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Factors Influencing Driving Confidence in Older Adults

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Factors Influencing Driving Confidence in Older Adults

Abstract

Background: It has been determined that both confidence and cognition impact driving performance and self-regulation. While it is known that cognitive decline impacts driving safety and that decreases in driving confidence can lead to self-driving regulation, further research is needed to determine whether cognition, demographics, and driving routines are associated with driving confidence.

Method: A non-experimental, cross-sectional design study using a convenience sample of 100 older adults was conducted to determine if individual factors are related to daytime and nighttime driving confidence.

Results: Multiple regression indicated that four variables predicted daytime driving confidence, including cognition, driving at night, highway driving, and driving importance, F(4, 95) = 6.82, p F(4, 95) = 8.58, $p <$ .001, adjusted R^2 =.23.

Conclusion: The results indicate both daytime and nighttime driving confidence in older adults is associated with greater cognition and driving in challenging situations, including at night, on the highway (daytime only), and in the winter versus summer (nighttime only). Daytime driving confidence was also associated with increased driving importance while nighttime driving confidence was associated with being male.

Comments

This study was a component of a DHS (Doctor of Health Science) research project which addressed the factors that influence driving confidence in older adults and the impact confidence has on self-regulation of driving. This study affirmed occupational therapy's crucial role in driving and community mobility with the older adult population.

Keywords

older drivers, confidence, cognition, aging, self-regulation, safety, driving cessation, dementia

Cover Page Footnote

The authors declare that they have no competing financial, professional, or personal interest that might have influenced the performance or presentation of the work described in this manuscript.

Credentials Display

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In 2017, the United States had an estimated 44 million licensed drivers over 65 years of age (Centers for Disease Control and Prevention [CDC], 2019). By the year 2030, 70 million Americans will be over 65 years of age, and 85% to 90% of them will be licensed to drive (American Automobile Association, 2020). With aging comes a decline in vision, cognition, flexibility, and reaction speed, all of which can impact confidence and safety behind the wheel (Choi et al., 2012; Classen, 2014). Driving confidence has been shown to predict driving self-regulation (Wong et al., 2016). Self-regulation includes distance restriction, driving during daylight hours, and avoidance of heavy traffic and inclement weather (Festa et al., 2013).

There are several factors that have been found to impact driving confidence and self-regulation in older adults, including musculoskeletal, neurologic, ophthalmologic, and cognitive impairments (Betz & Lowenstein, 2010; Conlon et al., 2017; Dit Asse et al., 2014; Kandasamy et al., 2018; Wong et al., 2016). Of these factors, cognitive impairments place older adults at a higher risk for accidents and unsafe driving practices compared to individuals without cognitive impairment (Ott et al., 2008). Age-related cognitive decline has been shown to increase motor vehicle crash risk, and fatal crash involvement rises among drivers beginning between 70 to 74 years of age, with the highest involvement found among drivers over 85 years of age (CDC, 2019). Studies have shown that older adults with insight into their deficits will self-regulate their driving practices (Bergen et al., 2017; Feng et al., 2020). However, as cognition declines, individuals may have diminished insight into their deficits and, therefore, remain confident in unsafe driving capabilities (Kowalski et al., 2012; O'Conner et al., 2013; Wong et al., 2012).

Driving is a vital component of older adult independence. Driving cessation can result in isolation and decreased quality of life, which can have secondary ramifications, including health decline and increased health care expenditures (Liddle et al., 2017).

By identifying the factors that influence driving confidence in older adults, occupational therapists can provide a lead role in monitoring driving practices, fostering driving confidence, and promoting community mobility among older adults. The purpose of this study was to identify potential influences on driving confidence in older adults. The research question explored was: In older adults, are there factors including cognition, demographics, and driving routines that influence driving confidence?

Method

Study Design

This was a non-experimental, cross-sectional study that took place in October 2019 and continued through January 2020. The University of Indianapolis Institutional Review Board approved the study before data collection.

Participants

A convenience sample of older adults was recruited through personal and professional contacts, two senior community program sites, and one independent senior living community in Fort Wayne, Indiana. An a priori sample size estimate was conducted using G*Power, version 3.1 (Faul et al., 2009). The calculation was based on the correlation between the Day and Night Driving Comfort Scales© (DCS) scores and the Saint Louis University Mental Status (SLUMS) exam scores. The estimated minimum sample size to power the study sufficiently was 46 participants. Based on the availability of participants and to increase the likelihood of powering the study, 100 participants were recruited for the study.

Inclusion criteria included individuals 65 years of age or older who: (a) possessed a valid driver's license, (b) drove at least one time per week, (c) had visual acuity of 20/40 with or without visual correction as measured with the Snellen chart, and (d) had upper and lower extremity range of motion that

was within functional limits as determined by a basic functional range of motion screening. Individuals with severe hearing loss or aphasia were excluded from the study.

Instruments

The SLUMS

The SLUMS is a 30-point, 11-question screening tool used to test orientation, memory, attention, and executive function. Cutoff scores for dementia and mild neurocognitive disorder are provided. Education level is considered in scoring with different cutoff scores based on completing high school or having less than a high school education. Scoring categories are as follows: normal (27 to 30 for a high school education and 25 to 30 for less than a high school education), mild neurocognitive disorder (21 to 26 for a high school education and 20 to 24 for less than a high school education) and dementia (less than 20 for a high school education and less than 19 for less than a high school education). The SLUMS has been shown to have excellent criterion validity (r = .75) in community-dwelling older adults (Feliciano et al., 2013). In addition, excellent convergent validity (r = .83) was determined in individuals residing in a long-term care facility (Stewart et al., 2012). The SLUMS is a free assessment that can be used by health care professionals after viewing a brief administration video. The assessment has instructions and a standardized script for administration.

The DCS

The DCS is a two-part, self-rated questionnaire that assesses day and night driving confidence. The DCS conceptualizes confidence as comfort level. The Day Driving Comfort Scale (DCS-D) is a 13-question scale, and the Night Comfort Scale (DCS-N) is a 16-question scale (Myers et al., 2008). Myers et al. (2008) completed psychometric testing of the DCS to establish reliability and associations with driver characteristics and driving habits. Cronbach's alpha indicated good internal consistency for the DCS-D (α = .92) and the DCS-N (α = .97). The DCS-D was shown to have adequate test-retest reliability (intraclass coefficient [ICC] = .70) and adequate test-retest reliability (ICC = .88) was also noted on the DCS-N (MacDonald et al., 2008; Myers et al., 2008). In addition, the DCS was significantly associated with driving frequency, situational avoidance, and perceived abilities (p < .001) (Myers et al., 2008). Permission to use the DCS-D and DCS-N was obtained from the author by the primary researcher.

Data Collection

Data were collected in a private conference room in a senior fitness center, a senior community center, and a senior living center. Screening, informed consent, and testing took place on the day of the initial meeting at the facilities where the meeting occurred. The participant demographics and driving routine information were collected using a paper record form. Demographics collected included education level (for the purpose of scoring the SLUMS), age, gender, marital status, and living arrangement. Items related to driving routine were modified from previous studies (Blanchard, 2008; Crizzle, 2011; Trang, 2010) and included travel preference, driving importance, passenger preference, reliance on others, drive time, number of days driven per week, time of day traveled, road types traveled, driving frequency compared to 10 years ago, driving frequency in summer compared to winter, others suggestion to stop driving, and accidents, near misses, backing violations, getting lost, and traffic violations/demerit points that occurred in the past year.

In addition, the SLUMS scores and DCS scores were collected. The SLUMS scores were used to assess the cognitive status of the participants. The SLUMS was completed by the primary researcher and another occupational therapist, who watched the administration video and discussed procedures before

administration. The DCS was used to examine and measure daytime and nighttime driving comfort. The DCS was given to the participant to fill out, and the primary researcher was available for questions.

Data Analysis

Data analysis was completed using IBM SPSS Statistics for Windows, Version 25.0. (IBM Corp., 2017, Armonk, NY). All comparisons conducted were two-tailed, and a significance level of .05 was considered statistically significant. A bivariate Pearson correlation or a Spearman rho correlation was used to determine if there was a correlation between the DCS scores and SLUMS scores, age, and days driven per week, as appropriate. To determine if there was a statistically significant difference in the DCS scores by cognitive impairment (normal, mild, dementia), a one-way ANOVA or a non-parametric Kruskal-Wallis test was conducted. If a significant difference was found, post hoc analysis using either an independent *t*-test or a Mann-Whitney *U* test was conducted, and the Bonferroni correction was applied. Multiple tests were used to determine if there were statistically significant differences in the DCS scores by individual factors and driving routines. For the following variables, independent *t*-tests or Mann-Whitney *U* tests, as appropriate, were conducted: gender, marital status, living arrangement, travel preference, driving importance, passenger preference, reliance on others, suggestion to stop driving, accidents, near misses, backing into objects, getting lost, and traffic violations/demerits. Education, time of day traveled, road types traveled, driving frequency compared to 10 years ago, and driving frequency in winter compared to summer were analyzed using one-way ANOVA or Kruskal-Wallis tests. Age and drive time were compared to the DCS scores (day and night) using Spearman rho correlation tests. Effect sizes were calculated and interpreted using the recommendations of Cohen (1992).

Multiple linear regression analysis was conducted to determine if predictors of driving confidence could be identified using cognitive, demographic, and driving routine information collected for the study. Based on bivariate analysis, any variable with a statistically significant difference ($p < .05$) in DCS scores was identified as a predictor variable. For continuous variables (age, SLUMS scores, and number of days driven per week), there had to be at least a weak correlation ($\geq .10$) with the DCS scores. All three continuous variables had a weak correlation with driving confidence. Predictor variables were introduced into the regression model using the forward selection method. Forward selection was used as it can reduce the set of predictor variables while also determining the level of importance of each predictor variable (Field, 2017). Assumptions of multiple linear regression were tested as outlined by Field (2017).

Results

One hundred individuals participated in the study. The median age was 74 years (25^{th} percentile 70, 75^{th} percentile 78), with the youngest 66 years of age and the oldest 94 years of age. The median SLUMS score was 26.00 (25^{th} percentile 25, 75^{th} percentile 28). The mean (*SD*) DCS-D score was 71.15 (27.70), and the mean (*SD*) DCS-N score was 57.94 (22.06). Sample characteristics are presented in Table 1, and driving routine factors can be found in Table 2. For driving routine factors, five variables had 95% or greater responses of the event not occurring; therefore, they were not included in the analysis. The five variables included suggestions to stop driving (99%), accidents (96%), backing into object (97%), gotten lost (95%), and traffic violations/demerit (100%).

Table 1

Descriptive Sample Characteristics (N = 100)

		***N* (%)**
SLUMS Exam Category	Normal	49 (49)
	MNCD	42 (42)
	Dementia	9 (9)
Gender	Male	45 (45)
	Female	55 (55)
Marital Status	Married	70 (70)
	Not Married	30 (30)
Living Arrangement	Live Alone	21 (21)
	Do Not Live Alone	79 (79)
Education	High School or Less	45 (45)
	Associate Degree	14 (14)
	Bachelor's Degree	18 (18)
	Master's Degree	23 (23)

Note. SLUMS = Saint Louis University Mental Status; DCS-D = Driving Comfort Scale-Day; DCS-N = Driving Comfort Scale–Night; MNCD = Mild Neurocognitive Disorder.

Table 2

Descriptive Statistics for Driving Routine (N = 100)

		***N* (%)**
Travel Preference	Drive Yourself	91 (91)
	Alternative	9 (9)
Driving Importance	Extremely	87 (87)
	Moderate/Somewhat	13 (13)
Passenger Preference	Alone	55 (55)
	With a Passenger	45 (45)
Reliance	Others Rely	65 (65)
	Others Do Not Rely	35 (35)
Drive Time (minutes)	15 or Less	13 (13)
	15–30	70 (70)
	30 or More	17 (17)
Average Number of Days Driven per Week	1	3 (3)
	2	2 (2)
	3	5 (5)
	4	8 (8)
	5	18 (18)
	6	6 (6)
	7	58 (58)
Time of Day Traveled		
Morning	Yes	90 (90)
	No	10 (10)
Afternoon	Yes	92 (92)
	No	8 (8)
Evening (before dark)	Yes	81 (81)
	No	19 (19)
Night	Yes	50 (50)
	No	50 (50)
Roads Types Traveled	Residential Streets	79 (79)
	Main City Streets	89 (89)
	Rural Roads	32 (32)
	Highways	66 (66)
	Interstates	62 (62)
Driving Frequency Compared to 10 Years Ago	Much Less Often	19 (19)
	Little Less Often	39 (39)
	Same	33 (33)
	More Often	9 (9)
Driving Frequency in Winter Compared to Summer	Much Less Often	11 (11)
	Little Less Often	47 (47)
	Same or More Often	42 (42)
Near Misses	No	83 (83)
	Yes	17 (17)

Note. SLUMS = Saint Louis University Mental Status exam.

In looking at the association in day and night driving confidence and cognitive decline, a bivariate Spearman rho analysis indicated there was a positive non-significant correlation between the DCS-D and the SLUMS, $r_s(98) = .17$, $p = .101$, and the DCS-N and the SLUMS, $r_s(98) = .11$, $p = .291$. Bivariate Spearman rho correlation tests between the DCS-D and age and the DCS-N and age showed a negative non-significant correlation between the DCS-D and age, $r_s(98) = -.13$, $p = .205$, and the DCS-N and SLUMS, $r_s(98) = -.13$, $p = .209$.

Comparison of results between day and night driving confidence and driver characteristics indicated there was only one statistically significant result ($p = .007$): males had greater nighttime driving confidence compared to females. For the rest of the variables (marital status, living arrangement, and education), the results were not statistically significant ($p > .05$) for both day and night driving confidence. As can be seen in Table 3, there were several differences in day and night driving confidence by driving routine. Differences identified in driving confidence were similar for both day and night driving; if there was a statistically significant difference in daytime driving confidence, there was also a statistically significant difference in nighttime driving confidence.

Table 3

Comparison of Driving Comfort Scale Scores (Day and Night) by Driving Routine (N = 100)

		DCS-D Score *M* (*SD*)	*p*	DCS-N Score *M* (*SD*)	*p*
Travel Preference			.006		.010
	Drive Yourself	73.07 (26.92)[a]		59.71 (21.81)	
	Alternative	48.07 (29.81)[a]		40.09 (16.66)	
Driving Importance			.002		.047
	Extremely	75.00 (25.00)[a]		59.64 (21.85)	
	Moderate-Somewhat	51.92 (16.35)[a]		45.31 (20.80)	
Passenger Preference			.126		.096
Alone		78.84 (28.85)[a]		61.27 (21.78)	
With a Passenger		67.33 (23.62)[a]		53.88 (21.95)	
Reliance			.991		.703
Others Rely		71.51 (25.97)[a]		59.10 (23.26)	
Others Do Not Rely		75.00 (32.69)[a]		57.33 (21.55)	
Driving Time (minutes)			.800		.559
Less than 15		65.38 (25.96)[a]		61.77 (23.26)	
15–30		71.15 (29.81)[a]		56.37 (22.36)	
More than 30		78.84 (24.58)[a]		61.48 (23.78)	
Time of Day Traveled					
Morning			.343		.401
	Yes	73.07 (29.12)[a]		58.52 (22.49)	
	No	67.30 (36.06)[a]		60.93 (32.8)a	
Afternoon			.106		.290
	Yes	73.07 (26.44)[a]		58.64 (22.20)	
	No	56.72 (28.37)[a]		49.99 (19.90)	
Evening			.011		.015
	Yes	75.00 (25.00)[a]		60.52 (20.93)	
	No	59.61 (25.00)[a]		46.95 (23.92)	
Night			.002		.001
	Yes	67.18 (26.96)[a]		67.18 (26.96)[a]	
	No	65.38 (34.62)[a]		47.65 (32.03)[a]	
Road Types Traveled					
Residential Streets			.819		.794
	Yes	69.23 (30.77)[a]		57.64 (22.24)	
	No	71.15 (23.08)[a]		59.07 (21.84)	
Main City Streets			.969		.458
	Yes	71.15 (28.43)[a]		57.36 (21.82)	
	No	67.30 (25.00)[a]		62.63 (24.52)	
Rural Roads			.021		.034
	Yes	75.26 (16.49)		57.64 (22.24)	

	No	65.75 (19.96)		59.07 (21.84)	
Highways			.005		.016
	Yes	76.92 (26.92)[a]		61.73(21.64)	
	No	66.34 (29.33)[a]		50.59 (21.28)	
Interstates			.095		.156
	Yes	74.04 (27.40)[a]		60.40 (22.11)	
	No	66.34 (30.77)[a]		53.94 (21.66)	
		DCS-D Score		**DCS-N Score**	
		***M* (*SD*)**	***p***	***M* (*SD*)**	***p***
Driving Frequency Compared to 10 Years Ago			.458		.154
Much Less Often		65.27 (18.09)[a]		51.06 (22.33)	
Little Less Often		71.15 (36.54)[a]		55.80 (23.42)	
Same		72.72 (16.46)[a]		64.62 (19.13)	
More Often		70.81 (20.91)[a]		59.28 (22.58)	
Driving Frequency in Winter Compared to Summer			.015		.011
Much Less Often		59.61 (23.08)[a]		41.04 (17.14)	
Little Less Often		69.23 (30.77)[a]		57.30 (23.65)	
Same or More Often		75.96 (23.56)[a]		63.09 (19.27)	
Near Misses			.601		.373
Yes		69.23 (25.96)[a]		53.58 (16.54)	
No		73.07 (29.93)[a]		58.84 (23.01)	

Note. DCS-D = Driving Comfort Scale-Day; DCS-N = Driving Comfort Scale-Night.
[a] Results reported as median and interquartile range.

DCS-D

Multiple linear regression was conducted to determine if there were factors that could predict daytime driving confidence. All test assumptions were met. Based on bivariate analysis, nine variables were identified as possible predictors and entered into the model using the forward selection method. The nine variables entered into the model and regression results are presented below and in Table 4.

The regression model was statistically significant for the DCS-D, $F(4, 95) = 6.82$, $p < .001$, adjusted $R^2 = .19$. Four variables added statistically significantly to the prediction model, $p < .05$: road type traveled (highway), the SLUMS score, time of day driven (night), and driving importance (extremely). Assuming values of other independent variables are held constant, older adults with higher cognition who drove on highways, drove at night, and rated driving as extremely important had more daytime driving confidence than older adults with lower cognition who did not drive on highways, did not drive at night, and did not rate driving as extremely important.

Table 4
Regression Analysis Results with Predictors of Driving Comfort Scale-Day (N = 100)

	β	*SE*	*t*	*p*	95% CI for **β**
(Constant)	15.87	14.21	1.12	.267	-12.33, 44.08
Road Type Traveled - Highway	2.44	0.93	2.64	.010	0.61, 4.28
SLUMS Exam	1.28	0.52	2.47	.015	0.25, 2.3
Time of Day Traveled - Night	1.90	0.89	2.13	.036	0.13, 3.67
Driving Extremely Important-	11.12	5.32	2.09	.039	0.57, 21.67

Note. CI = Confidence interval; SLUMS = Saint Louis University Mental Status exam.

DCS-N

Multiple regression was conducted to predict the DCS-N scores. All test assumptions were met. Based on bivariate analysis, 10 variables were identified as potential predictors. The 10 variables, which were added to the model using the forward selection method, are presented in Table 5 along with further results, including regression coefficients and standard errors.

Multiple regression results identified four variables: time of day frequently traveled (night), gender, driving frequency in winter compared to summer (much less often), and a SLUMS score that statistically significantly predicted the DCS-N, $F(4, 95) = 8.58$, $p < .001$, adjusted $R^2 = .23$. All four variables added statistically significantly to the prediction model, $p < .05$. Regression results indicated that assuming all values of other independent variables are held constant, female drivers and drivers who drove much less often in winter relative to summer had lower driving confidence at night, while those with higher cognition and those who drove at night were more confident to drive at night.

Table 5

Predictors of Driving Comfort Scale - Night (N = 100)

	β	*SE*	*t*	*p*	95% CI for **β**
(Constant)	29.71	15.07	1.97	.052	-0.21, 59.62
Time of Day Traveled - Night	2.88	1.02	2.82	.006	0.86, 4.90
Gender - Female	-13.28	4.01	-3.31	.001	-21.25, -5.32
Driving Frequency in Winter compared to Summer - much less often	-16.34	6.54	-2.50	.014	-29.32, 3.36
SLUMS Score	1.22	0.58	2.11	.038	0.07, 2.38

Note. SLUMS = Saint Louis University Mental Status exam.

Discussion

This study found a positive relationship between the SLUMS scores and DCS scores; as the SLUMS scores increased, so did the DCS scores (day and night). This indicates that individuals with higher cognition have greater day and night driving confidence. Rapoport et al. (2016) found similar findings using the Trails A and B tests. Faster performance on the tasks over time indicated greater comfort driving during the day and night. However, the magnitude of the association was small. When assessing cognition using the MoCA and the Mini-Mental Status Exam (MMSE), Rapoport et al. (2016) did not find a relationship between cognition and driving confidence. There are a couple of reasons the current study may have found a stronger relationship between driving confidence (day and night) and cognition than Rapoport et al. First, the Rapoport et al. study had high-functioning participants as assessed with the MMSE; however, only 49% of the participants in the current study had “normal” cognition as defined by the SLUMS scores. Second, based on the DCS-N scores, the participants in the current study had less confidence driving at night compared to participants in the Rappaport et al. (2016) study (mean 57.94 and 76.37, respectively).

This study also found no significant difference in the DCS-D or DCS-N scores between individuals with normal cognition, MNCD, and dementia. Additional studies have published similar findings with no difference in regulation patterns found among individuals with varying cognition (Devlin & McGillivray, 2014; Kowalski et al., 2012; Wood et al., 2013). O’Conner et al. (2013) found that, although individuals with mild cognitive impairment and dementia did avoid certain driving situations compared to individuals

with normal cognition, there was no significant difference in overall driving frequency. The results of the current study may align with previous studies that found individuals with impaired insight often fail to regulate unsafe driving (Feng et al., 2020; Kowalski et al., 2012; MacDonald et al., 2008; O'Conner et al., 2013; Wong et al., 2012).

The demographic and driving routine factors analyzed in this study yielded a few significant differences. The results indicate a significant difference in daytime driving confidence between those who prefer to drive alone compared to those who prefer a passenger and nighttime driving confidence between males and females. Significant differences in both daytime and nighttime driving confidence were found between individuals who rate continuing to drive as extremely important versus moderately or somewhat important, those who prefer to drive themselves compared to those who prefer to use alternative methods of transportation, those who drive in the evening and night compared to those who do not drive at those times, those who drive on rural roads and highways versus those who do not, and those who drive much less often in the winter compared to the summer versus those who drive the same or more often. The gender differences that were identified partially support Blanchard and Myers's (2010) results that determined a significant difference in scores between men and women on both the DCS-D and DCS-N. The results of this study also align with previous studies that, although using measures other than the DCS-D and DCS-N, found that women have decreased confidence and self-regulate driving more often than men (Conlon et al., 2017; Donorfio et al., 2011). Choi et al. (2013) found that marital status and education impact self-regulation; however, the results of this study did not indicate a significant difference between either of those factors.

Multiple regression analysis found that some factors can predict DCS scores. Four variables were found to be significant predictors of DCS-D scores: the SLUMS score, highway as road type typically driven, time of day frequently driven (night), and driving importance. However, the SLUMS score, gender, driving frequency in winter compared to summer as much less often, and time of day frequently driven (night) significantly predicted DCS-N scores statistically. The results indicated that individuals who have higher SLUMS scores, drive at night, drive on highways, and rate continuing to drive as extremely important have the highest daytime driving confidence. However, males who drive at night, drive the same or more often in the winter as compared to the summer, and have higher SLUMS scores have the highest nighttime driving confidence.

Implications for Practice

The results of this study provide insight into the factors that influence driving confidence in older adults. The results are especially beneficial for occupational therapists who are frequently called on to assess driving safety (Sims et al., 2012). Because the results did not show a significant difference in driving confidence between the cognitive groups, it is important to monitor cognitive function periodically to ensure that older adults with significant cognitive impairment are not maintaining confidence in unsafe driving practices. This may initially involve routine cognitive screenings to identify potentially unsafe drivers; however, the failure of the SLUMS to produce a significant difference in confidence between cognitive levels supports findings from Dickerson et al. (2014) that a single screening should not be used to determine older driver fitness.

These results may also support the use of functional ADL assessments, skilled observation, and clinical reasoning that align with the OT-DRIVE framework to evaluate driving competence with a cognitive screening tool such as the SLUMS. The OT-DRIVE framework was established to provide guidance to occupational therapists when determining fitness to drive (Davis & Dickerson, 2017;

Dickerson et al., 2011). The authors provide suggestions for screening and assessment and encourage therapists to develop an occupational profile to determine an individual's occupational history, interests, values, and intentions for future community mobility (Davis & Dickerson, 2017). In addition to the suggested information, it may be beneficial to collect information about driving confidence, given its relationship with driving self-regulation (Blanchard & Myers, 2010; Conlon et al., 2017; MacDonald et al., 2008; Meng & Siren, 2012; Meyers et al., 2008; Molnar & Eby, 2008; Wong et al., 2016). The results from the multiple regression analysis in this study, if added to a questionnaire or screening, could contribute to the profile as they were associated with driving confidence.

Second, the results identify individual factors that influence confidence and establish groups of individuals that could potentially benefit from educational programs to foster driving confidence. It has been determined that there is a connection between driving cessation, isolation, decreased quality of life, and health decline (Liddle et al., 2017). Driving is an integral part of community engagement and activity participation for older adults. Community driving programs focused on compensatory strategies and vehicle technology training to enhance safety for individuals who have been identified as less confident may promote confidence and prevent unwarranted self-regulation (Boot et al., 2013; Classen et al., 2019). With the growing number of older adult drivers, occupational therapists have an opportunity to assist with current programs and develop additional community driving programs. Current programs are offered through the American Automobile Association (AAA), American Occupational Therapy Association (AOTA), and AARP. The CarFit program provides an opportunity for occupational therapists to work in conjunction with AAA to educate older adults on the proper fit to their vehicle and potential age-related changes that can impact safety (AARP et al., 2018; Thate et al., 2011). The results from the current study support the development of programs that provide training and education on strategies for highway driving, winter driving, and nighttime driving, as they were associated with higher driving confidence.

Along with programming to foster confidence and maintain safe driving behaviors, programs tailored toward safe alternative transportation following driving cessation should not be overlooked, as they, too, have been shown to have significant benefit (Bird et al., 2017; Mulry et al., 2017; Rapoport et al., 2017; Stav, 2014). As leaders in driving and community mobility, occupational therapists are in an optimal position to address the needs of the growing population of older drivers.

Study Limitations

The present study had several limitations. First, most of the participants were recruited from two locations that provide fitness opportunities for older adults. In general, healthy older adults typically frequent these locations. In addition, only 9% of the participants scored in the dementia range on the SLUMS, resulting in an unequal representation of the cognitive groups. Also, the study used self-reported measures that have been shown in prior studies to have questionable accuracy (Blanchard et al., 2010; Crizzle et al., 2013). Finally, although both occupational therapists administering the SLUMS watched the same video training, there is increased potential for varied interpretations of scoring.

Conclusion

The decline in vision, cognition, flexibility, and reaction speed associated with aging affects driver confidence and safety on the road. The current study provides additional insight into the factors that influence driving confidence. Individuals with impaired insight often fail to regulate unsafe driving. Occupation-focused screens and assessments that include cognitive screening and driver confidence are needed to predict driving skills accurately. The results support the need to promote, develop, and expand programs, such as CarFit, that allow occupational therapists to educate older adults on proper vehicle fit

and safety considerations related to aging. Safe driving programs should also include training and education on compensatory strategies for highway, winter, and nighttime driving to enhance driving confidence. Community mobility plays a crucial role in enhancing the quality of life of older adults, and driving cessation is a challenging transition when lower-than-optimal driving fitness is detected. As leaders in driving and community mobility, occupational therapists are well positioned to improve and develop programs focused on secure alternative transportation and community mobility.

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