normative group, in which a high percent do not drive, reports using public transportation more often than the successful and pathological groups, probably because the pathological group has more physical difficulties in using it, while those in the successful group use their cars.

Conclusions

Our findings indicate that for a considerable percent of old persons, cessation of driving is a progressive process, a significant percent of those who stopped driving reported doing it voluntarily, and many report driving with self limitations, which indicate that it is a process which started by self-limitations due to loss of confidence and probably to increased driving-related stress. According to current policies, Israeli authorities either renew or revoke driving licenses. Policies for partial restrictions are lacking.

A number of factors were found to be related to early cessation of driving in old age in addition to age, level of education, economic status, being female, social support, health and

vision problems, starting to drive in a relatively older age (around 30 years), less driving experience and low confidence in driving abilities. The best predictors of cessation of driving were vision problems, importance of driving license, health status, and age and driving-related self-efficacy.

There are factors that cannot be significantly changed, there are, however, others that can be manipulated in order to not only extend the years of driving, but also promote safe driving in old age. For example, in driving-related educational programs for old adults, participants can receive individual attention to the various problems that are perceived by them as barriers to driving, as well as a comprehensive diagnosis and help in overcoming some of the problems. In such groups even social support can be created and nourished due to the new acquaintances with people who face similar problems. Such programs are implemented in a number of Western countries. For example, in the USA, many efforts are invested in finding solutions for elderly persons with limitations, in order to enable them to continue driving, as well as in finding alternatives to driving, as part of the societal endeavor of actualizing the principle of equality in accessibility of social services (Baily, 2004; Gilhooly et al., 2004; U.S. Department of Transportation, 1997). Introducing comprehensive driving programs for older adults, which will include all relevant aspects, from a multifaceted diagnosis of health, vision, hearing and cognitive abilities, to educational programs and practical advice in all relevant areas, will not only extend the years of driving in old age but also enhance safe driving. In addition, such programs will create support groups for people with similar problems, reduce feelings of loneliness, which are prevalent in old age and also seen in our sample, and thus promote elderly persons' independence and well-being.

7. Recommendations

1. Our findings indicate that driving-related factors play an important role in old persons' well-being, even when controlling for other important factors such as health status, education, economic status and psychosocial variables. This leads us to suggest investing the needed social efforts in order to prolong the years of driving in old age, which will also promote elders´ independence quality of life and well-being.

2. Currently Israeli authorities either renew or revoke driving licenses as based on a rapid eye examination for evaluating only frontal distance vision, and a report signed by a physician, who often does not know the person, and in most cases, just goes over the list of diseases in the medical file. People who have significant driving limitations, but want to continue driving, find effective ways to overcome these tests despite their limitations. One of the ways to maintain driving capabilities and prepare old drivers for adaptation to age-

related functional losses and changes in their driving habits is to develop appropriate educational programs for old drivers. Such programs can be implemented for older adults as a precondition for renewing the driver's license. In these programs driving capabilities (such as vision, coordination and cognitive speed of processing) can be objectively evaluated much more precisely than in the current crude system of medical evaluation. To those that do have severe objective difficulties, a recommendation to stop driving will be given, while to those that have less severe limitations, appropriate educational programs including directives for driving with limitations as well as various tips for careful driving can be provided. In addition to becoming a more effective evaluation process, such multifaceted policies which include also partial restrictions will be able to convince more effectively drivers with functional limitations to stop driving, and to improve the driving capabilities of those that can continue to drive with or without restrictions.

3. In such programs, special attention and reinforcement through education and encouragement should be provided to women or other categories of drivers, who objectively can continue driving but lack confidence in their driving capabilities.

4. The first step in building such programs should be an evaluation of existing programs and adaptation of the successful ones to Israeli society and the various subgroups within it.

5. The government and Ministry of Education should consider driving as one of the basic skills needed in adult life and introduce driving education programs in high schools as part of the curriculum. In these programs developing careful driving skills should be the major issue. This will allow all adolescents to start driving at a young age with restrictions and extend the years of safe driving into old age. Such programs exist in many of the USA states.

6. The limitation of this study is its cross sectional design which limits our ability to assess causality among the various factors. Considering this, and the fact that the new cohorts of elders will be comprised of people with higher education and economic status and with higher percents of drivers, especially among women, leads us to suggest developing longitudinal studies of old drivers on a regular basis.

6. Cheap and comfortable public transportation should be further developed in order to allow frail and physically handicapped people to maintain mobility, independence and well-being for longer years.

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List of tables

Table 1a: Reasons for dropout: Total sample

Reasons	Number
No answer (after 5 attempts)	115
Wrong number or confidential or disconnected	64
Refused to participate	503
Moved	24
Abroad	10
Incapacitated and incapable of being interviewed	10
Dementia reported or according to mini-mental by phone	31
Very ill	90
Hard of hearing	8
Did not speak Hebrew	4
Interview stopped by participant	2
Deceased	26
Interviewed	860
Total	1747
Rate of participation (excluding those who are not listed in phone-book)	49.23%

Table 1b: Reasons for dropout by gender

Reasons	Men	Women	Totals
No answer (after 5 attempts)	62	53	115
Wrong number or confidential or disconnected	40	24	64
Refused to participate	248	255	503
Moved	8	16	24
Abroad	8	2	10
Incapacitated and incapable of being interviewed	6	4	10
Dementia reported or according to mini-mental by phone	16	15	31
Very ill	49	41	90
Hard of hearing	5	3	8
Did not speak Hebrew	1	1	4
Interview stopped by participant	1	1	2
Deceased	20	6	26
Interviewed	432	428	860
Total	896	851	1747
Rate of participation (excluding those who are not listed in phone-book)	48.21%	50.29%	49.23

Table 1c: Reasons for dropout by age group

Reasons	70-75	76-85	86+	Total
No answer (after 5 attempts)	56	49	10	115
Wrong number or confidential or disconnected	30	28	6	64
Refused to participate	205	260	38	503
Moved	11	11	2	24
Abroad	5	5	0	10
Incapacitated and incapable of being interviewed	4	4	2	10
Dementia reported or according to mini-mental by phone	6	22	3	31
Very ill	19	59	12	90
Hard of hearing	0	6	2	8
Did not speak Hebrew	0	3	1	4
Interview stopped by participant	2	0	0	2
Deceased	12	12	2	26
Interviewed	389	431	40	860
Total	739	890	118	1747
Rate of participation (excluding those who are not listed in phone-book)	52.64%	48.43%	33.90%	49.22%

Table 2: Indices of the study: Structure and psychometric properties

Index	Number of items	Mean	Median	SD	Actual range	Potential (5=highest scale)	Cronbach's alpha
Self-esteem	10	4.56	4.70	0.49	1.00-5.00	1-5	0.73

						self-esteem)	
Life satisfaction	11	4.29	4.36	0.57	1.00-5.00	1-5 (5=most satisfied)	0.85
Avoidance driving under difficult conditions	16	1.91	1.56	1.06	1.00-6.00	1-6 (6=greatest avoidance)	0.93
Extent of using car for various needs	11	4.30	4.45	1.16	1.00-6.00	1-6 (6=most extensively)	0.86
Role of driving (different reasons accounting for importance of driving)	9	5.17	5.44	0.90	1.00-5.00	1-6 (6=most important)	0.85
Confidence in driving	15	9.17	8.61	1.60	1.00-10.00	1-10 (10=most confident)	0.96
Social support	3	4.25	4.67	0.89	1.00-5.00	1-5 (5=most support)	

Table 3: Comparisons between licensed drivers, licensed drivers who no longer drive, and former drivers who no longer hold a license on socio-demographic characteristics

Variables	Licensed drivers n=**670**	Licensed non-Drivers n=36	No longer licensed n=154	Total N=**860**	F, X², df	p
Age						
Mean (SD)	77.16 (4.46)	79.64 (5.30)a	79.85 (5.29)b	77.75 (4.78)	F=23.97 df=859	.000
Median	77.00	79.00	80.00	77.00		
Actual Range	69-94	71-93	70-94	69-94		
Gender						
Male	349 (53.0%)	17 (47.2%)	60 (39.0%)	426 (50.2%)	X²=9.92 df=2	.007
Female	310 (47.0%)	19 (52.8%)	94 (61.0%)	423 (49.8%)		
Education						
Up to eight years	51 (7.6%)	9 (25.0%)	24 (15.6%)	84 (9.8%)	X²=22.92 df=4	.000
Above eight years	248 (37.0%)	8 (22.2%)	64 (41.6%)	320 (37.2%)		
Above high-school	371 (55.4%)	19 (52.8%)	66 (42.9%)	456 (53.0%)		
Marital status						
Lives with partner	457 (69.3%)	21 (63.6%)	77 (52.4%)	555 (66.2%)	X²=15.55 df=2	.000
Lives without partner	202 (30.7%)	12 (36.4%)	70 (47.6%)	284 (33.8%)		
Economic status self-evaluation (6=excellent state)						
Mean (SD)	4.34 (0.76)	4.29 (0.76)	4.08 (0.79) b	4.29 (0.77)	F=6.37 df=839	.002
Median	4.00	4.00	4.00	4.00		
Actual Range	1.00-6.00	3.00-6.00	1.00-6.00	1.00-6.00		
Place of residence						
City	596 (89.0%)	33 (91.7%)	141 (91.6%)	770 (89.5%)	X²=1.09 df=2	.580
Rural	74 (11.0%)	3 (8.3%)	13 (8.4%)	90 (10.5%)		
Years in Israel since immigration						
Mean (SD)	62.29 (8.05)	64.00 (8.54)	63.18 (9.05)	62.56 (8.30)	F=.838 df=494	.433
Median	59.00	64.00	60.50	60.00		
Actual range	18.00-83.00	48.00-82.00	27.00-85.00	18.00-85.00		
Place of Birth						
Israel	304 (45.5%)	12 (33.3%)	46 (29.9%)	362 (42.2%)	X²=17.85 df=6	.007
Western countries	120 (18.0%)	10 (27.8%)	34 (22.1%)	164 (19.1%)		
East European countries	179 (26.8%)	11 (30.6%)	61 (39.6%)	251 (29.3%)		
Africa/Asia	65 (9.7%)	3 (8.3%)	13 (8.4%)	81 (9.4%)		
Work for pay						
Yes	122 (18.3%)	6 (16.7%)	4 (2.6%)	132 (15.4%)	X²=23.55 df=2	.000
No	544 (81.7%)	30 (83.3%)	149 (97.4%)	723 (84.6%)		
Volunteer						
Yes	188 (28.3%)	5 (13.9%)	34 (22.4%)	227 (26.6%)	X²=5.32 df=2	.070
No	477 (71.7%)	31 (86.1%)	118 (77.6%)	626 (73.4%)		

a=significant contrast between "Licensed drivers" and "Licensed non-drivers"
b=significant contrast between "Licensed drivers" and "No longer licensed"
c=significant contrast between "Licensed non-drivers" and "No longer licensed"

Table 4: Comparisons between licensed drivers, licensed drivers who no longer drive, and former drivers who no longer hold a license on physical resources: Health and functioning

Variables	Licensed drivers n=**670**	Licensed non-Drivers n=36	No longer licensed n=154	Total N=**860**	F, X², df	p
Health and functioning						
Self-perceived health (6=excellent)						
Mean (SD)	4.39 (0.92)	3.89 (1.12)a	3.68 (1.06)b	4.24 (0.99)	F=36.35df =849	.000
Median	4.00	4.00	4.00	4.00		
Actual range	1.00-6.00	1.00-6.00	1.00-6.00	1.00-6.00		
Number of diseases						
Mean (SD)	1.66 (1.33)	2.06 (1.47)	2.60 (1.85)b,c	1.84 (1.49)	F=26.83df =859	.000
Median	1.00	2.00	3.00	2.00		
Actual range	0.00-12.00	0.00-5.00	0.00-14.00	0.00-14.00		
Number of drugs taken						
Mean (SD)	1.26 (1.08)	1.44 (1.42)	2.15 (1.52)b,c	1.43 (1.24)	F=34.93df =859	.000
Median	1.00	1.00	2.00	1.00		
Actual range	0.00-6.00	0.00-5.00	0.00-8.00	0.00-8.00		
Visual acuity self-evaluation (6=excellent vision)						
Mean (SD)	4.52 (0.86)	4.11 (1.09)a	3.68 (1.26)b,c	4.36 (1.00)	F=49.19 df=854	.000
Median	4.00	4.00	4.00	4.00		
Actual range	2.00-6.00	2.00-6.00	1.00-6.00	1.00-6.00		
Wears glasses						
Never	42 (6.7%)	4 (14.3%)	10 (7.1%)	56 (7.0%)	X²=10.6df =8	.223
Mostly does not	169 (27.0%)	3 (10.7%)	28 (20.0%)	200 (25.2%)		
Usually does	141 (22.5%)	7 (25.0%)	34 (24.3%)	182 (22.9%)		
Always	238 (38.0%)	14 (50.0%)	57 (40.7%)	309 (38.9%)		
Other	37 (5.9%)	0 (0%)	11 (7.9%)	48 (6.0%)		
Hearing self-evaluation (6=excellent hearing)						
Mean (SD)	4.60 (1.18)	4.83 (1.13)	4.34 (1.23)b, c	4.57 (1.19)	F=3.79 df=839	.023
Median	5.00	5.00	4.00	5.00		
Actual range	1.00-6.00	2.00-6.00	1.00-6.00	1.00-6.00		
Hearing device					X²=4.00 df=2	.135
No hearing device	531 (88.1%)	29 (96.7%)	116 (84.1%)	676 (87.7%)		
Hearing device	72 (11.9%)	1 (3.3%)	22 (15.9%)	95 (12.3%)		

a=significant contrast between "Licensed drivers" and "Licensed non-drivers"
b=significant contrast between "Licensed drivers" and "No longer licensed"
c=significant contrast between "Licensed non-drivers" and "No longer licensed"

Table 5: Comparisons between licensed drivers, licensed drivers who no longer drive, and former drivers who no longer hold a license on psychosocial resources

Variables	Licensed drivers n=**670**	Licensed non-Drivers n=36	No longer licensed n=154	Total N=**860**	F X² df	p

Loneliness (1=lonely all the time)						
Mean (SD)	4.43 (0.89)	4.22 (1.25)	3.97 (1.21) b	4.34 (0.99)	F=13.57 df=824	.000
Median	5.00	5.00	4.00	5.00		
Actual range	1.00-5.00	1.00-5.00	1.00-5.00	1.00-5.00		
Social support (5=most support)						
Mean (SD)	4.26 (0.88)	4.23 (1.15)	4.25 (0.89)	4.25 (0.89)	F=0.01 df=809	.989
Median	4.67	4.83	4.67	4.67		
Actual range	1-5	1-5	1-5	1-5		
Trusting family/friends to help with mobility (6=greatest trust)						
Mean (SD)	4.40 (1.85)	5.14 (1.16)a	4.89 (1.58)b	4.52 (1.80)	F=7.03 df=844	.001
Median	5.00	6.00	6.00	5.00		
Actual range	1.00-6.00	1.00-6.00	1.00-6.00	1.00-6.00		
Trusting family/friends to help access doctor/tests (6=highest trust)						
Mean (SD)	4.78 (1.79)	5.44 (1.16)a	5.08 (1.54)	4.86 (1.73)	F=3.82 df=836	.022
Median	6.00	6.00	6.00	6.00		
Actual range	1.00-6.00	1.00-6.00	1.00-6.00	1.00-6.00		
Driving related self-efficacy (6=most confident)						
Mean (SD)	5.51 (0.70)	4.06 (1.86)a	5.12 (1.26)b,c	5.38 (0.94)	F=50.17 df=816	.000
Median	6.00	5.00	6.00	6.00		
Actual range	3.00-6.00	1.00-6.00	1.00-6.00	1.00-6.00		
Driving related self-efficacy index (10=most confident)						
Mean (SD)	8.76 (1.45)	8.25 (1.64)	8.00 (2.07) b	8.61 (1.60)	F=14.31 df=827	.000
Median	9.27	8.63	8.27	9.17		
Actual range	3.13-10.00	2.80-10.00	1.00-10.00	1.00-10.00		

a=significant contrast between "Licensed drivers" and "Licensed non-drivers"
b=significant contrast between "Licensed drivers" and "No longer licensed"
c=significant contrast between "Licensed non-drivers" and "No longer licensed"

Table 6: Comparisons between licensed drivers, licensed drivers who no longer drive, and former drivers who no longer hold a license on driving needs and importance of driving

Variables	Licensed drivers n=670	Licensed non-Drivers n=36	No longer licensed n=154	Total N=860	F, X², df	p
Mobility Needs						
Necessity of car due to physical disability (6=not at all)						
Mean (SD)	5.41 (1.47)	4.80 (1.99)a	5.23 (1.70)	5.36 (1.54)	F=2.95 df=806	.053
Median	6.00	6.00	6.00	6.00		
Actual range	1.00-6.00	1.00-6.00	1.00-6.00	1.00-6.00		
Importance driving						
Extent of use of car for various needs index (6=most extensively)						
Mean (SD)	4.32 (1.13)	3.88 (1.48) a	4.33 (1.23) c	4.30 (1.16)	F=2.33, df=847	.098
Median	4.45	4.00	4.52	4.45		
Actual range	1.00-6.00	1.70 – 6.00	1.00 – 6.00	1.00-6.00		
Role of driving index (6=most important)						
Mean (SD)	5.21 (0.83)	4.93 (1.08)	5.02 (1.09) b	5.17 (0.90)	F=4.22 df=851	.015
Median	5.44	5.13	5.33	5.44		
Actual range	1-6	1-6	1-6	1-6		
Importance of driver's license (6=most important)						
Mean (SD)	5.74 (0.68)	5.15 (1.23)a	5.41 (1.11)b	5.66 (0.82)	F=17.95df =840	.000
Median	6.00	6.00	6.00	6.00		
Actual range	1.00-6.00	1.00-6.00	1.00-6.00	1.00-6.00		
Love of driving (6=highest score)						
Mean (SD)	4.94 (1.30)	4.65 (1.57)	4.80 (1.56)	4.91 (1.37)	F=1.27 df=852	.283
Median	5.00	5.00	6.00	5.00		
Actual range	1.00-6.00	1.00-6.00	1.00-6.00	1.00-6.00		

a=significant contrast between "Licensed drivers" and "Licensed non-drivers"
b=significant contrast between "Licensed drivers" and "No longer licensed"
c=significant contrast between "Licensed non-drivers" and "No longer licensed"

Table 7: Comparisons between licensed drivers, licensed drivers who no longer drive, and former drivers who no longer hold a license on patterns of driving, availability, accessibility and use of public transportation

Variables	Licensed drivers n=**670**	Licensed non-Drivers n=36	No longer licensed n=154	Total N=**860**	F, df	p
Frequency driving per day (when last drove)						
Mean (SD)	2.19 (1.71)	1.24 (1.13)a	2.25 (1.30)c	2.17 (1.64)	F=3.26, df=693	.039
Median	2.00	1.00	2.00	2.00		
Actual range	0.00-15.00	0.00-4.00	0.00-7.00	0.00-15.00		
Frequency driving per day (two years ago or two years prior to cessation)						
Mean (SD)	2.40 (2.04)	1.86 (1.24)	2.62 (1.66)	2.41 (1.96)	F=1.94, df=718	.145
Median	2.00	1.75	2.00	2.00		
Actual range	0.00-20.00	0.00-4.00	0.50-10.00	0.00-20.00		
Avoidance driving under difficult conditions index (6=highest avoidance)						
Mean (SD)	1.81 (0.96)	2.38 (1.49)a	2.24 (1.29)b	1.91 (1.06)	F=13.21df =833	.000
Median	1.50	1.94	1.81	1.56		
Actual range	1.00-6.00	1.00-6.00	1.00-6.00	1.00-6.00		
Percent of places arrived at by means other than driving						
Mean (SD)	25.08 (22.86)	63.45 (31.87)a	70.14 (27.26)b	34.60 (30.13)	F=240.1 df=851	.000
Median	22.22	62.50	77.12	27.78		
Actual range	0-100	0-100	0-100	0-100		
Frequency public transportation in city index (6=most frequent)						
Mean (SD)	2.40 (1.07)	2.96 (1.52)a	3.68 (1.23)b,c	2.66 (1.22)	F=81.93df =850	.000
Median	2.00	3.00	3.50	2.50		
Actual range	1.00-6.00	1.00-6.00	1.00-6.00	1.00-6.00		
Frequency public transportation between cities index (6=most frequent)						
Mean (SD)	1.83 (0.81)	1.65 (0.75)	2.30 (1.13)b,c	1.91 (0.89)	F=19.51df =850	.000
Median	1.67	1.33	2.00	1.67		
Actual range	1.00-6.00	1.00-4.00	1.00-6.00	1.00-6.00		
Frequency using all kinds of public transportation (6=most frequent)						
Mean (SD)	2.07 (0.78)	2.20 (0.97)	2.87 (0.96)b,c	2.22 (0.88)	F=58.77df =853	.000
Median	2.00	2.10	2.80	2.00		
Actual range	1.00-6.00	1.00-6.00	1.00-6.00	1.00-6.00		
Availability /accessibility Public Transportation						
Bus nearby						
Yes	610 (92.1%)	34 (94.4%)	146 (95.4%)	790 (928%)	X²=2.16, df=2	.340
No	52 (7.9%)	2 (5.6%)	7 (4.6%)	61 (7.2%)		

Train nearby						
Yes	216 (34.3%)	7 (20.6%)	50 (35.5%)	273 (33.9%)	X^2=2.88, df=2	.237
No	414 (65.7%)	27 (79.4%)	91 (64.5%)	532 (66.1%)		
Taxi nearby						
Yes	603 (92.3%)	33 (94.3%)	137 (92.6%)	773 (92.5%)	X^2=.183, df=2	.913
No	50 (7.7%)	2 (5.7%)	11 (7.4%)	63 (7.5%)		
Price of public transportation						
Inexpensive	121 (18.6%)	4 (11.1%)	20 (13.2%)	145 (17.3%)	X^2=24.1 df=10	.007
Reasonable	355 (54.7%)	21 (58.3%)	102 (67.5%)	478 (57.2%)		
Expensive	12 (1.8%)	2 (5.6%)	5 (3.3%)	19 (2.3%)		
Don't know	161 (24.8%)	9 (25.0%)	22 (14.6%)	192 (23.0%)		

a=significant contrast between "Licensed drivers" and "Licensed non-drivers"
b=significant contrast between "Licensed drivers" and "No longer licensed"
c=significant contrast between "Licensed non-drivers" and "No longer licensed"

Table 8: Comparisons between licensed drivers, licensed drivers who no longer drive, and former drivers who no longer hold a license on driving history

Variables	Licensed drivers n=670	Licensed non-drivers n=36	No longer licensed n=154	Total N=860	F, X², df	p
Age license was issued						
Mean (SD)	24.28 (6.10)	24.88 (7.32)	29.73 (8.22)b,c	25.28 (6.89)	F=41.73 df=835	.000
Median	23.00	22.00	29.00	24.00		
Actual range	15.00-61.00	16.00-45.00	16.00-61.00	15.00-61.00		
Age first drove						
Mean (SD)	23.74 (6.41)	25.38 (7.95)	29.28 (8.74)b,c	24.78 (7.24)	F=38.40df =829	.000
Median	22.00	23.00	29.28	23.00		
Actual range	11.00-65.00	15.00-45.00	13.00-60.00	11.00-65.00		
Accident as a driver					X²=22.8df =2	.000
Yes	309 (46.2%)	12 (33.3%)	39 (26.4%)	360 (42.9%)		
No	346 (52.8%)	24 (66.7%)	109 (73.6%)	479(57.1%)		
Accident as a driver in last 6 months of driving						
Yes	20 (3.5%)	2 (6.7%)	3 (3.7%)	25 (3.7%)	X²=3.54df =4	.472
No	540 (95.7%)	28 (93.3%)	76 (93.8%)	644 (95.4%)		
Almost	4 (0.7%)	0 (0%)	2 (33.3%)	6 (0.9%)		
Accident as a driver in last 2 years of driving						
Yes	31 (5.5%)	0 (0%)	0 (0%)	31 (4.6%)	X²=6.72 df=4	.151
No	526 (93.8%)	28 (100%)	77 (98.7%)	631 (94.6%)		
Almost	4 (0.7%)	0 (0%)	1 (1.3%)	5 (0.7%)		
Number of accidents as a driver with injuries						
Mean (SD)	0.37 (0.73)	0.76 (2.17)	0.72 (1.12) b	0.41 (0.85)	F=4.22 df=508	.015
Median	0.00	0.00	0.00	0.00		
Actual range	0.00-6.00	0.00-9.00	0.00-5.50	0.00-9.00		
Serious accident to relative/friend						
Yes	136 (20.8%)	4 (11.8%)	18 (12.9%)	158 (19.1%)	X²=5.80 df=2	.055
No	518 (79.2%)	30 (88.2%)	121 (87.1%)	669 (80.9%)		
Reasons not having a driving license						
Revoked or driving prohibited by physician			14 (10.4%)			
Not renewed voluntarily			117 (87.3%)			
Not renewed for technical reasons			3 (2.2%)			

Table 9: Comparisons between licensed drivers, licensed drivers who no longer drive, and former drivers who no longer hold a license in satisfaction with life and self-esteem

Variables	Licensed drivers n=670	Licensed non-drivers n=36	No longer licensed n=154	Total N=860	F, df	p
Satisfaction with life (index)						
Mean (SD)	4.36 (0.53)	4.08 (0.60)a	4.03 (0.65)b	4.29 (0.57)	F=24.93 df=846	.000
Median	4.45	4.14	4.00	4.36		
Actual range	2.45-5.00	2.45-5.00	1.18-5.00	1.18-5.00		
Self-esteem (index)						
Mean (SD.)	4.59 (0.44)	4.43 (0.57)a	4.43 (0.60)b	4.56 (0.49)	F=8.97 df=834	.000
Median	4.70	4.60	4.60	4.70		
Actual range	1.78-5.00	2.27-5.00	2.00-5.00	1.78-5.00		

a=significant contrast between "Licensed drivers" and "Licensed non-drivers"
b=significant contrast between "Licensed drivers" and "No longer licensed"
c=significant contrast between "Licensed non-drivers" and "No longer licensed"

Table 10: Comparisons between drivers and non-drivers[*] on socio-demographic characteristics

Variable	Drivers n=670	Non-drivers n=190	Total N=860	T, X², df	p
Age					
Mean (SD)	77.16 (4.46)	79.81 (5.28)	77.75 (4.78)	t=-6.92 df=858	.000
Median	77.00	80.00	77.00		
Actual Range	70-94	70-94	70-74		
Gender					
Male	355 (53.0%)	77 (40.5%)	432 (50.2%)	X²=9.19 df=1	.002
Female	315 (47.0%)	113 (59.5%)	428 (49.8%)		
Education					
Up to eight years	51 (7.6%)	33 (17.4%)	84 (9.8%)	X²=16.84 df=2	.000
Above eight years	248 (37.0%)	72 (37.9%)	320 (37.2%)		
Above high-school	371 (55.4%)	85 (44.7%)	456 (53.0%		
Marital status					
Lives with partner	457 (69.3%)	21 (63.6%)	555 (66.2%)	X²=15.55 df=1	.000
Lives without partner	202 (30.7%)	12 (36.4%)	284 (33.8%)		
Economic status self-evaluation (6=excellent)					
Mean (SD)	4.34 (0.76)	4.12 (0.81)	4.29 (0.77)	t=3.26 df=838	.001
Median	4.00	4.00	4.00		
Actual range	1.00-6.00	1.00-6.00	1.00-6.00		
Place of residence					
City	596 (89.0%)	174 (91.6%)	770 (89.5%)	X²=1.09 df=1	.297
Rural	74 (11.02%)	16 (8.4%)	90 (10.5%)		
Years in Israel since immigration					
Mean (SD)	62.29 (8.05)	63.32 (8.93)	62.56 (8.30)	t=-1.22 df=493	.223
Median	59.00	61.00	60.00		
Actual range	18.00-83.00	27.00-85.00	18-85		
Place of Birth					
Israel	304 (45.5%)	58 (30.5%)	362 (42.2%)	X²=16.46 df=3	.001
Western countries	120 (18.0%)	44 (23.2%)	164 (19.1%)		
East European countries	179 (26.8%)	72 (37.9%)	251 (29.3%)		
Africa/Asia	65 (9.7%)	16 (8.4%)	81 (9.4%)		
Work for pay					
Yes	122 (18.3%)	10 (5.3%)	132 (15.4%)	X²=19.14 df=1	.000
No	544 (81.7%)	179 (94.7%)	723 (84.6%)		
Volunteer					
Yes	188 (28.3%)	39 (20.7%)	227 (26.6%)	X²=4.25 df=1	.039
No	477 (71.7%)	149 (79.3%)	626 (73.4%)		

Table 11: Comparisons between drivers and non-drivers[*] on physical resources: Health and functioning

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[*]"Non-drivers" include those who still hold a license but do not drive anymore, and those who do not hold a license anymore.

[*] "Non-drivers" include those who still hold a license but do not drive anymore, and those who do not hold a license anymore.

Variables	Drivers n=670	Non-drivers n=190	Total N=860	t, X², df	p
Health and functioning					
Self-perceived health (6=excellent)					
Mean (SD)	4.39 (0.92)	3.72 (1.07)	4.24 (0.99)	t=8.44 df=848	.000
Median	4.00	4.00	4.00		
Actual range	1.00-6.00	1.00-6.00	1.00-6.00		
Number of diseases					
Mean (SD)	1.66 (1.33)	2.49 (1.79)	1.84 (1.49)	t=-7.03 df=858	.000
Median	1.00	2.00	2.00		
Actual range	0.00-12.00	0.00-14.00	0.00-14.00		
Number of drugs taken					
Mean (SD)	1.26 (1.08)	2.02 (1.53)	1.43 (1.24)	t=-7.68 df=858	.000
Median	1.00	2.00	1.00		
Actual range	0.00-6.00	0.00-8.00	0.00-8.00		
Visual acuity self-evaluation (6=excellent vision)					
Mean (SD)	4.52 (0.86)	3.76 (1.24)	4.36 (1.00)	t=9.59 df=853	.000
Median	4.00	4.00	4.00		
Actual range	2.00-6.00	1.00-6.00	1.00-6.00		
Wears glasses					
Never	42 (6.7%)	14 (8.3%)	56 (7.0%)	X²=5.25 df=4	.263
Mostly does not	169 (27.0%)	31 (18.5%)	200 (25.2%)		
Usually does	141(22.5%)	41 (24.4%)	182 (22.9%)		
Always	238 (38.0%)	71 (42.3%)	309 (38.9%)		
Other	37 (5.9%)	11 (6.5%)	48 (6.0%)		
Hearing self-evaluation (6=excellent hearing)					
Mean (SD)	4.60 (1.18)	4.44 (1.22)	4.57 (1.19)	t=1.62 df=838	.107
Median	5.00	5.00	5.00		
Actual range	1.00-6.00	1.00-6.00	1.00-6.00		
Hearing device				X²=0.37 df=1	.55
No hearing device	531 (88.1%)	145 (86.3%)	676 (87.7%)		
Hearing device	72 (11.9%)	23 (13.7%)	95 (12.3%)		

Table 12: Comparisons between drivers and non-drivers[*] on psychosocial resources

Variables	Drivers n=670	Non-drivers n=190	Total N=860	t, df	p
Loneliness (1=lonely all the time)					
Mean (SD)	4.43 (0.89)	4.02 (1.22)	4.34 (0.99)	t=5.02 df=823	.000
Median	5.00	5.00	5.00		
Actual range	1.00-5.00	1.00-5.00	1.00-5.00		
Social support (5=most support)					
Mean (SD)	4.26 (0.88)	4.25 (0.94)	4.25 (0.89)	t=0.12 df=808	.902
Median	4.67	4.67	4.67		

[*] "Non-drivers" include those who still hold a license but do not drive anymore, and those who do not hold a license anymore.

Actual range	1-5	1-5	1-5		
Trusting family/friends to help with mobility (6=greatest trust)					
Mean (SD)	4.40 (1.85)	4.94 (1.55)	4.52 (1.80)	t=-3.68 df=843	.000
Median	5.00	6.00	5.00		
Actual range	1.00-6.00	1.00-6.00	1.00-6.00		
Trusting family/friends to help access doctor/tests (6=highest trust)					
Mean (SD)	4.76 (1.79)	5.15 (1.48)	4.86 (1.73)	t=-2.53 df=835	.012
Median	6.00	6.00	6.00		
Actual range	1.00-6.00	1.00-6.00	1.00-6.00		
Driving related self-efficacy (6=most confident)					
Mean (SD)	5.51 (0.69)	4.91 (1.46)	5.38 (0.94)	t=7.67 df=815	.000
Median	6.00	5.00	6.00		
Actual range	3-6	1-6	1-6		
Driving related self-efficacy index (10=most confident)					
Mean (SD)	8.76 (1.45)	8.05 (2.00)	8.61 (1.60)	t=5.29 df=826	.000
Median	9.27	8.27	9.17		
Actual range	3.13-10.00	1.00-10.00	1.00-10.00		

Table 13: Comparisons between drivers and non-drivers* on driving needs and importance of driving

Variables	Drivers n=670	Non-drivers n=190	Total N=860	t, df	p
Mobility Needs					
Necessity of car due to physical disability (6=not at all)					
Mean (SD)	5.41 (1.47)	5.15 (1.76)	5.36 (1.54)	t=2.00	.046
Median	6.00	6.00	6.00	df=805	
Actual range	1.00-6.00	1.00-6.00	1.00-6.00		
Importance driving					
Extent of use of car for various needs index (6=most extensively)					
Mean (SD)	4.32 (1.13)	4.24 (1.29)	4.30 (1.16)	t=0.75	.456
Median	4.45	4.36	4.45	df=846	
Actual range	1.00-6.00	1.00-6.00	1.00-6.00		
Role of driving index (6=most important)					
Mean (SD)	5.21 (0.83)	5.00 (1.09)	5.17 (0.90)	t=2.86	.004
Median	5.44	5.28	5.44	df=850	
Actual range	1-6	1-6	1-6		
Importance of driver's license (6=most important)					
Mean (SD)	5.74 (0.68)	5.36 (1.14)	5.66 (0.82)	t=5.73	.000
Median	6.00	6.00	6.00	df=839	
Actual range	1.00-6.00	1.00-6.00	1.00-6.00		
Love of driving (6=highest score)					
Mean (SD)	4.94 (1.30)	4.78 (1.57)	4.91 (1.37)	t=1.47	.142
Median	5.00	5.00	5.00	df=851	
Actual range	1.00-6.00	1.00-6.00	1.00-6.00		

* "Non-drivers" include those who still hold a license but do not drive anymore, and those who do not hold a license anymore.

Table 14: Comparisons between drivers and non-drivers[*] on patterns of driving, availability, accessibility and use of public transportation

Variables	Drivers n=670	Non-drivers n=190	Total N=860	t, df	p
Frequency driving per day(when last drove)					
Mean (SD)	2.19 (1.71)	2.11 (1.32)	2.17 (1.64)	t=0.51 df=692	0.61
Median	2.00	2.00	2.00		
Actual range	0.00-15.00	0.00-7.00	0.00-15.00		
Frequency driving per day (two years ago or two years prior to cessation)					
Mean (SD)	2.40 (2.04)	2.47 (1.61)	2.41 (1.96)	t=-0.40 df=717	0.69
Median	2.00	2.00	2.00		
Actual range	0.00-20.00	0.00-10.00	0.00-20.00		
Avoidance driving under difficult conditions index (6=highest avoidance)					
Mean (SD)	1.81 (0.96)	2.26 (1.33)	1.91 (1.06)	t=-5.09 df=832	.000
Median	1.50	1.81	1.56		
Actual range	1.00-6.00	1.00-6.00	1.00-6.00		
Percent of places arrived at by means other than driving					
Mean (SD)	25.08 (22.86)	68.88 (28.22)	34.60 (30.13)	t=-21.85 df=850	.000
Median	22.22	75.00	27.78		
Actual range	0-100	0-100	0-100		
Frequency public transportation in city index (6=most frequent)					
Mean (SD)	2.40 (1.07)	3.54 (1.32)	2.66 (1.22)	t=-12.24 df=849	.000
Median	2.00	3.50	2.50		
Actual range	1.00-6.00	1.00-6.00	1.00-6.00		
Frequency public transportation between cities index (6=most frequent)					
Mean (SD)	1.83 (0.81)	2.18 (1.10)	1.91 (0.89)	t=-4.77 df=849	.000
Median	1.67	2.00	1.67		
Actual range	1.00-6.00	1.00-6.00	1.00-6.00		
Frequency using all kinds of transportation (6=most frequent)					
Mean (SD)	2.07 (0.78)	2.74 (0.99)	2.22 (0.88)	t=-.9.78 df=852	.000
Median	2.00	2.81	2.00		
Actual range	1.00-6.00	1.00-6.00	1.00-6.00		
Bus nearby					
Yes	610 (92.1%)	180 (95.2%)	790 (92.8%)	X²=2.11 df=1	.146
No	52 (7.9%)	9 (4.8%)	61 (7.2)		
Train nearby					
Yes	216(34.3%)	57 (32.6%)	273 (33.9%)	X²=.180	.672

[*] "Non-drivers" include those who still hold a license but do not drive anymore, and those who do not hold a license anymore.

No	411 (65.7.0%)	118 (67.4%)	532 (66.1%)	df=1	
Taxi nearby					
Yes	603 (92.3%)	170 (92.9%)	773 (92.5%)	X²=.063	.802
No	50 (7.7%)	13 (7.1%)	63 (7.5%)	df=1	
Price of public transportation					
Inexpensive	121 (18.6%)	24 (12.8%)	145 (17.3%)	X²=19.45df	.002
Reasonable	355 (54.7%)	123 (65.8%)	478(57.2%)	=5	
Expensive	12 (1.8%)	7 (3.7%)	19 (2.3%)		
Don't know	161 (24.8%)	31 (16.6%)	192 (23.0%)		

Table 15: Comparisons between drivers and non-drivers[*] on driving history

Variables	Drivers n=670	Non-drivers n=190	Total N=860	t, X², df	p
Age license was issued					
Mean (SD)	24.28 (6.10)	28.85 (8.26)	25.28 (6.89)	t=8.22 df=834	.000
Median	23.00	28.00	24.00		
Actual range	15-61	16-61	15-61		
Age first drove					
Mean (SD)	23.74 (6.41)	28.58 (7.26)	24.78 (7.24)	t=-8.24 df=828	.000
Median	22.00	23.00	23.00		
Actual range	11-65	13-60	11-65		
Accident as a driver				X²=22.2 df=1	.000
Yes	309 (47.2%)	51 (27.7%)	360 (42.9%)		
No	346 (52.8%)	133 (72.3%)	479 (57.1%)		
Accident as a driver in last 6 months of driving					
Yes	20 (3.5%)	5 (4.5%)	25 (3.7%)	X²=1.52 df=2	.468
No	540 (95.7%)	104 (93.7%)	644 (95.4%)		
Almost	4 (0.7%)	2 (1.8%)	6 (0.9%)		
Accident as a driver in last 2 years of driving					
Yes	31 (5.5%)	0 (0.0%)	31 (4.6%)	X²=6.19 df=2	.045
No	526 (93.8%)	105 (99.1%)	631 (94.6%)		
Almost	4 (0.7%)	1 (0.9%)	5 (0.7%)		
Number of accidents as a driver with injuries					
Mean (SD)	0.37 (0.73)	0.74 (1.53)	0.41 (0.85)	t=-2.90 df=507	.004
Median	0.00	0.00	0.00		
Actual range	0.00-6.00	0.00-9.00	0.00		
Serious accident to relative/friend					
Yes	136 (20.8%)	22 (12.7%)	158 (19.1%)	X²=5.78 df=1	.016
No	518 (79.2%)	151 (87.3%)	669 (80.9%)		
Driving as a profession					
Yes	166 (25.2%)	38 (20.8%)	204 (24.2%)	X²=1.50 df=1	0.22
No	494 (74.8%)	145 (79.2%)	639 (75.8%)		

[*] "Non-drivers" include those who still hold a license but do not drive anymore, and those who do not hold a license anymore.

Table 16: Comparisons between drivers and non-drivers on satisfaction with life
and self-esteem

Variables	Drivers n=670	Non-drivers n=190	Total N=860	t, df	p
Satisfaction with life (index)					
Mean (SD)	4.36 (0.53)	4.04 (0.63)	4.29 (0.57)	t=7.05 df=845	.000
Median	4.45	4.00	4.36		
Actual range	2.45-5.00	1.18-5.00	1.18-5.00		
Self-esteem (index)					
Mean (SD.)	4.59 (0.44)	4.42 (0.60)	4.56 (0.49)	t=4.24 df=833	.000
Median	4.70	4.60	4.70		
Actual range	1.78-5.00	2.00-5.00	1.78-5.00		

* "Non-drivers" include those who still hold a license but do not drive anymore, and those who do not hold a
license anymore.

Table 17: Comparisons between successful, normative and pathological elderly on socio-demographic variables

Variables	Successful n=250	Normative n=579	Pathological n=23	Total N=852	F, X², df	p
Age						
Mean (SD)	77.13 (4.28)	77.89 (4.9) a	80.87 (81.0) b,c	77.75 (4.78)	F=7.34 df=22.6	.001
Median	77.00	77.00	81.00	77.00		
Actual range	70-88	70-94	71-89	69-94		
Gender						
Male	128 (51.2%)	292 (50.4%)	8 (34.8%)	428 (50.2%)	X²=2.30 df=2	.317
Female	122 (48.8%)	287 (49.6%)	15 (65.2%)	424 (49.8%)		
Education						
Up to 8 years	19 (7.6%)	59 (10.2%)	4 (17.4%)	82 (9.6%)	X²=5.96 df=4	.202
Above 8 years	85 (34.0%)	226 (39.0%)	8 (34.8%)	319 (37.4%)		
Above high-school	146 (58.4%)	294 (50.8%)	11 (47.8%)	451 (52.9%)		
Marital status						
Lives with partner	178 (72.7%)	363 (64.0%)	11 (50.0%)	552 (66.2%)	X²=8.34 df=2	.015
Lives without partner	67 (27.3%)	204 (36.0%)	11 (50.0%)	282 (33.8%)		
Economic status self-evaluation (6=excellent state)						
Mean (SD)	4.34 (0.74)	4.28 (0.78)	4.13 (0.87)	4.29 (0.77)	F=834 df=1.1	.325
Median	4.00	4.00	4.00	4.00		
Actual range	2-6	1-6	3-6	1-6		
Place of residence						
City	230 (92.0%)	513 (88.6%)	19 (82.6%)	762 (89.4%)	X²=3.3 df=2	.192
Rural	20 (8.0%)	66 (11.4%)	4 (17.4%)	90 (10.6%)		
Years in Israel since immigration						
Mean (SD)	61.38 (8.41)	62.95 (7.97)	61.94 (11.74)	62.49 (8.26)	F=1.79 df=489	.169
Median	59.00	60.00	59.00	60.00		
Actual range	18-82	27-83	30-85	18-85		
Country of Birth						
Israel	116 (46.4%)	238 (41.2%)	5 (21.7%)	359 (42.2%)	X²=7.94 df=6	.243
Western countries	42 (16.8%)	113 (19.6%)	6 (26.1%)	161 (18.9%)		
Eastern European countries	65 (26.0%)	176 (30.5%)	9 (39.1%)	250 (29.4%)		
Africa/Asia	27 (10.8%)	50 (8.7%)	3 (13.0%)	80 (9.4%)		
Work for pay						
Yes	48 (19.4%)	83 (14.4%)	0 (0%)	131 (15.5%)	X²=7.57 df=2	.023
No	200 (80.6%)	493 (85.6%)	23 (100%)	716 (84.5%)		

a=significant contrast between "successful" and "normative"
b=significant contrast between "successful" and "pathological"
c=significant contrast between "normative" and "pathological"

Hours of work						
Mean (SD)	30.55 (17.26)	23.49 (14.61)	0	26.12 (15.95)	F=5.61	.020
Median	25.00	24.00	0	25.0	df=117	
Actual range	2-70	2-64	0	2-70		
Volunteer						
Yes	66 (26.7%)	158 (27.5%)	3 (13.0%)	227 (26.9%)	X^2=2.35	.309
No	181 (73.3%)	417 (72.5%)	20 (87.0%)	618 (73.1%)	df=2	
Hours of volunteer						
Mean (SD)	8.40 (12.38)	9.57 (10.11)	20.00 (8.66)	9.42 (10.81)	F=5.61	.189
Median	4.75	5.00	25.00	5.00	df=179	
Actual range	1-80	1-60	10-25	1-80		

a=significant contrast between "successful" and "normative"
b=significant contrast between "successful" and "pathological"
c=significant contrast between "normative" and "pathological"

Table 18: Comparisons between successful, normative, and pathological elderly on physical resources: Health and functioning

Variables	Successful n=250	Normative n=579	Pathological n=23	Total N=852	F, X²,df	p
Health and functioning						
Self-perceived health (6=excellent)						
Mean (SD)	4.46 (0.83)	4.20 (1.02) a	3.30 (1.06) b,c	4.25 (0.99)	F=17.38 df=844	.000
Median	4.00	4.00	3.00	4.00		
Actual range	2-6	1-6	1-5	1-6		
Number of diseases						
Mean (SD)	1.61 (1.37)	1.92 (1.52) a	2.83 (1.27) b,c	1.85 (1.49)	F=9.07 df=851	.000
Median	1.00	2.00	3.00	2.00		
Actual range	0-12	0-14	0-5	0-14		
Number of drugs taken						
Mean (SD)	1.22 (1.03)	1.49 (1.30) a	2.35 (1.19) b,c	1.44 (1.24)	F=16.04 df=851	.000
Median	1.00	1.00	3.00	1.00		
Actual range	0-5	0-8	0-4	0-8		
Visual acuity self-evaluation (6=excellent vision)						
Mean (SD)	4.54 (0.87)	4.31(1.04) a	3.61 (1.08) b,c	4.36 (1.01)	F=11.20 df=849	.000
Median	4.00	4.00	4.00	4.00		
Actual range	2-6	1-6	1-6	1-6		
Wears glasses						
Never	21 (8.9%)	33 (6.2%)	1 (4.8%)	55 (7.0%)	X²=7.05 df=8	.531
Mostly does not	55 (23.4%)	140 (26.2%)	4 (19.0%)	199 (25.2%)		
Usually does	54 (23.0%)	119 (22.2%)	8 (38.1%)	181 (22.9%)		
Always	88 (37.4%)	212 (39.6%)	8 (38.1%)	308 (38.9%)		
Other	17 (7.2%)	31 (5.8%)	0 (0%)	48 (6.1%)		
Hearing self-evaluation (6=excellent hearing)						
Mean (SD)	4.68 (1.19)	4.53 (1.18)	4.13 (1.33) b	4.56 (1.19)	F=3.09 df=834	.046
Median	5.00	4.00	4.00	5.00		
Actual range	1-6	1-6	1-6	1-6		
Hearing device					X²1.92 df=2	382
No hearing device	194 (90.2%)	459 (86.6%)	18 (85.7%)	671 (87.6%)		
Hearing device	21 (9.8%)	71 (13.4%)	3 (14.3%)	95 (12.4%)		

a=significant contrast between "successful" and "normative"
b=significant contrast between "successful" and "pathological"
c=significant contrast between "normative" and "pathological"

Table 19: Comparisons of successful, normative, pathological elderly on psychosocial resources

Variables	Successful n=250	Normative n=579	Pathological n=23	Total N=852	F, X², df	p
Loneliness (1=lonely all the time)						
Mean (SD)	4.44 (0.86)	4.33 (1.00)	3.59 (1.50) b, c	4.34 (0.99)	F=7.68 df=819	.000
Median	5.00	5.00	4.00	5.00		
Actual range	1-5	1-5	1-5	1-5		
Social support (5=most support)						
Mean (SD)	4.24 (0.88)	4.27 (0.88)	4.05 (1.23)	4.26 (0.89)	F=0.71	.494

Median	4.67	4.67	4.33	4.67	df=804	
Actual range	1-5	1-5	1-5	1-5		
Trusting family/friends to help with mobility (6=greatest trust)						
Mean (SD)	4.22 (1.84)	4.65 (1.78) a	4.26 (1.84)	4.51 (1.81)	F=4.95 df=837	.007
Median	5.00	6.00	5.00	5.00		
Actual range	1-6	1-6	1-6	1-6		
Trusting family/friends to help access doctor/tests (6=highest trust)						
Mean (SD)	4.68 (1.81)	4.95 (1.69)	4.57 (1.85)	4.86 (1.73)	F=2.32 df=829	.098
Median	6.00	6.00	6.00	6.00		
Actual range	1-6	1-6	1-6	1-6		
Driving related self-efficacy (6=most confident)						
Mean (SD)	5.55 (0.64)	5.33 (1.00) a	5.14 (1.39) b	5.39 (0.93)	F=5.57 df=811	.004
Median	6.00	6.00	6.00	6.00		
Actual range	3-6	1-6	1-6	1-6		
Driving related self-efficacy index (10=most confident)						
Mean (SD)	8.66 (1.50)	8.59 (1.64)	8.45 (1.99)	8.61 (1.61)	F=.248 df=822	.780
Median	9.14	9.20	9.10	9.18		
Actual range	3.13-10.00	1.00-10.00	2.80-10.00	1.00-10.00		

a=significant contrast between "successful" and "normative"
b=significant contrast between "successful" and "pathological"
c=significant contrast between "normative" and "pathological"

Table 20: Comparisons between successful, normative, and pathological elderly on driving needs and importance of driving

Variables	Successful n=250	Normative n=579	Pathological n=23	Total N=852	F, X²,df	p
Mobility Needs						
Necessity of car due to physical disability (6=not at all)						
Mean (SD)	5.39 (1.49)	5.38 (1.52)	4.52 (2.18) b, c	5.36 (1.53)	F=3.22 df=799	.040
Median	6.00	6.00	6.00	6.00		
Actual range	1-6	1-6	1-6	1-6		
Importance driving						
Extent of use of car for various needs index (6=most extensively)						
Mean (SD)	4.39 (1.09)	4.29 (1.17)	3.88 (1.59) b	4.31 (1.16)	F=2.25 df=839	.106
Median	4.55	4.36	4.09	4.55		
Actual range	1.27-6.00	1.00-6.00	1.00-6.00	1.00-6.00		
Role of driving index (6=most important)						
Mean (SD)	5.30 (0.74)	5.12 (0.94) a	5.06 (1.25)	5.17 (0.90)	F=3.81 df=844	.023
Median	5.56	5.33	5.44	5.44		
Actual range	2.56-6.00	1-6	1-6	1-6		
Importance of driver's license (6=most important)						
Mean (SD)	5.81 (0.55)	5.61 (0.89) a	5.41 (1.01) b	5.66 (0.82)	F=6.14 df=833	.002
Median	6.00	6.00	6.00	6.00		
Actual range	1-6	1-6	3-6	1-6		
Love of driving (6=highest score)						
Mean (SD)	4.95 (1.20)	4.88 (1.44)	5.14 (1.36)	4.91 (1.37)	F=.526 df=844	.591
Median	5.00	5.00	6.00	5.00		
Actual range	1-6	1-6	1-6	1-6		

a=significant contrast between "successful" and "normative"
b=significant contrast between "successful" and "pathological"
c=significant contrast between "normative" and "pathological"

Table 21: Comparisons between successful, normative, and pathological elderly on patterns of driving, availability, accessibility and use of public transportation

Variables	Successful n=250	Normative n=579	Pathological n=23	Total N=852	F, df	p
Compensation						
Frequency driving per day (when last drove)						
Mean (SD)	2.30 (1.83)	2.15 (1.58)	1.63 (0.90)	2.18 (1.64)	F=1.54 df=687	.216
Median	2.00	2.00	1.75	2.00		
Actual range	0-15	0-14	0-3.5	0-15		
Frequency driving per day (two years ago or two years prior to cessation)						
Mean (SD)	2.39 (1.88)	2.45 (2.02)	1.97 (1.02)	2.42 (1.96)	F=.544 df=712	.581
Median	2.00	2.00	2.00	2.00		
Actual range	0-15	0-20	.5-4	0-20		
Avoidance driving under difficult conditions index (6=highest avoidance)						
Mean (SD)	1.81 (0.95)	1.93 (1.06)	2.58 (1.80)b,c	1.91 (1.06)	F=5.58 df=828	.004
Median	1.50	1.56	1.78	1.56		
Actual range	1-5.25	1-6	1-6	1-6		
Percent of places arrived at by means other than driving						
Mean (SD)	25.20 (25.2)	38.80 (31.55)a	30.62 (16.91)	34.59 (30.13)	F=18.74 df=851	.000
Median	20.00	31.25	35.29	27.78		
Actual range	0-100	0-100	0-50	0-100		
Frequency public transportation in city index (6=most frequent)						
Mean (SD)	2.40 (0.98)	2.77 (1.29) a	2.50 (1.22)	2.66 (1.22)	F=8.47 df=842	.000
Median	2.50	2.50	2.50	2.50		
Actual range	1-5	1-6	1-6	1-6		
Frequency public transportation between cities index (6=most frequent)						
Mean (SD)	1.78 (1.67)	1.97 (0.94) a	1.74 (0.99)	1.91 (0.89)	F=4.16 df=842	.016
Median	0.74	1.67	1.67	1.67		
Actual range	1-6	1-6	1-6	1-6		
Frequency using all kinds of public transportation (6=most frequent)						
Mean (SD)	2.06 (0.72)	2.30 (0.93)a	2.06 (0.78)	2.22 (0.88)	F=7.20 df=845	.001
Median	2.00	2.20	2.00	2.00		
Actual range	1-6	1-6	1-4	1-6		
Availability /accessibility Public Transportation						
Bus nearby						
Yes	234 (94.0%)	526 (92.1%)	22 (95.7%)	782 (92.8%)	X^2=1.18	.553

No	15 (6.0%)	45 (7.9%)	1 (4.3%)	61 (7.2%)	df=2	
Train nearby						
Yes	108 (47.4%)	156 (28.5%)	7 (31.8%)	271 (34.0%)	X^2=25.7	.000
No	120 (52.6%)	392 (71.5%)	15 (68.2%)	527 (66.0%)	df=2	
Taxi nearby						
Yes	228 (93.8%)	516 (91.8%)	23 (100%)	767 (92.6%)	X^2=2.89	.236
No	15 (6.2%)	46 (8.2%)	0 (0%)	61 (7.4%)	df=2	
Price of public transportation						
Inexpensive	54 (22.2%)	88 (15.6%)	3 (13.0%)	145 (17.5%)	X^2=11.8	.300
Reasonable	129 (53.1%)	333 (59.1%)	13 (56.5%)	475 (57.3%)	df=10	
Expensive	0 (0%)	1 (0.2%)	0 (0%)	1 (0.1%)		
Don't know	53 (21.8%)	130 (23.1%)	5 (21.7%)	188 (22.7%)		

a=significant contrast between "successful" and "normative"
b=significant contrast between "successful" and "pathological"
c=significant contrast between "normative" and "pathological"

Table 22: Comparisons of successful, normative, and pathological elderly on driving history

Variables	Successful n=250	Normative n=579	Pathological n=23	Total N=852	F, X², df	p
Age license was issued						
Mean (SD)	24.09 (5.84)	25.57 (7.14) a	30.48 (8.00) b,c	25.27 (6.89)	F=10.99 df=827	.000
Median	22.00	24.00	30.00	24.00		
Actual range	16-47	15-61	18-47	15-61		
Age first drove						
Mean (SD)	23.64 (6.17)	25.08 (7.52) a	29.67 (8.52) b,c	24.78 (7.24)	F=8.39 df=822	.000
Median	22.00	24.00	29.00	23.00		
Actual range	11-56	12-65	18-43	11-65		
Accident as a driver					X²=10.5 df=2	.005
Yes	124 (50.4%)	229 (40.6%)	5 (22.7%)	358 (43.0%)		
No	122 (49.6%)	335 (59.4%)	17 (77.3%)	474 (57.0%)		
Accident as a driver in last 6 months of driving						
Yes	8 (3.9%)	17 (3.8%)	0 (0%)	25 (3.7%)	X²=1.32 df=4	.859
No	197 (95.6%)	429 (95.1%)	14 (100%)	640 (95.4%)		
Almost	1 (.5%)	5 (1.1%)	0 (0%)	6 (0.9%)		
Accident as a driver in last 2 years of driving						
Yes	12 (.9%)	19 (4.3%)	0 (0%)	31 (4.7%)	X²=1.83 df=4	.768
No	189 (93.1%)	425 (95.1%)	13 (100%)	627 (94.6%)		
Almost	2 (1.0%)	3 (.7%)	0 (0%)	5 (.8%)		
Number of accidents as a driver with injuries						
Mean (SD)	0.36 (0.77)	0.40 (.84)	0.86 (1.07)	0.40 (0.82)	F=1.26 df=505	.286
Median	0.00	0.00	1.00	0.00		
Actual range	0-60	0-90	0-3	0-9		
Serious accident to relative/friend						
Yes	46 (19.0%)	106 (19.1%)	4 (17.4%)	156 (19.0%)	X²=.042 df=2	.979
No	196 (81.0%)	449 (80.9%)	19 (82.6%)	664 (82.6%)		

a=significant contrast between "successful" and "normative"
b=significant contrast between "successful" and "pathological"
c=significant contrast between "normative" and "pathological"

Table 23: Satisfaction with life and self-esteem among successful, normative, and pathological elderly

Variables	Successful n=250	Normative n=579	Pathological n=23	Total N=852	F, df	p
Satisfaction with life (index)						
Mean (SD)	4.37 (0.53)	4.29 (0.56)	3.76 (0.77) b, c	4.30 (0.56)	F=12.70 df=841	.000
Median	4.45	4.36	3.82	4.36		
Actual range	2.64-5.00	1.18-5.00	2.45-5.00	1.18-5.00		
Self-esteem (index)						
Mean (SD.)	4.60 (0.44)	4.56 (0.48)	4.06 (0.91) b, c	4.56 (0.49)	F=12.84 df=829	.000
Median	4.70	4.70	4.30	4.70		
Actual range	2.80-5.00	2.00-5.00	1.78-5.00	1.78-5.00		

a=significant contrast between "successful" and "normative"
b=significant contrast between "successful" and "pathological"
c=significant contrast between "normative" and "pathological"

Table 24: Pearson correlation coefficients between the study variables and driving-related self-efficacy, life-satisfaction and self-esteem

	Driving self-efficacy (one item)	Driving self-efficacy (index)	Satisfaction with life (index)	Self esteem (index)
Socio-demographics (r, n)				
Age	-.114**	-.125**	-.133**	-.078*
	817	828	847	835
Gender	-.157**	-.268**	-.110**	-.106**
	817	828	844	835
Education	-.048	-.127**	-.058	-.001
	817	828	844	835
Economic self-evaluation	.086*	.084*	.310**	.138**
	805	813	831	819
Health and functioning (r, n)				
Self-perceived health	.225**	.189**	.416**	.223**
	811	822	841	830
Number of diseases	-.143**	-.179**	-.333**	-.158**
	817	828	847	835
Number of drugs taken	-.117**	-.144**	-.267**	-.121**
	817	828	847	835
Visual-acuity self-evaluation	.228**	.254**	.279**	.158**
	816	826	846	834
Hearing Self-evaluation	.122**	.172**	.208**	.148**
	801	811	831	819
Psychosocial resources (r, n)				
Loneliness	.139**	.190**	.435**	.402**
	798	804	820	812
Social support Index	.099**	.094**	.377**	.265**
	792	788	806	798
Trusting family/friends to help with mobility	0.004	-0.004	.093**	0.049
	803	815	833	821
Trusting family/friends to help access doctor/tests	0.033	-0.023	.096**	0.053
	795	808	825	814
Driving-related self-efficacy	1	.552**	.282**	.215**
	817	796	813	803

Table 24: Pearson correlation coefficients between the study variables and driving-related self-efficacy, life-satisfaction and self-esteem (cont'd)

	Driving Self efficacy (one item	Driving self-efficacy (index)	Satisfaction with life (index)	Self esteem (index)
Psychosocial resources (cont'd) **(r, n)**				
Driving-related self-efficacy index	.552**	1	.347**	.244**
	796	828	821	813
Extent of use of car for various needs index	.174**	.190**	.124**	.084*
	809	824	838	826
Role of driving	.282**	.293**	.144**	0.037
	812	826	841	829
Importance of driver's license	.298**	.258**	.094**	.086*
	803	815	832	820
Love of driving	.315**	.350**	.121**	.100**
	811	825	841	829
Patterns of driving, and use of public transportation (r, n)				
Avoidance driving under difficult conditions index	-.462**	-.716**	-.236**	-.204**
	799	815	826	818
Percent of place arrived at by means other than driving	-.272**	-.225**	-.112**	-0.011
	812	823	842	830
Frequency using all kinds of public transportation	-.145**	-.151**	-0.051	-.071*
	813	822	842	830
Driving history (r, n)				
Age license was issued	-.216**	-.286**	-.151**	-.097**
	795	804	823	811
Number of accidents as a driver with injuries	.037	.016	-.002	.023
	798	808	827	816
Satisfaction with life and well-being (r, n)				
Satisfaction with life index	.282**	.347**	1	.592**
	813	821	847	834
Self-esteem	.215**	.244**	.592**	1
	803	813	834	835

* p<.05, **p<.01

Table 25: Results of a linear regression analysis on satisfaction with life

Panel		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	**Std. Error**	**Beta**		
1	(Constant)	4.689	.356		13.175	.000
	Age	-.017	.004	-.142	-3.940	.000
	Gender	.093	.042	.083	2.232	.026

	Education	-.099	.042	-.088	-2.373	.018
	Economic status self-evaluation	.213	.027	.287	7.913	.000

R square=1.22, p=.000

2	(Constant)	3.538	.360		9.814	.000
	Age	-.008	.004	-.071	-2.116	.035
	Gender	.039	.039	.035	1.009	.313
	Education	-.100	.039	-.089	-2.590	.010
	Economic status self-evaluation	.154	.025	.208	6.074	.000
	Self-perceived health	.126	.023	.222	5.406	.000
	Number of diseases	-.082	.019	-.220	-4.232	.000
	Number of drugs	.032	.024	.070	1.362	.174
	Visual acuity self-evaluation	.055	.021	.097	2.577	.010
	Hearing self-evaluation	.026	.017	.054	1.519	.129

R square=.27, R square change=.15, F change=26.88, p=.000

3	(Constant)	2.623	.329		7.972	.000
	Age	-.009	.004	-.075	-2.497	.013
	Gender	-.003	.036	-.003	-.099	.922
	Education	-.090	.034	-.080	-2.613	.009
	Economic status self-evaluation	.106	.023	.143	4.647	.000
	Self-perceived health	.106	.021	.187	5.081	.000
	Number of diseases	-.078	.017	-.210	-4.548	.000
	Number of drugs	.040	.021	.085	1.881	.060
	Visual acuity self-evaluation	.050	.019	.089	2.664	.008
	Hearing self-evaluation	-.002	.015	-.005	-.157	.875
	Loneliness	.163	.018	.285	8.878	.000
	Social support index	.157	.020	.250	7.782	.000
	Trusting family/friends to help with mobility	-.005	.013	-.015	-.373	.710
	Trusting family/friends to help access doctor/tests	.007	.013	.021	.508	.611

R square=.43, R square change=.16, F change=48.24, p=.000

4	(Constant)	1.967	.404		4.865	.000
	Age	-.006	.004	-.054	-1.799	.073
	Gender	-.047	.036	-.042	-1.320	.187
	Education	-.069	.033	-.061	-2.051	.041
	Economic status self-evaluation	.109	.022	.147	4.920	.000
	Self-perceived health	.096	.020	.171	4.742	.000
	Number of diseases	-.073	.017	-.196	-4.391	.000
	Number of drugs	.041	.020	.089	2.011	.045
	Visual acuity self-	.021	.019	.037	1.090	.276

evaluation					
Hearing self-evaluation	-.009	.015	-.020	-.636	.525
Loneliness	.153	.018	.268	8.462	.000
Social support index	.145	.020	.231	7.361	.000
Trusting family/friends to help with mobility	-.002	.013	-.006	-.142	.887
Trusting family/friends to help access doctor/tests	.008	.013	.024	.610	.542
Driving-related self-efficacy	.073	.024	.112	2.954	.003
Driving-related self-efficacy index	.071	.016	.208	4.490	.000
Extent of use of car for various needs index	-.002	.016	-.005	-.154	.878
Importance of driver's license	-.166	.085	-.243	-1.966	.050
Love of driving	-.081	.058	-.201	-1.410	.159
Avoidance driving under difficult conditions index	.046	.023	.086	2.011	.045
Percent of places arrived at by means other than driving	.001	.001	.041	1.003	.316
Frequency using all kinds of public transportation	.041	.022	.060	1.902	.058
Drivers vs. non-drivers	-.689	.232	-.482	-2.972	.003
Interaction: driving group & love of driving	.039	.031	.223	1.256	.210
Interaction: driving group & importance of license	.107	.049	.525	2.189	.029

R square=.48, R square change=.05, F change=5.53, p=.000

Table 26: Results of a linear regression analysis on self-esteem

Panel		Unstandardized coefficients		Standardized coefficients	t	p
		B	Std. Error	Beta		
1	(Constant)	4.752	.327		14.531	.000
	Age	-.007	.004	-.067	-1.767	.078
	Gender	.124	.038	.127	3.244	.001
	Education	.004	.038	.004	.105	.917
	Economic status self-evaluation	.064	.025	.099	2.606	.009
R square=0.32, p=.000						
2	(Constant)	3.957	.355		11.153	.000
	Age	-.002	.004	-.023	-.595	.552
	Gender	.104	.038	.106	2.729	.007
	Education	.003	.038	.003	.070	.944
	Economic status self-evaluation	.033	.025	.051	1.323	.186
	Self-perceived health	.053	.023	.108	2.324	.020
	Number of diseases	-.024	.019	-.073	-1.250	.212
	Number of drugs	.025	.023	.061	1.062	.289
	Visual acuity self-evaluation	.042	.021	.085	2.000	.046
	Hearing self-evaluation	.041	.016	.099	2.488	.013
R square=.08, R square change=.05, F change=6.81, p=.000						
3	(Constant)	3.258	.338		9.629	.000
	Age	-.002	.004	-.022	-.617	.537
	Gender	.055	.036	.056	1.508	.132
	Education	.005	.035	.005	.134	.894
	Economic status self-evaluation	-.003	.023	-.004	-.111	.911
	Self-perceived health	.032	.021	.064	1.480	.139
	Number of diseases	-.024	.018	-.073	-1.342	.180
	Number of drugs	.033	.022	.082	1.545	.123
	Visual acuity self-evaluation	.036	.019	.074	1.891	.059
	Hearing self-evaluation	.022	.015	.053	1.420	.156
	Loneliness	.160	.019	.320	8.476	.000
	Social support index	.094	.021	.172	4.574	.000
	Trusting family/friends to help with mobility	-.016	.013	-.058	-1.226	.221
	Trusting family/friends to help access doctor/tests	.008	.014	.028	.599	.550
R square=.22, R square change=.14, F change=30.02, p=.000						

4	(Constant)	2.878	.421		6.840	.000
	Age	.000	.004	.002	.055	.957
	Gender	.036	.037	.036	.956	.339
	Education	.014	.035	.014	.399	.690
	Economic status self-evaluation	.002	.023	.003	.081	.936
	Self-perceived health	.021	.021	.043	.995	.320
	Number of diseases	-.018	.017	-.056	-1.055	.292
	Number of drugs	.039	.021	.095	1.803	.072
	Visual acuity self-evaluation	.018	.020	.036	.892	.373
	Hearing self-evaluation	.021	.015	.051	1.390	.165
	Loneliness	.146	.019	.293	7.762	.000
	Social support index	.089	.020	.163	4.368	.000
	Trusting family/friends to help with mobility	-.015	.013	-.055	-1.150	.251
	Trusting family/friends to help with mobility	.007	.013	.023	.483	.629
	Driving-related self-efficacy	.073	.025	.135	2.965	.003
	Driving-related self-efficacy index	.018	.016	.059	1.063	.288
	Extent of use of car for various needs index	.018	.016	.044	1.112	.267
	Importance of driver's license	-.071	.089	-.119	-.805	.421
	Love of driving	-.156	.060	-.440	-2.582	.010
	Avoidance driving under difficult conditions index	.000	.024	.001	.018	.986
	Percent of places arrived at by means other than driving	.003	.001	.167	3.454	.001
	Frequency using all kinds of transportation	-.007	.022	-.011	-.303	.762
	Drivers vs. non-drivers	-.563	.244	-.452	-2.309	.021
	Interaction: driving group & love of driving	.086	.033	.560	2.645	.008
	Interaction: driving group & importance of license	.051	.051	.285	.995	.320

R square=.26, R square change=.04, F change=3.35, p=.000

Table 27: Results of a linear regression analysis on driving-related self-efficacy (single item)

Panel		Unstandardized Coefficients		Standardized Coefficients	t	p
		B	Std. Error	Beta		
1	(Constant)	6.181	.569		10.863	.000
	Age	-.017	.007	-.089	-2.409	.016
	Gender	.343	.067	.194	5.098	.000
	Education	-.082	.068	-.046	-1.210	.227
	Economic status self-evaluation	.092	.043	.078	2.116	.035
R square=0.59, p=.000						
2	(Constant)	4.664	.613		7.613	.000
	Age	-.008	.007	-.044	-1.210	.227
	Gender	.293	.066	.165	4.409	.000
	Education	-.087	.066	-.049	-1.313	.190
	Economic status self-evaluation	.023	.044	.019	.520	.603
	Self-perceived health	.076	.040	.085	1.898	.058
	Number of diseases	-.023	.033	-.038	-.681	.496
	Number of drugs	.025	.041	.034	.609	.543
	Visual acuity self-evaluation	.150	.036	.170	4.165	.000
	Hearing self-evaluation	.050	.029	.067	1.743	.082
R square=.12, R square change=.06, p=.000						
3	(Constant)	4.319	.626		6.895	.000
	Age	-.008	.007	-.045	-1.238	.216
	Gender	.293	.068	.165	4.307	.000
	Education	-.078	.066	-.044	-1.191	.234
	Economic status self-evaluation	.006	.044	.005	.142	.887
	Self-perceived health	.073	.040	.081	1.818	.069
	Number of diseases	-.020	.033	-.033	-.591	.555
	Number of drugs	.024	.041	.032	.585	.559
	Visual acuity self-evaluation	.149	.036	.169	4.151	.000
	Hearing self-evaluation	.040	.029	.054	1.396	.163
	Loneliness	.030	.035	.034	.862	.389
	Social support index	.083	.038	.083	2.191	.029
R square=.13, R square change=.01, F change=3.51, p=.030						
4	(Constant)	3.135	.614		5.109	.000
	Age	.008	.007	.042	1.213	.225
	Gender	.117	.066	.066	1.787	.074
	Education	-.011	.058	-.006	-.191	.849
	Economic status self-evaluation	-.006	.038	-.005	-.151	.880
	Self-perceived health	.063	.034	.070	1.818	.070
	Number of	.007	.029	.011	.233	.816

	diseases					
	Number of drugs	.026	.035	.035	.739	.460
	Visual acuity self-evaluation	.045	.032	.051	1.401	.162
	Hearing self-evaluation	.023	.025	.031	.927	.354
	Loneliness	.000	.031	.000	-.008	.994
	Social support index	.073	.033	.073	2.240	.025
	Extent of use of car for various needs index	-.014	.028	-.018	-.481	.631
	Importance of driver's license	.103	.041	.094	2.529	.012
	Love of driving	.078	.024	.121	3.273	.001
	Avoidance driving under difficult conditions index	-.299	.030	-.349	-9.872	.000
	Percent of places arrived at by means other than driving	-.002	.001	-.068	-1.566	.118
	Frequency using all kinds of public transportation	.005	.037	.005	.148	.882
	Age license was issued	-.008	.005	-.067	-1.715	.087
	Role of driving	.104	.038	.105	2.746	.006
	Drivers vs. Non-drivers	.141	.098	.063	1.432	.152
R square=.37, R square change=.24, F change=29.09, p=.000						

Table 28: Results of a linear regression analysis on driving-related self-efficacy (index)

Panel		Unstandardized Coefficients		Standardized Coefficients	t	p
		B	**Std. Error**	**Beta**		
1	(Constant)	10.972	1.013		10.828	.000
	Age	-.043	.012	-.125	-3.515	.000
	Gender	.862	.120	.265	7.201	.000
	Education	-.313	.120	-.096	-2.606	.009
	Economic status self-evaluation	.151	.077	.070	1.966	.050
R square=.34, p=.000						
2	(Constant)	7.918	1.079		7.336	.000
	Age	-.024	.012	-.071	-2.018	.044
	Gender	.780	.117	.240	6.672	.000
	Education	-.299	.116	-.092	-2.574	.010
	Economic status self-evaluation	.028	.077	.013	.367	.714
	Self-perceived health	.060	.070	.037	.858	.391
	Number of diseases	-.075	.059	-.069	-1.278	.202
	Number of drugs	.029	.071	.022	.409	.683
	Visual acuity self-evaluation	.282	.064	.173	4.415	.000
	Hearing self-evaluation	.172	.051	.125	3.397	.001
R square=.18, R square change=.07, F change=12.03, p=.000						
3	(Constant)	7.284	1.099		6.627	.000
	Age	-.024	.012	-.071	-2.024	.043
	Gender	.741	.120	.228	6.151	.000
	Education	-.298	.116	-.091	-2.564	.011
	Economic status self-evaluation	-.002	.077	-.001	-.029	.977
	Self-perceived health	.046	.070	.028	.657	.511
	Number of diseases	-.073	.058	-.067	-1.244	.214
	Number of drugs	.034	.071	.025	.479	.632
	Visual acuity self-evaluation	.278	.064	.171	4.370	.000
	Hearing self-evaluation	.153	.051	.112	3.019	.003
	Loneliness	.123	.063	.074	1.965	.050
	Social support index	.094	.066	.051	1.414	.158
R square=.19, R square change=.01, F change=3.86, p=.021						
4	(Constant)	7.659	.914		8.379	.000
	Age	.005	.010	.015	.547	.584
	Gender	.253	.098	.078	2.588	.010
	Education	-.196	.086	-.060	-2.284	.023
	Economic status self-evaluation	-.007	.057	-.003	-.129	.898
	Self-perceived health	.016	.051	.010	.307	.759
	Number of diseases	.004	.043	.003	.082	.935
	Number of drugs	.027	.052	.020	.515	.607
	Visual acuity self-evaluation	.084	.048	.052	1.761	.079
	Hearing self-evaluation	.095	.037	.069	2.540	.011
	Loneliness	.059	.046	.036	1.283	.200

	Social support index	.086	.048	.047	1.772	.077
	Extent of use of car for various needs index	-.036	.042	-.026	-.859	.391
	Importance of driver's license	.045	.062	.022	.733	.464
	Love of driving	.121	.036	.101	3.359	.001
	Avoidance driving under difficult conditions index	-.947	.045	-.602	-20.879	.000
	Percent of places arrived at by means other than driving	-.004	.002	-.069	-1.954	.051
	Frequency using all kinds of public transportation	.034	.054	.018	.635	.525
	Age license was issued	-.013	.007	-.055	-1.773	.077
	role of driving	.092	.058	.050	1.598	.110
	Drivers vs. non-drivers	-.022	.146	-.005	-.147	.883
R square=.58, R square change=.39, F change=70.45, p=.000						

Table 29: Comparison between men and women on socio-demographic characteristics

Variable	Males n=432	Females n=428	Total N=860	T, X², df	p
Age					
Mean (SD)	77.66 (4.82)	77.83 (4.74)	77.75 (4.78)	t=-0.51 df=858	.608
Median	77.00	78.00	77.00		
Actual range	69-94	70-94	69-94		
Education					
Up to eight years	62 (14.4%)	22 (5.1%)	84 (9.8%)	X²=50.5 df=2	.000
Above eight years	190 (44.0%)	130 (30.4%)	320 (37.2%)		
Above high-school	180 (41.7%)	276 (64.5%)	456 (53.0%)		
Marital status					
Married or lives with partner	351 (83.0%)	204 (49.0%)	555 (66.2%)	X²= 107.90 df=1	.000
Lives without partner	72 (17.0%)	212 (51.0%)	284 (33.8%)		
Economic status self-evaluation (6=excellent state)					
Mean (SD)	4.30 (0.79)	4.28 (0.76)	4.29 (0.77)	t=.510 df=838	.610
Median	4.00	4.00	4.00		
Actual range	1-6	1-6	1-6		
Place of residence					
City	385 (89.1%)	385 (90.0%)	770 (89.5%)	X²=0.16 df=1	.690
Rural	47 (10.9%)	43 (10.0%)	90 (10.5%)		
Years in Israel since immigration					
Mean (SD)	61.85 (7.58)	63.27 (8.92)	62.56 (8.30)	t=-1.90 df=493	.058
Median	59.00	61.00	60.00		
Actual range	18-85	30-83	18-85		
Country of Birth					
Israel	183 (42.5%)	179 (41.9%)	362 (42.2%)	X²=64.96 df=3	.000
Western countries	52 (12.1%)	112 (26.2%)	164 (19.1%)		
East European countries	126 (29.2%)	125 (29.3%)	251 (29.3%)		
Africa/Asia	70 (16.2%)	11 (2.6%)	81 (9.4%)		
Work for pay					
Yes	80 (18.6%)	52 (12.2%)	132 (15.4%)	X²=6.64 df=1	.010
No	350 (81.4%)	373 (87.8%)	723 (84.6%)		
Hours of work					
Mean (SD)	29.66 (16.53)	20.64 (13.50)	26.32 (16.03)	t=3.07 df=117	.003
Median	28.00	20.00	25.00		
Actual range	2-70	2-50	2-70		
Volunteering					
Yes	93 (21.7%)	134 (31.5%)	227 (26.6%)	X²=10.49 df=1	.001
No	335 (78.3%)	291 (68.5%)	626 (73.4%)		
Hours of volunteering					
Mean (SD)	10.11 (10.07)	8.90 (11.36)	9.42 (10.81)	t=0.74 df=178	.458
Median	6.00	5.00	5.00		
Actual range	1-60	1-80	1-80		

Table 30: Comparison between men and women on physical resources: Health and functioning

Variables	Males n=432	Females n=428	Total N=860	t, X², df	p
Health and functioning					
Self-perceived health (6=excellent)					
Mean (SD)	4.32 (1.02)	4.17 (0.96)	4.24 (0.99)	t=2.14 df=848	.033
Median	4.00	4.00	4.00		
Actual range	1-6	1-6	1-6		
Number of diseases					
Mean (SD)	1.70 (1.32)	1.99 (1.63)	1.84 (1.49)	t=-2.80 df=858	.005
Median	2.00	2.00	2.00		
Actual range	0-7	0-14	0-14		
Number of drugs taken					
Mean (SD)	1.34 (1.16)	1.52 (1.30)	1.43 (1.24)	t=-2.21 df=858	.028
Median	1.00	1.00	1.00		
Actual range	0-6	0-8	0-8		
Visual acuity self-evaluation (6=excellent vision)					
Mean (SD)	4.50 (1.02)	4.22 (0.98)	4.36 (1.00)	t=4.04 df=853	.000
Median	4.00	4.00	4.00		
Actual range	1-6	1-6	1-6		
Wears glasses					
Never	35 (8.8%)	21 (5.3%)	56 (7.0%)	X²=6.71 df=4	.152
Mostly does not	109 (27.3%)	91 (23.0%)	200 (25.2%)		
Usually does	85 (21.3%)	97 (24.5%)	182 (22.9%)		
Always	147 (36.8%)	162 (40.9%)	309 (38.9%)		
Other	23 (5.8%)	25 (6.3%)	48 (6.0%)		
Hearing self-evaluation (6=excellent hearing)					
Mean (SD)	4.52 (1.20)	4.62 (1.18)	4.57 (1.19)	t=-1.21 df=838	.228
Median	4.00	5.00	5.00		
Actual range	1-6	1-6	1-6		
Hearing device				X²=4.87 df=1	.027
No hearing device	331 (85.1%)	345 (90.3%)	676 (87.7%)		
Hearing device	58 (14.9%)	37 (9.7%)	95 (12.3%)		

Table 31: Comparison of men and women on psychosocial resources

Variable	Males n=432	Females n=428	Total N=860	t , df	p
Loneliness (1=lonely all the time)					
Mean (SD)	4.55 (0.90)	4.13 (1.03)	4.34 (0.99)	t=6.31,df= 823	.000
Median	5.00	4.00	5.00		
Actual range	1-6	1-5	1-5		
Social support (5=most support)					
Mean (SD)	4.22 (0.91)	4.29 (0.87)	4.25 (0.89)	t=-1.20 df=808	.232
Median	4.67	4.67	4.67		
Actual range	1-5	1-5	1-5		
Trusting family/friends to help with mobility (6=greatest trust)					
Mean (SD)	4.58 (1.77)	4.45 (1.83)	4.52 (1.80)	t=1.08 df=843	.282
Median	5.00	5.00	5.00		
Actual range	1-6	1-6	1-6		
Trusting family/friends to help access doctor/tests (6=highest trust)					
Mean (SD)	4.83 (1.69)	4.89 (1.77)	4.86 (1.73)	t=-0.50 df=835	.620
Median	6.00	6.00	6.00		
Actual range	1-6	1-6	1-6		
Driving related self-efficacy (6=most confident)					
Mean (SD)	5.53 (0.84)	5.23 (1.00)	5.38 (0.94)	t=4.54 df=792	.000
Median	6.00	6.00	6.00		
Actual range	1-6	2-6	1-6		
Driving related self-efficacy index (10=most confident)					
Mean (SD)	9.03 (1.32)	8.17 (1.75)	8.61 (1.60)	t=7.95 df=755	.000
Median	9.60	8.67	9.17		
Actual range	2.80-10.00	1.00-10.00	1.00-10.00		

Table 32: **Comparison between men and women on driving needs and importance of driving**

Variables	Males n=432	Females n=428	Total N=860	t , df	p
Mobility Needs					
Necessity of car due to physical disability (6=not at all)					
Mean (SD)	5.35 (1.53)	5.37 (1.54)	5.36 (1.54)	t=-.237 df=805	.813
Median	6.00	6.00	6.00		
Actual range	1-6	1-6	1-6		
Importance driving					
Extent of use of car for various needs index (6=most extensively)					
Mean (SD)	4.24 (1.14)	4.37 (1.19)	4.30 (1.16)	t=-1.63 df=846	.105
Median	4.27	4.55	4.45		
Actual range	1-6	1-6	1-6		
Role of driving index (6=most important)					
Mean (SD)	5.21 (0.85)	5.12 (0.94)	5.17 (0.90)	t=1.43 df=850	.153
Median	5.44	5.44	5.44		
Actual range	1-6	1-6	1-6		
Importance of driver's license (6=most important)					
Mean (SD)	5.63 (0.88)	5.69 (0.75)	5.66 (0.82)	t=-1.15 df=839	.249
Median	6.00	6.00	6.00		
Actual range	1.00-6.00	1.00-6.00	1.00-6.00		
Love of driving (6=highest score)					
Mean (SD)	4.93 (1.34)	4.88 (1.39)	4.91 (1.37)	t=0.58 df=851	.559
Median	5.00	5.00	5.00		
Actual range	1.00-6.00	1.00-6.00	1.00-6.00		

Table 33: Comparisons between men and women on patterns of driving, availability, accessibility and use of public transportation

Variables	Males n=432	Females n=428	Total N=860	t , df	p
Frequency driving per day (when last drove)					
Mean (SD)	2.36 (1.89)	1.97 (1.30)	2.17 (1.64)	t=3.14 df=692	.002
Median	2.00	2.00	2.00		
Actual range	0-15	0-9	0-15		
Frequency driving per day (two years ago or two years prior to cessation)					
Mean (SD)	2.61 (2.23)	2.20 (1.60)	2.41 (1.96)	t=2.80 df=717	.005
Median	2.00	1.60	2.00		
Actual range	0-20	0-18	0-20		
Avoidance driving under difficult conditions index (6=highest voidance)					
Mean (SD)	1.67 (0.92)	2.16 (1.14)	1.91 (1.06)	t=-6.74 df=832	.000
Median	1.31	1.14	1.56		
Actual range	1-6	1-6	1-6		
Percent of places arrived by means other than driving					
Mean (SD)	32.0 (28.8)	37.2 (31.2)	34.6 (30.1)	t=-2.51 df=850	.012
Median	26.7	30.8	27.8		
Actual range	0-100	0-100	0-100		
Frequency using public transportation in city index (6=most frequent)					
Mean (SD)	2.53 (1.19)	2.78 (1.24)	2.66 (1.22)	t=-3.00 df=849	.003
Median	2.50	2.50	2.50		
Actual range	1-6	1-6	1-6		
Frequency using public transportation between cities index (6=most frequent)					
Mean (SD)	1.85 (0.91)	1.96 (0.87)	1.91 (0.89)	t=-1.78 df=849	.075
Median	1.67	1.67	1.67		
Actual range	1-6	1-6	1-6		
Frequency using all kinds of public transportation (6=most frequent)					
Mean (SD)	2.14 (0.89)	2.31 (0.85)	2.22 (0.88)	t=-2.85 df=852	.004
Median	2.00	2.20	2.00		
Actual range	1-6	1-6	1-6		
Availability /accessibility Public Transportation					
Bus nearby					
Yes	396 (92.5%)	394 (93.1%)	790 (92.8%)	X²=0.12 df=1	.726
No	32 (7.5%)	29 (6.9%)	61 (7.2%)		
Train nearby					
Yes	135 (33.1%)	138 (34.8%)	273 (33.9%)	X²= 0.25 df=1	.616
No	273 (66.9%)	259 (65.2%)	532 (66.1%)		
Taxi nearby					
Yes	387 (91.5%)	386 (93.5%)	773 (92.5%)	X²=1.17 df=1	.280
No	36 (8.5%)	27 (6.5%)	63 (7.5%)		
Price of public					

transportation					
Inexpensive	79 (18.7%)	66 (16.0%)	145 (17.3%)	X^2=3.73 df=5	.588
Reasonable	235 (55.6%)	243 (58.8%)	478 (57.2%)		
Expensive	11 (2.6%)	8 (1.9%)	19 (2.3%)		
Don't know	98 (23.2.%)	94 (22.8%)	192 (23.0%)		
Adaptation group					
Successful	128 (29.9%)	122 (28.8%)	250 (29.3%)	X^2=2.30 df=2	.317
Normative	292 (68.2%)	287 (67.7%)	579 (68.0%)		
Pathological	8 (1.9%)	15 (3.5%)	23 (2.7%)		

Table 34: Comparisons of men and women on driving history

Variables	Males n=432	Females n=428	Total N=860	t, X², df	p
Age license issued					
Mean (SD)	22.34 (5.13)	28.25 (7.18)	25.28 (6.89)	t=-13.71 df=834	.000
Median	21.00	28.00	24.00		
Actual range	15-59	16-61	16-61		
Age first drove					
Mean (SD)	21.46 (5.08)	28.09 (7.56)	24.78 (7.24)	t=-14.81 df=828	.000
Median	20.00	27.00	23.00		
Actual range	11-56	14-65	11-65		
Accidents as driver				X²=3.18 df=1	.074
Yes	193 (46.0%)	167 (39.9%)	360 (42.9%)		
No	227 (54.0%)	252 (60.1%)	479 (57.1%)		
Accidents as driver in last 6 months of driving					
Yes	11 (3.2%)	14 (4.2%)	25 (3.7%)	X²=3.02 df=2	.222
No	324 (95.3%)	320 (95.5%)	644 (95.4%)		
Almost	5 (1.5%)	1 (.3%)	6 (.9%)		
Accidents as driver in last 2 years					
Yes	14 (4.1%)	17 (5.2%)	31 (4.6%)	X²=2.10 df=2	.350
No	320 (94.7%)	311 (94.5%)	631 (94.6%)		
Almost	4 (1.2%)	1 (.3%)	5 (.7%)		
Number of accidents as driver with injuries					
Mean (SD)	0.49 (1.00)	0.32 (0.62)	0.41 (0.85)	t=2.27 df=507	.023
Median	0.00	0.00	0.00		
Actual range	0-9	0-3	0-9		
Serious accident to relative/friend					
Yes	71 (17.0%)	87 (21.2%)	158 (19.1%)	X²=2.35 df=1	.125
No	346 (83.0%)	323 (78.8%)	669 (80.9%)		
Driving as a profession					
Yes	192 (45.0%)	12 (2.9%)	204 (24.2%)	X²=203.4 df=1	.000
No	235 (55.0%)	404 (97.1%)	639 (75.8%)		
Reasons for not owning driver's license *					
Revoked or prohibited by physician	7 (14.0%)	7 (8.3%)	14 (10.4%)	X²=6.49 df=2	.039
Not renewed voluntarily	40 (80.0%)	77 (91.7%)	117 (87.3%)		
Not renewed for technical reasons	3 (6.0%)	0 (0%)	3 (2.2%)		

*Only among those who do not continue to own a license

Table 35: Gender differences in satisfaction with life and self-esteem

Variable	Males n=432	Females n=428	Total N=860	t, df	p
Satisfaction with life (index)					
Mean (SD)	4.35 (0.56)	4.23 (0.56)	4.29 (0.57)	t=4.35 df=841	.000
Median	4.45	4.36	4.36		
Actual range	1.18-5.00	2.45-5.00	1.18-5.00		
Self-esteem (index)					
Mean (SD.)	4.61 (0.44)	4.50 (0.51)	4.56 (0.49)	t=3.19 df=841	.001
Median	4.70	4.60	4.70		
Actual range	2.00-5.00	2.00-5.00	2.00-5.00		

Table 36: Results of a linear regression analysis on men's satisfaction with life

Panel		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	**Std. Error**	**Beta**		
1	(Constant)	4.999	.500		9.990	.000
	Age	-.020	.006	-.170	-3.319	.001
	Education	-.031	.059	-.027	-.523	.601
	Economic status self-evaluation	.215	.038	.292	5.699	.000
R square=.12, p=.000						
2	(Constant)	3.940	.525		7.507	.000
	Age	-.012	.006	-.104	-2.133	.034
	Education	-.043	.054	-.038	-.806	.421
	Economic status self-evaluation	.167	.036	.227	4.686	.000
	Self-perceived health	.121	.033	.217	3.659	.000
	Number of diseases	-.091	.037	-.213	-2.459	.014
	Number of drugs	.009	.040	.019	.235	.815
	Visual acuity self-evaluation	.039	.029	.070	1.334	.183
	Hearing self-evaluation	.023	.024	.050	.970	.333
R square=.27, R square change=.16, F change=14.24, p=.000						
3	(Constant)	2.843	.479		5.936	.000
	Age	-.012	.005	-.105	-2.429	.016
	Education	-.037	.048	-.033	-.781	.435
	Economic status self-evaluation	.128	.032	.174	4.021	.000
	Self-perceived health	.088	.030	.158	2.951	.003
	Number of diseases	-.096	.033	-.224	-2.892	.004
	Number of drugs	.025	.036	.051	.700	.484
	Visual acuity self-evaluation	.044	.026	.079	1.698	.090
	Hearing self-evaluation	-.002	.022	-.004	-.094	.925
	Loneliness	.186	.029	.288	6.416	.000
	Social support index	.144	.027	.239	5.361	.000
	Trusting family/friends to help with mobility	-.023	.019	-.070	-1.191	.235
	Trusting family/friends to help access doctor/tests	.030	.020	.088	1.539	.125
R square=.44, R square change=.17, F change=24.31, p=.000						
4	(Constant)	1.999	.629		3.180	.002
	Age	-.010	.005	-.083	-1.867	.063
	Education	-.036	.047	-.032	-.767	.444
	Economic status self-evaluation	.130	.032	.177	4.096	.000
	Self-perceived health	.076	.030	.136	2.561	.011
	Number of diseases	-.086	.033	-.201	-2.612	.009

Number of drugs	.028	.036	.058	.793	.428
Visual acuity self-evaluation	.007	.027	.012	.252	.801
Hearing self-evaluation	-.011	.022	-.023	-.497	.620
Loneliness	.172	.029	.265	5.905	.000
Social support index	.132	.027	.219	4.951	.000
Trusting family/friends to help with mobility	-.023	.019	-.070	-1.217	.225
Trusting family/friends to help access doctor/tests	.031	.019	.090	1.602	.110
Driving-related self-efficacy	.072	.037	.093	1.934	.054
Driving-related self-efficacy index	.074	.025	.176	2.992	.003
Extent of use of car for various needs index	.014	.025	.029	.590	.556
Importance of driver's license	-.298	.149	-.467	-2.005	.046
Love of driving	.078	.130	.179	.598	.550
Avoidance driving under difficult conditions	.039	.036	.061	1.083	.280
Percent of places arrived at by means other than driving	.001	.001	.054	.956	.340
Frequency using all kinds of public transportation	.033	.032	.049	1.050	.295
drivers vs. non-drivers	-.573	.325	-.360	-1.766	.078
Interaction: driving group & love of driving	-.042	.068	-.221	-.612	.541
Interaction: driving group & importance of license	.176	.081	.830	2.176	.030
R square=.48, R square change=.04, F change=2.48, p=.005					

Table 37: Results of a linear regression analysis on women's satisfaction with life

Panel		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	**Std. Error**	**Beta**		
1	(Constant)	4.559	.508		8.969	.000
	Age	-.015	.006	-.125	-2.411	.016
	Education	-.170	.060	-.147	-2.818	.005
	Economic status self-evaluation	.214	.038	.288	5.563	.000
R square=.11, p=.000						
2	(Constant)	3.339	.505		6.618	.000
	Age	-.007	.006	-.057	-1.180	.239
	Education	-.163	.056	-.140	-2.898	.004
	Economic status self-evaluation	.147	.037	.197	3.983	.000
	Self-perceived health	.128	.033	.225	3.844	.000
	Number of diseases	-.077	.023	-.231	-3.373	.001
	Number of drugs	.055	.031	.126	1.813	.071
	Visual acuity self-evaluation	.074	.031	.130	2.400	.017
	Hearing self-evaluation	.026	.024	.055	1.087	.278
R square=.26, R square change=.15, F change=13.09, p=.000						
3	(Constant)	2.617	.466		5.616	.000
	Age	-.008	.005	-.072	-1.645	.101
	Education	-.150	.050	-.129	-2.981	.003
	Economic status self-evaluation	.085	.033	.114	2.555	.011
	Self-perceived health	.116	.030	.206	3.919	.000
	Number of diseases	-.071	.020	-.214	-3.539	.000
	Number of drugs	.058	.027	.133	2.155	.032
	Visual acuity self-evaluation	.060	.027	.104	2.171	.031
	Hearing self-evaluation	-.006	.021	-.013	-.281	.779
	Loneliness	.151	.024	.283	6.336	.000
	Social support index	.178	.031	.275	5.696	.000
	Trusting family/friends to help with mobility	.009	.018	.029	.495	.621
	Trusting family/friends to help access doctor/tests	-.015	.019	-.048	-.794	.428
R square=.43, R square change=.17, F change=24.81, p=.000						
4	(Constant)	1.828	.568		3.216	.001
	Age	-.004	.005	-.035	-.789	.431
	Education	-.108	.049	-.093	-2.191	.029
	Economic status self-evaluation	.090	.032	.121	2.793	.006

Self-perceived health	.104	.029	.185	3.632	.000
Number of diseases	-.068	.020	-.204	-3.464	.001
Number of drugs	.059	.026	.134	2.221	.027
Visual acuity self-evaluation	.038	.027	.066	1.365	.173
Hearing self-evaluation	-.016	.021	-.034	-.756	.450
Loneliness	.145	.024	.272	6.123	.000
Social support index	.165	.031	.254	5.381	.000
Trusting family/friends to help with mobility	.014	.017	.048	.836	.404
Trusting family/friends to help access doctor/tests	-.010	.018	-.032	-.547	.585
Driving-related self-efficacy	.085	.033	.157	2.603	.010
Driving-related self-efficacy index	.069	.022	.223	3.196	.002
Extent of use of car for various needs index	-.016	.022	-.036	-.759	.449
Importance of driver's license	-.148	.119	-.201	-1.242	.215
Love of driving	-.122	.071	-.325	-1.735	.084
Avoidance driving under difficult conditions	.048	.031	.100	1.568	.118
Percent of places arrived at by means other than driving	.001	.001	.034	.560	.576
Frequency using all kinds of public transportation	.055	.031	.080	1.798	.073
drivers vs. non-drivers	-.730	.360	-.562	-2.029	.043
Interaction: driving group & love of driving	.059	.039	.354	1.493	.136
Interaction: driving groups & importance of license	.091	.072	.473	1.271	.205

R square=.49, R square change=.06, F change=3.52, p=.000

Table 38: Results of a linear regression analysis on men's self-esteem

Panel		Unstandardized Coefficients		Standardized Coefficients	t	P
		B	**Std. Error**	**Beta**		
1	(Constant)	4.763	.422		11.296	.000
	Age	-.007	.005	-.072	-1.336	.183
	Education	.041	.049	.045	.838	.403
	Economic status self-evaluation	.085	.032	.146	2.698	.007
R square=.03, p=.020						
2	(Constant)	4.025	.479		8.410	.000
	Age	-.002	.005	-.023	-.408	.684
	Education	.037	.049	.041	.758	.449
	Economic status self-evaluation	.065	.032	.111	2.011	.045
	Self-perceived health	.028	.030	.063	.943	.346
	Number of diseases	-.016	.033	-.046	-.466	.642
	Number of drugs	.000	.037	-.001	-.006	.995
	Visual acuity self-evaluation	.045	.026	.100	1.694	.091
	Hearing self-evaluation	.037	.022	.098	1.696	.091
R square=.07, R square change=.04, F change=3.06, p=.010						
3	(Constant)	3.154	.443		7.116	.000
	Age	-.002	.005	-.023	-.455	.649
	Education	.034	.044	.037	.775	.439
	Economic status self-evaluation	.035	.029	.059	1.191	.234
	Self-perceived health	-.004	.028	-.008	-.133	.894
	Number of diseases	-.022	.030	-.064	-.722	.471
	Number of drugs	.017	.033	.043	.509	.611
	Visual acuity self-evaluation	.050	.024	.113	2.111	.036
	Hearing self-evaluation	.016	.020	.043	.824	.411
	Loneliness	.222	.027	.431	8.354	.000
	Social support index	.031	.025	.064	1.250	.212
	Trusting family/friends to help with mobility	-.023	.017	-.091	-1.352	.177
	Trusting family/friends to help access doctor/tests	.035	.018	.127	1.933	.054
R square=.26, R square change=.19, F change=21.15, p=.000						
4	(Constant)	2.769	.569		4.866	.000
	Age	.001	.005	.007	.143	.887
	Education	.020	.043	.022	.461	.645
	Economic status self-evaluation	.043	.029	.074	1.507	.133
	Self-perceived health	-.026	.027	-.057	-.940	.348

Number of diseases	-.017	.030	-.051	-.587	.557
Number of drugs	.023	.032	.059	.722	.471
Visual acuity self-evaluation	.028	.025	.062	1.111	.267
Hearing self-evaluation	.009	.020	.023	.432	.666
Loneliness	.199	.026	.385	7.550	.000
Social support index	.030	.024	.064	1.263	.208
Trusting family/friends to help with mobility	-.027	.017	-.104	-1.576	.116
Trusting family/friends to help access doctor/tests	.037	.017	.134	2.105	.036
Driving-related self-efficacy	.060	.034	.097	1.779	.076
Driving-related self-efficacy index	.017	.022	.050	.744	.457
Extent of use of car for various needs index	.031	.022	.079	1.407	.160
Importance of driver's license	-.296	.134	-.575	-2.200	.029
Love of driving	.132	.120	.378	1.100	.272
Avoidance driving under difficult conditions index	-.058	.033	-.114	-1.764	.079
Percent of places arrived at by means other than driving	.004	.001	.255	3.983	.000
Frequency using all kinds of transportation	-.021	.029	-.039	-.739	.461
drivers vs. non-drivers	-.336	.301	-.263	-1.117	.265
Interaction: driving group & love of driving	-.071	.062	-.465	-1.130	.259
Interaction: driving group & importance of license	.172	.073	1.006	2.350	.019
R square=.34, R square change=.08, F change=3.26, p=.000					

Table 39: Results of a linear regression analysis on women's self-esteem

Panel		Unstandardized Coefficients		Standardized Coefficients	t	p
		B	**Std. Error**	**Beta**		
1	(Constant)	4.936	.505		9.773	.000
	Age	-.008	.006	-.071	-1.298	.195
	Education	-.035	.060	-.032	-.588	.557
	Economic status self-evaluation	.043	.039	.061	1.123	.262
R square=.01, F change=1.05, p=.370						
2	(Constant)	4.095	.532		7.692	.000
	Age	-.004	.006	-.037	-.671	.503
	Education	-.036	.059	-.033	-.612	.541
	Economic status self-evaluation	-.002	.039	-.003	-.053	.958
	Self-perceived health	.081	.035	.153	2.324	.021
	Number of diseases	-.027	.024	-.087	-1.130	.259
	Number of drugs	.046	.032	.112	1.427	.155
	Visual acuity self-evaluation	.038	.033	.071	1.166	.245
	Hearing self-evaluation	.049	.025	.112	1.971	.050
R square=.07, R square change=.06, F change=4.12, p=.001						
3	(Constant)	3.664	.512		7.151	.000
	Age	-.007	.006	-.067	-1.299	.195
	Education	-.034	.055	-.031	-.614	.540
	Economic status self-evaluation	-.053	.037	-.075	-1.435	.152
	Self-perceived health	.065	.033	.122	1.980	.049
	Number of diseases	-.023	.022	-.073	-1.040	.299
	Number of drugs	.047	.030	.115	1.596	.111
	Visual acuity self-evaluation	.028	.030	.052	.923	.357
	Hearing self-evaluation	.022	.024	.050	.934	.351
	Loneliness	.119	.026	.238	4.555	.000
	Social support index	.189	.034	.310	5.500	.000
	Trusting family/friends to help with mobility	-.009	.019	-.030	-.446	.656
	Trusting family/friends to help access doctor/tests	-.027	.021	-.092	-1.304	.193
R square=.22, R square change=.16, F change=16.30, p=.000						
4	(Constant)	2.814	.640		4.399	.000
	Age	-.004	.006	-.035	-.655	.513
	Education	-.013	.055	-.012	-.235	.814
	Economic status self-evaluation	-.049	.036	-.070	-1.353	.177
	Self-perceived health	.053	.032	.099	1.624	.105

	Number of diseases	-.021	.022	-.065	-.930	.353
	Number of drugs	.059	.030	.144	1.991	.047
	Visual acuity self-evaluation	.015	.031	.029	.497	.620
	Hearing self-evaluation	.020	.024	.046	.867	.386
	Loneliness	.111	.027	.221	4.177	.000
	Social support index	.181	.034	.297	5.253	.000
	Trusting family/friends to help with mobility	-.008	.019	-.029	-.423	.672
	Trusting family/friends to help access doctor/tests	-.024	.021	-.080	-1.142	.254
	Driving-related self-efficacy	.114	.037	.224	3.104	.002
	Driving-related self-efficacy index	.018	.024	.062	.742	.459
	Extent of use of car for various needs index	.024	.025	.055	.967	.334
	Importance of driver's license	.061	.134	.089	.458	.647
	Love of driving	-.264	.079	-.745	-3.320	.001
	Avoidance driving under difficult conditions index	.045	.034	.100	1.317	.189
	Percent of places arrived at by means other than driving	.002	.001	.116	1.605	.110
	Frequency using all kinds of public transportation	.014	.034	.022	.404	.687
	Drivers vs. non-drivers	-.376	.405	-.308	-.929	.353
	Interaction: driving group & love of driving	.151	.044	.967	3.414	.001
	Interaction: driving group & importance of license	-.044	.080	-.244	-.547	.584
R square=.27, R square change=.05, F change=2.05, p=.023						

Table 40: Use of driving for various needs in order of importance [a]:

A comparison between men and women

Variables	Men		Women		t	Total sample		
	Mean	SD	Mean	SD		Mean	SD	Median
Visiting relatives	5.25	1.259	5.20	1.404	0.56	5.22	1.332	6.00
Shopping	5.08	1.451	5.15	1.359	-0.69	5.11	1.406	6.00
Visiting friends	5.08	1.322	5.13	1.380	-0.55	5.11	1.350	6.00
Errands	5.09	1.284	5.03	1.359	0.66	5.06	1.321	6.00
Medical assistance	4.33	1.814	4.49	1.804	-1.23	4.41	1.810	5.00
Movies, theaters, concerts	3.80	2.073	4.35	1.951	-4.0**	4.07	2.031	5.00
Trips	4.21	1.903	3.69	2.057	3.86**	3.95	1.997	4.00
Hobbies	3.57	2.159	3.85	2.121	-1.85	3.71	2.143	4.00
Studies, lectures	3.40	2.124	3.97	2.114	-3.8**	3.69	2.137	4.00
Work/volunteering	3.54	2.326	3.62	2.285	-0.53	3.58	2.305	4.00
Physical fitness	3.11	2.186	3.46	2.224	-2.28*	3.28	2.211	3.00

[a] (6-point scale from 1=Do not use at all to 6=Use to a very large extent)

Group t-test for comparisons between men and women: * $p \leq .05$, ** $p \leq .001$

דפוסי הסתגלות הקשורים לנהיגה אצל נהגים זקנים בישראל: תיאור גורמים ותוצאות בתחושת רווחה

פרופ' שרה כרמל, הפקולטה למדעי הבריאות, אוניברסיטת בן-גוריון

תקציר –

מטרות:

מטרת המחקר הייתה להכיר ולהבין את דפוסי ההסתגלות לנהיגה של זקנים בישראל. במסגרת זו, א) לזהות ולתאר דפוסי הסתגלות למגבלות תפקוד הקשורות בנהיגה, בכלל זה, הגבלות עצמיות על נהיגה עד להפסקה מוחלטת רצונית או כפויה, ב) לאתר את הגורמים הקשורים בדפוסי ההסתגלות הקשורים בנהיגה, ג) לבחון את הקשרים שבין דפוסי ההסתגלות לבין תחושת רווחה, מבחינת הערכה עצמית ושביעות רצון מהחיים. שערנו שבנוסף למאפיינים סוציו-דמוגראפיים, מצב בריאות ותפקוד, תמיכה חברתית, והסטוריה אישית של נהיגה ותאונות דרכים, ימצאו בקשר עם דפוסי הסתגלות לנהיגה גם הצרכים, אלטרנטיבות תמנוע, חשיבות ואהבת נהיגה, והערכה עצמית של מסוגלות אישית לנהוג. כמו כן, שערנו שדפוסי ההסתגלות לנהיגה יהיו קשורים לתחושת רווחה.

שיטה:

הנחקרים נדגמו באופן אקראי ממאגר מחלקת המידע והרישוי של משרד התחבורה. בוצעו ראיונות בית עם 860 נהגים, בני 70 ומעלה. הראיונות התבססו על שאלון מובנה.

ממצאים:

נמצא שהפסקת הנהיגה של קשישים הינה במידה רבה תהליך הדרגתי ורצוני. הבדלים משמעותיים נמצאו במאפיינים סוציו-דמוגראפיים, פסיכו-חברתיים ומאפיינים הקשורים להסטורית נהיגה בין קבוצות אנשים שנקטו בדפוסי הסתגלות שונים. נשים נבדלו באופן משמעותי מגברים בכך שדווחו על פחות נסיון נהיגה, ופחות בטחון עצמי ביכולת הנהיגה, בכך שהחלו לנהוג בגיל מבוגר יותר והפסיקו לנהוג מוקדם יותר ומתוך רצון.

מסקנות:

נמצא שלנהיגה מקום משמעותי ביותר בתחושת הרווחה של הזקנים. לאור אלה, מומלץ להקים תוכניות לנהגים זקנים שתאפשרנה איבחון מקיף מהקיים כיום של יכולות נהיגה, ובהתאם לאיבחון, שיפור מיומנויות נהיגה ובטחון בנהיגה ו/או הכתבת מגבלות או הפסקת נהיגה. כמו כן, לשלב תוכניות נהיגה בבתי ספר תיכוניים כדי לפתח עמדות והתנהגויות רצויות לנהיגה מגיל צעיר ובכך להבטיח נהיגה זהירה לאורך החיים, וכן, להאריך את נסיון הנהיגה ושנות הנהיגה בגיל הזקנה.

תקציר מנהלים –

(1) מטרות המחקר:

מטרת העל של המחקר הייתה להכיר ולהבין את דפוסי ההסתגלות לנהיגה של זקנים בישראל, כדי לנסח המלצות לפיתוח קווי מדיניות בתחום ותוכניות התערבות המכוונות לקדם איכות חייהם של הקשישים מבלי לפגוע בבטיחות הציבור. בצורה מפורטת, א) לזהות ולתאר דפוסי הסתגלות למגבלות תפקוד הקשורות בנהיגה, בכלל זה, הגבלות עצמיות על נהיגה עד להפסקה מוחלטת רצונית או כפויה, ב) לאתר את הגורמים הקשורים לדפוסי ההסתגלות הקשורים בנהיגה, ג) לבחון את הקשרים שבין דפוסי ההסתגלות לבין תחושת רווחה, מבחינת הערכה עצמית ושביעות רצון מהחיים.

(2) שיטת הביצוע:

מדגם אשכולות אקראי שחציו גברים וחציו נשים, בני 70 ומעלה, ושלשליש מהם לא חודשו רשיונות נהיגה ב-3 השנים האחרונות, הוצא ממאגר המידע של מחלקת הרישוי של משרד התחבורה. שמות ממאגר זה הוצאו באופן אקראי ואותרו מספרי טלפון. בוצע סינון טלפוני מוקדם לפי שלושה קריטריונים: דוברי עברית או רוסית, בעלי רשיון נהיגה או בעלי רשיון עד לפני 3 שנים, ויכולת מנטלית. אלה שעברו סינון זה, התבקשו להפגש לראיון. בסה"כ, בוצעו ראיונות בית עם 860 נהגים, בני 70 ומעלה (אחוז ההיענות מבין אלה שמספרי הטלפון אותרו היה 49.2%). הראיונות התבססו על שאלון מובנה.

(3) עיקרי הממצאים:

המדגם חולק ל-3 קבוצות לפי בעלות על רשיון נהיגה ונהיגה בפועל: בעלי רשיון ונוהגים (670 איש), בעלי רשיון שאינם נוהגים (36 איש) וחסרי רשיון שאינם נוהגים (154 איש). רוב הנחקרים חסרי הרשיון לא חידשו את רשיונם ביוזמתם ומרצונם. קבוצת הנוהגים התאפיינה באחוז גבוה יותר של גברים, ילידי הארץ, צעירים ומשכילים מהאחוזים שלהם בשתי קבוצות הלא נוהגים. רמת ההשכלה, אחוז החיים עם בני זוג והעובדים נמצאו במגמת ירידה מקבוצת הנוהגים לקבוצות בעלי

הרשיון שאינם נוהגים ולקבוצת חסרי הרשיון. קבוצת הנוהגים גם דווחה על מצב כללי טוב יותר מאשר קבוצת חסרי הרשיון. לא נמצאו הבדלים משמעותיים בין שלש הקבוצות מבחינת מקום המגורים, שנות ותק בארץ, ואחוזי המתנדבים בהן. הערכות הבריאות בוצעו לפי הערכה עצמית של בריאות, מגבלות ראייה, מספר מחלות כרוניות ותרופות שצורכים באופן קבוע. הנוהגים דווחו באופן שיטתי על היותם בריאים יותר משתי הקבוצות שאינן נוהגות. מבחינת משאבים פסיכוחברתיים, הנוהגים דווחו פחות על תחושת בדידות מחסרי הרשיון, ייחסו יותר חשיבות לרשיון הנהיגה ודווחו על יותר בטחון ביכולת הנהיגה שלהם בהשוואה לשתי הקבוצות האחרות. הצורך במכונית בגלל מוגבלות פיזית דורג נמוך יותר בקרב הנוהגים, אך לא נמצא הבדל ביחס לצורך במכונית עקב צרכים אחרים. ביחס לדפוסי נהיגה נשאלו כולם אותן שאלות כאשר קבוצות הלא נוהגים, נשאלו לגבי התקופה בה עדיין נהגו. קבוצת הנוהגים דווחה על נהיגה לעתים תכופות יותר, על פחות המנעות מנהיגה בתנאי דרך קשים, והשתמשה פחות בתחבורה ציבורית מקבוצת חסרי הרשיון. הנוהגים היו גם יותר מעורבים כנהגים בתאונות משתי הקבוצות האחרות, אך פחות בתאונות עם נפגעים. הנוהגים התחילו לנהוג בכחמש שנים קודם לחסרי הרשיון. הממצאים הללו המצביעים על הבדלים משמעותיים בין הקבוצות ביחס למאפיינים השונים, הם גם מצביעים על מגמה כללית של ירידה הדרגתית במשאבים אישיים מקבוצת הנוהגים לקבוצת בעלי הרשיון שאינם נוהגים ועד קבוצת חסרי הרשיון. ממצאים של ניתוחים רב-משתנים מצביעים על כך שהמנבאים המשמעותיים ביותר להפסקת נהיגה בגיל זקנה הם: מוגבלויות בראיה, ייחוס חשיבות נמוכה לרשיון הנהיגה, הערכה של מצב בריאות ירוד וגיל מתקדם יותר. אלה שהפסיקו לנהוג, דווחו על שימוש תכוף בתחבורה ציבורית. באופן כללי, הממצאים מצביעים שהפסקת נהיגה הינה תהליך הדרגתי. לנוכח תחושת ירידה ביכולות נהיגה, זקנים רבים מגבילים עצמם לנהיגה במצבים הנתפסים על ידם כנוחים יחסית ונמנעים מנהיגה בתנאים קשים, עד שהם מפסיקים לנהוג. זהו תהליך קשה של הסתגלות עצמית. אחד מביטוייו במחקר הנוכחי הוא בממצא שהנוהגים מדרגים עצמם גבוה יותר משתי הקבוצות האחרות על שביעות רצון מהחיים והערכה עצמית. תרומת הנהיגה לתחושת הרווחה באה לבטוי גם בממצא שהמנבאים הטובים ביותר של כל אחד משני מדדי תחושת הרווחה הללו, כאשר שומרים קבוע את הגורמים הסוציו-דמוגראפיים, צרכים, תמיכה חברתית, בריאות, תפקוד, ומאפיינים הקשורים לנהיגה, הם: להיות בעלי רשיון ולנהוג, וייחוס חשיבות רבה יחסית לרשיון או אהבת נהיגה. הממצאים מצביעים באופן ברור, על כך שלנהיגה בגיל זקנה משקל משמעותי וחשוב בתחושת הרווחה של הזקנים.

נמצאו גם הבדלים רבים ומשמעותיים בין המינים: בהשוואה לגברים, דווחו הנשים על תושת רווחה נמוכה יותר, פחות נסיון בנהיגה, ופחות ביטחון ביכולת הנהיגה. נשים דווחו גם על יותר המנעות מנהיגה בתנאי דרך קשים, ובהשוואה לגברים, אחוז גבוה מהן ויתר מרצון על רשיון הנהיגה.

(4) המלצות יישומיות:
בהתחשב בתרומות הנהיגה העצמית לתחושת הרווחה של הזקנים, מומלץ להשקיע בבניית תוכניות שתתגרומנה להארכת שנות הנהיגה בזקנה, ללא פגיעה בבטיחות בדרכים, ובכך להאריך את שנות העצמאות ותחושת הרווחה של האוכלוסיה הזקנה ההולכת וגדלה. ניתן לקדם מטרות אלה במספר דרכים:
א. כיום רשויות החוק מאריכות או מפסיקות הארכת רשיון נהיגה על בסיס בדיקת עיניים מהירה ומילוי טופס קצר על ידי רופא. כדי לשמר יכולות נהיגה ולהכין את המזדקנים לשינויים בהרגלי נהיגה יש לפתח עבורם תוכניות הדרכה ולהתנות הארכת רשיון בהשתתפות בהן. תוכניות כאלה תאפשרנה אבחנה מקיפה של יכולות נהיגה, יותר מזו הקיימת כיום. על סמך אבחנה זו, ינתנו המלצות להפסקת נהיגה או לנהיגה המתאימה ליכולות כמו, נהיגה עם או בלי הגבלות, וקורסים לנהיגה זהירה ומותאמת ליכולות.
ב. בתוכניות כאלה, יש לתת תשומת לב מיוחדת והעצמה, באמצעות הדרכה ועידוד מתאימים, לקבוצות מיוחדות כמו זו, של הנשים המסוגלות אובייקטיבית להמשיך לנהוג, אך חסרות ביטחון ביכולת הנהיגה.
ג. כצעד ראשון לבניית תוכניות כאלה, יש לבצע הערכה יסודית של תוכניות קיימות בעולם. לבחון את מידת הצלחתן ומידת התאמתן לקבוצות השונות של הנהגים בארץ. בשלב שני, לאמץ תוכנית מוצלחת, או חלקים מתוכניות קיימות ולהתאימם לקבוצות השונות של הנהגים בארץ.
ד. על משרד החינוך להתייחס לנהיגה כאחת מהמיומנויות החיוניות לתפקוד המבוגר בחברה, ולכלול קורס נהיגה בתוכנית הלימודים בבתי ספר תיכוניים. פיתוח עמדות ומיומנויות לנהיגה זהירה בגיל צעיר, יאפשר לכלם להתחיל לנהוג עם הגבלות מגיל צעיר, להבטיח נהיגה זהירה לאורך החיים והצטברות ניסיון רב ובכך, גם להאריך את שנות הנהיגה בזקנה.
ה. המגבלה של המחקר הנוכחי היא מערך המחקר הרוחבי, שאינו מאפשר לקבוע כווני סיבתיות בין הגורמים הנחקרים. בהתחשב בכך, ובצפי שהמחזורים הבאים של הזקנים יכללו יותר אנשים בעלי רמת השכלה והכנסה גבוהים, ואחוזים גבוהים יותר של נהגים, בעיקר בקרב הנשים, יש לפתח מחקרי אורך על בסיס קבוע. ממצאי מחקרים כאלה יאפשרו לאסוף מידע עדכני על אוכלוסיית הנהגים המשתנה, לבחון לאורך זמן ולהעריך מידת ההתאמה של התערבויות ומדיניות רישוי קיימים, ולהתאימם לשינויים במאפייני הנהגים וצרכיהם.
ו. חשוב להמשיך לפתח תחבורה ציבורית תכופה ונוחה כדי לאפשר לאנשים מוגבלים פיזית, או שאינם בעלי אמצעים, או שאינם מסוגלים לנהוג, להאריך את שנות עצמאותם ורווחתם.