Update on Productive Aging in the *American Journal of Occupational Therapy* 2011

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- aging
- geriatrics
- occupational therapy
- research
- review

A review of the productive aging articles published in the *American Journal of Occupational Therapy* during 2011 was conducted and discussed in light of meeting the *Centennial Vision* charge of supporting practice through evidence. Twelve articles that specifically addressed productive aging were published in *AJOT* in 2011. The review of these 12 articles found seven Level I studies. Six of the articles were systematic reviews identifying effective interventions for people with Alzheimer's disease and related dementias and their caregivers, and 1 was a randomized controlled trial of fall prevention in community-dwelling older adults. Five were basic research studies. Two of the 5 studies researched professional issues, and 3 addressed client-based issues. The quantity of productive aging research published in 2011 was consistent with the quantity reported in 2009 and 2010. More studies building the body of evidence about the effectiveness of occupational therapy with older adults are needed.

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The *Centennial Vision* is the road map to the future of occupational therapy to commemorate the American Occupational Therapy Association's (AOTA's) 100th anniversary in 2017. AOTA's mission as stated in the *Centennial Vision* is to promote research that supports the effectiveness of occupational therapy services. The vision statement projects a healing profession that "is a powerful, widely recognized, science-driven, and evidence-based profession with a globally connected and diverse workforce meeting society's occupational needs" (AOTA, 2007, p. 613).

Fulfillment of the *Centennial Vision* requires periodic measurement of occupational therapy's progress to determine whether it is progressing along the specified path. One of the charges was to increase the publication of evidence-based practice related to occupational therapy. To that end, the *American Journal of Occupational Therapy (AJOT)* has endeavored to increase the publication quantity and quality of research studies focused on the areas outlined in the *Centennial Vision.* These types of research include

- Effectiveness studies supporting practice,
- Instrument testing to establish reliability and validity for occupational therapy assessments,
- Correlational and descriptive studies that demonstrate linkages between occupational engagement and health,
- Studies that answer important questions about topics related to the direction of the profession's growth, and
- Basic research studies that provide information about disabilities and their impact on functional participation (Gutman, 2008).

Also contained in the *Centennial Vision* is a call to sustain existing practice areas while embracing new and emerging practice areas to meet society's needs. Productive aging is one of the practice areas singled out for examination

(AOTA, 2007; Baum, 2006). In this review, I evaluate the progress of *AJOT* publications related to productive aging during 2011.

Method

The editor of *AJOT* screened all research articles published or accepted for publication in *AJOT* during 2011. Twelve articles were identified that related to productive aging practice, which represented approximately 16% of all research articles published in *AJOT* during the year. I read and reviewed all articles and have broad experience in productive aging, occupational therapy, and evidence-based practice. All articles were categorized according to research levels on the basis of the AOTA Evidence-Based Literature Review Project Levels of Evidence Rating System (Table 1; Lieberman & Scheer, 2002). Articles were evaluated using criteria provided by the *AJOT* editor and summarized in Table 2. The sections that follow are organized according to the categories set out in the *Centennial Vision*.

Effectiveness Studies

Only 1 effectiveness study was published in 2011. Schepens, Panzer, and Goldberg (2011) conducted a three-group randomized controlled trial (RCT) for fall prevention education with community-dwelling older adults ≥65 yr old. Schepens et al. used a multimedia fall program (MFP) and two types of evidence-based instructional strategies. The authentic education group combined the MFP and Situated Learning Theory by using the participants' real-life concerns. The motivation group combined MFP and the Attention–Relevance–Confidence–Satisfaction model (Keller, 1987, cited in Schepens et al., 2011). Schepens et al. found that using the MFP combined with either instructional strategy was beneficial to both education groups. However, they found that the motivation group engaged in more fall prevention strategies than the authentic group.

Six systematic reviews of intervention strategies for people with Alzheimer's disease and related dementias and their caregivers were published in 2011 as part of the AOTA's Evidence-Based Practice project (Jensen & Padilla, 2011; Letts, Edwards, et al., 2011; Letts, Minezes, et al., 2011; Padilla, 2011a, 2011b; Thinnes & Padilla, 2011). The systematic reviews focused specifically on delineating effective interventions for fall prevention; occupation to improve quality of life, health, and satisfaction for clients and caregivers; environmental modifications; perceptual abilities; modification of activity demands; and educational and supportive strategies for caregivers of people with Alzheimer's disease and related dementias. All the studies strongly supported the inclusion of staff and caregiver education as an effective intervention to maximize participation, positive interactions, and health of both the clients and the caregivers. Thinnes and Padilla (2011) found that caregivers who received occupational therapy sessions providing education about problem solving, task simplification, communication strategies, and home modifications had a decreased need for assistance, experienced fewer behavioral occurrences, and had a greater sense of mastery and self-efficacy. They also found that provision of coping skills training mediated caregiver stress and depression and delayed institutionalization of the family member with Alzheimer's disease.

Client-specific interventions that were most effective included providing structured, individually tailored leisure and self-care activities commensurate with the client's abilities, Montessori activities, and small-group social participation opportunities (Letts, Edwards, et al., 2011; Padilla, 2011a, 2011b). Use of sensory integration techniques and multisensory stimulation to maintain perceptual abilities of people with Alzheimer's disease had little to no evidence to support their benefit (Letts, Minezes, et al., 2011). Environmental modifications such as increased light intensity, environmental sounds, aromatherapy, and ambient music were found to have mixed or low benefit to mediate behavior and agitation among this population. However, the use of familiar music was found to be more effective in assuaging agitation and aggression (Padilla, 2011a). Other environmental modifications identified as effective were the use of visual barriers to deter

Table 1. American Occupational Therapy Association Evidence-Based Literature Review Project Levels of Evidence Rating System

Level of Evidence	Definitions
Level I	Systematic reviews, meta-analyses, randomized controlled trials
Level II	Two groups, nonrandomized studies (e.g., cohort, case-control)
Level III	One group, nonrandomized (e.g., before and after, pretest and posttest)
Level IV	Descriptive studies that include analysis of outcomes (e.g., single-subject design, case series)
Level V	Case reports and expert opinion that include narrative literature reviews and consensus statements

Note. From "Evidence-Based Medicine: What It Is and What It Isn't" by D. L. Sackett, W. M. Rosenberg, J. A. Muir Gray, R. B. Haynes, & W. S. Richardson, 1996, *British Medical Journal, 312,* pp. 71–72. Copyright © 1996 by the British Medical Association. Adapted with permission.

Table 2. Summary of Evidence From Studies

Author/Year	Study Objectives	Level/Design/Participants	Intervention and Outcome Measures	Results	Study Limitations
Dickerson, Reistetter, Davis, & Monahan (2011)	To illustrate how general practice occupational therapists have the skills and knowledge to address driving as a valued occupation using an algorithm based on the *Occupational Therapy Practice Framework*	Descriptive study Convenience sample of occupational therapists' and driving rehabilitation specialists' assessment results of patients' abilities to return to driving Embedded Level II quasi-experimental, multivariate group design *N* = 61; 55 completed; 56% female, 81% White; 15% Black; 4% other or unknown Mean age: 50.22 yr Convenience samples of two driving evaluation centers that used same IADL assessment 22 had neurological disorders; 5 cognitive issues or dementia; 13 healthy older adults living in the community Those who did not complete either the AMPS or the BTW assessment were excluded.	*Intervention* None *Outcome Measures* Algorithm for general practice occupational therapists when considering the complex instrumental activity of daily living of driving AMPS outcomes were compared with BTW driving assessment outcomes.	Occupational therapists using observational performance evaluation of IADLs can assist in determining who might be an at-risk driver, which may be more cost- and time-effective than referring to a Driving Rehabilitation Specialist. Significant relationship was found between driving ability and the AMPS scores. On-road driving had a significant effect on AMPS process scores but not on AMPS motor scores. People with the lowest process skills should not be referred for a BTW assessment.	No data from use of algorithm. Small sample size. Two different centers with multiple driving rehab specialists and different AMPS raters. Different BTW routes related to locations.
Jensen & Padilla (2011)	To review the evidence to determine the effectiveness of interventions to prevent falls in persons with AD and related dementias	Level I Systematic review *N* = 12 articles: 7 Level I: 3 SR, 4 RCT; 4 Level III, 1 Level IV *Inclusion criteria:* Population of people with AD or dementias, and intervention approaches considered to fit within the scope of occupational therapy practice	*Interventions* Interventions included were categorized as exercise/motor, staff-directed interventions, multidisciplinary interventions, multifaceted, and single intervention fall reduction strategies. *Outcome Measures* • Changes in frequency of falls • Meta-analysis • Severity of fall injuries	Motor intervention focused on improved gait, balance, and strength, and multidisciplinary interventions, including staff training on awareness and prevention, benefited the population most. Multifaceted intervention had better results than single-focus interventions.	Small sample sizes, staff training inconsistency, nonequivalent groups, limited intervention periods, heterogeneity of studies, dropout rates, inconsistencies in separating population with dementia from total population receiving interventions, lack of statistical reporting.
Letts, Edwards, et al. (2011)	To review the evidence for the effect of interventions designed to establish, modify, and maintain	Level I Systematic review	*Interventions* • Assistive devices for physical assistance, cognitive assistance	Studies showed low to moderate evidence for training and using assistive physical and cognitive devices for individuals with early stage dementias to	Small sample sizes; no replication studies; small amount of high-level evidence; limited number of studies at each disease stage;

(*Continued*)

Table 2. Summary of Evidence From Studies (*cont.*)

Author/Year	Study Objectives	Level/Design/Participants	Intervention and Outcome Measures	Results	Study Limitations
	ADLs, IADLs, leisure, and social participation on QoL, health and wellness, and client and caregiver satisfaction for people with AD and related dementias	*N* = 26 studies: 7 Level I RCTs, 1 Level II, 11 Level III, and 7 Level IV *Inclusion criteria:* Peer-reviewed scientific literature published in English. *Sample populations:* Studies related to occupations, QoL, health and wellness, and client and caregiver satisfaction Populations within studies included individuals with AD or related dementias and/or their caregivers. *Exclusion criteria:* Data from presentations, conference proceedings, non-peer-reviewed research literature, research reports, dissertations and theses.	• Staff and caregiver training for feeding/eating and use of family style meals • Home-based interventions and residential facility interventions for clients and caregivers re: using compensatory and environmental strategies • Neuropsychological rehabilitation • Tailored Activity Program; kit-based activity intervention and sensorimotor recreational items • Music therapy • Walking when able, conversation or cognitive simulation from an individual volunteer • Reminiscence and drama groups *Outcome Measures* • Frequencies • Percentages • *p* values	participate in daily activities. There was moderate to strong evidence for training caregivers and staff in strategies for meals, and self-care participation with improved perceptions of QoL and basic physical health for both parties. Studies showed moderate to strong support for improved perceptions of QoL by providing in-home support and intervention for caregivers and clients. There was moderate to strong evidence that providing tailored and structured leisure activities for clients and caregivers improved performance, communication, engagement, and perceived satisfaction. Moderate to strong evidence supported that social participation opportunities in small groups or 1:1 improved perception of well-being by clients and caregivers. The drama group was not found to be a viable activity for this population.	mixed disease stages; and limited ability for generalization.
Letts, Minezes, et al. (2011)	To review the evidence for the effect of interventions designed to modify and maintain perceptual abilities on the occupational performance of people with AD and related dementias	Level I Systematic review *N* = 31 studies: 10 Level I, including SRs, RCTs, and meta-analyses; 6 Level II; 6 Level III; 7 Level IV; and 2 qualitative *Inclusion criteria:* Studies related to interventions designed to improve or modify and maintain perceptual abilities in individuals with AD and related dementias. Peer-reviewed scientific literature published in English. *Exclusion criteria:* Data from presentations, conference proceedings, non-peer-reviewed research literature, research reports, dissertations and theses.	*Interventions* Interventions provided were either for maintaining perceptual ability through compensatory methods, including light intensity/optical intervention, use of visual barriers, environmental design, or way-finding programs, or targeted to change perceptual abilities through multisensory or Snoezelen® intervention, sensory integration, group therapy, and exposure to sensory stimuli. *Outcome Measures* • Descriptive statistics • Percentages • *t* tests • *p* values • Means	Studies showed low to moderate evidence for use of increased light intensity during mealtime to increase consumption and decrease agitation. Optical interventions may decrease hallucinations and agitation. Moderate evidence supports the use of visual barriers to deter exiting through doors while wandering. There was low to moderate evidence for use of environmental designs of murals and L-shaped corridors for decreasing agitation and increasing sitting time. Mixed evidence supported the effectiveness of way-finding programs. Low evidence supported the use of multisensory stimulation and Snoezelen® interventions. No evidence supported the use of sensory integration with this population. Low evidence supported	Small sample size; no replication studies; studies conducted during various stages of the disease process; limited number of studies related to each stage of the disease process; inadequate statistical analysis in some studies; limited ability for generalization; limited carryover of benefits of intervention.

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Table 2. Summary of Evidence From Studies (*cont.*)

Author/Year	Study Objectives	Level/Design/Participants	Intervention and Outcome Measures	Results	Study Limitations
				group intervention for perceptual improvements related to occupational performance.	
Padilla (2011a)	To review the evidence for the efficacy of environment-based intervention on the affect, behavior, and performance of people with AD and related dementias	Level I Systematic review 34 studies: 25 Level I, 16 SRs and 9 RCTs; 7 Level II; 1 Level III; 1 Level IV *Inclusion criteria:* Studies related to environment-based interventions, affect, behavior, and performance of people with AD and related dementias. Peer-reviewed scientific literature published in English. *Exclusion criteria:* Data from presentations, conference proceedings, non-peer-reviewed research literature, research reports, dissertations and theses.	*Interventions* Environmental, multisensory (Snoezelen and Montessori), bright light therapy, ambient music, natural sounds, and aromatherapy. *Outcome Measure* Percentages	There was mixed evidence for use of environmental interventions to improve functional performance or for the benefits of aroma therapy and bright light therapy. Environmental modifications of occluding door knobs and doorways decreased exiting behavior. Pictures with names on room doors assisted some clients to locate their own room independently. Montessori activities, ambient music, and clients' preferred music decreased agitation. Active music promoted engagement and reality orientation. There was minimal support for Snoezelen multisensory intervention.	Small sample sizes; nonequivalent controls; no replication of study question, designs, or methods; no generalization available.
Padilla (2011b)	To review the evidence for the effectiveness of modification of activity demands in the care of people with AD	Level I Systematic review $N = 10$ studies: 7 Level I: 6 RCTs, 1 SR; 3 Level III *Inclusion criteria:* Studies related to interventions designed to modify activity demands of self-care and leisure, and individuals with AD or related dementias and/or their caregivers. Peer-reviewed scientific literature published in English. *Exclusion criteria:* Data from presentations, conference proceedings, non-peer-reviewed research literature, research reports, dissertations and theses.	*Intervention* Matching client skills/interests, using cues, and providing compensatory and environmental strategies such as environmental modifications, adaptive equipment, and caregiver education. *Outcome Measures* None reported	Improvement of participation in ADLs and other occupations can occur by selecting and/or modifying activities that match the person's highest level of retained skills; setting up the environment; labeling the environment; providing short concise verbal cues; providing visual cues; removing distractions; and training the caregiver.	Small sample sizes; convenience samples; lack of blinding in all but one study; inconsistent or unclear measurement procedures; minimal to no follow-up measures of treatment outcomes.
Peralta-Catipon & Hwang (2011)	To explore personal factors that can predict health-related lifestyles	Descriptive study Convenience sample	*Intervention* None	The number of chronic diseases or impairments and self-rated health were two strong predictors for	Convenience sample, unable to generalize from study; not all personal factors that could relate

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Table 2. Summary of Evidence From Studies (*cont.*)

Author/Year	Study Objectives	Level/Design/Participants	Intervention and Outcome Measures	Results	Study Limitations
	of community-dwelling older adults	$N = 253$ community-dwelling older adults residing in Southern California with adequate cognitive and English language capabilities. 1,048 women, 105 men; age range 55–92 yr; mostly unemployed or retired. Included representation from White, African-American, Asian/Pacific Islander, and Hispanic/Latino ethnic groups.	*Outcome Measures* • Health Enhancement Lifestyle Profile (HELP; Hwang, 2010) • Univariate correlational/ comparative statistics and multivariate modeling	the overall HELP ($R^2 = 0.571$; $p = .0001$) and an individual's health lifestyle. Demographic characteristics of age, gender, race, education, and employment status impacted lifestyle behaviors.	to health lifestyles were captured in this study.
Schepens, Panzer, & Goldberg (2011)	To determine whether tailoring multimedia fall prevention education using different instructional strategies increases older adults' fall threats knowledge and fall prevention behaviors	Level I RCT, three groups $N = 53$ community-dwelling older adults recruited by fliers or person-to-person solicitation at senior housing and community facilities *Inclusion criteria:* Community-dwelling, aged 65+ yr; English-speaking; reported normal or corrected to normal vision and hearing; alert and oriented to person, place and time; and able to follow three-step commands. *Exclusion criteria:* Diagnosed mental disorder or neurological disease that may affect cognition; a diagnosed learning disability; a history of vertigo, chronic ear infections, or motion sickness.	*Interventions* Interviews, medical and fall histories, and mobility were recorded. Interventions implemented components of the Multimedia Fall Prevention (MFP) system. Participants were randomized into one of two education groups (MFP + Authenticity group or MFP + Motivation group) or a control group (no falls education). MFP consists of 10 video clips of real-life vignettes of everyday situations in common environments using pretest and posttest assessment for measuring fall threats knowledge. The Authenticity group based on situated learning theory had 5 MFP 45 s videos selected through the MFP software that related to the contexts of each of the individuals in the group. Motivation group based on the Attention-Relevance-Confidence-Satisfaction model had 5 MFP 45 s videos selected through MFP software plus a clear statement of the program goals and benefits. *Outcome Measures* • Fall prevention behaviors • Fall status • Fall threats knowledge	Both intervention groups showed knowledge gains and greater posttest knowledge than controls. The motivation group engaged in significantly more fall prevention behaviors over 1 mo than either the control group or Authenticity education group. Tailoring fall prevention education by addressing authenticity and motivation successfully improved fall threats knowledge.	Unequal gender representation, with 81% female participants. Self-report of falls and fall prevention behaviors. Convenience sample limits generalization of this study.
Schmid et al. (2011)	To assess change in fear of falling (FoF) over the first 6 mo after a stroke and compare 6-mo anxiety,	Descriptive study Prospective longitudinal pilot study	*Intervention* 6 mo of time between baseline data collection and 6-mo follow up.	18 participants completed the study. FoF decreased and balance increased significantly over the 6 mo after stoke. Participants with	Pilot study limits generalization to the poststroke population; limited sample size and demographic area; did not

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Table 2. Summary of Evidence From Studies (*cont.*)

Author/Year	Study Objectives	Level/Design/Participants	Intervention and Outcome Measures	Results	Study Limitations
	depression, balance, and QoL scores between individuals with and without baseline FoF at time of hospital discharge	Convenience sample from an inner-city, university-affiliated urban hospital Participants were hospitalized for an acute stroke (ischemic or hemorrhagic) at the time of enrollment; no prior stroke history; referred to occupational or physical therapy for physical deficits; obtained a score of ≥3 on the 6-item Mini Mental State Examination; lived within a 60-mile radius of the city. *Exclusion criteria:* Lack of a telephone or address, inability to verbally communicate; therapy referral for sensory, cognitive, or speech deficits only. 64% male; 50% White and African American	*Outcome Measures* • Modified Rankin Scale (mRs) for stroke-related disability • Modified Falls Efficacy Scale (MFES) to measure FoF • Berg Balance Scale (BBS) for balance • Generalized Anxiety Disorder–7 (GAD–7) for anxiety • Patient Health Questionnaire (PHQ–9) for Depression • Stroke Specific Quality of Life Scale (SSQoL) for quality of life Parametric statistics for all analyses using SPSS v17 *Post hoc* analysis	baseline FoF had significantly higher anxiety and depression scores and decreased QoL scores 6 mo poststroke compared with those who did not. *Post hoc* analysis indicated those with FoF at baseline were significantly more likely to have lower MFES scores at 6 mo poststroke.	address whether participants were on medications for anxiety or depression or intensity or type of therapy participants may have received during the 6-mo interval.
Stav, Snider Weidley, & Love (2011)	To identify key barriers to developing and sustaining driving and community mobility programs	Descriptive study Survey $N = 24{,}945$ occupational therapists, managers, and institutional leaders were invited to participate. 2,869 participants were included in the final analysis. 73% were occupational therapy practitioners, 18% were managers; 9% were administrators.	*Intervention* A Web-based survey form was developed that included demographics about respondents and settings and addressed the question of barriers to development of driving and community mobility programs. *Outcome Measures* Frequencies and percentages	Data revealed widespread barriers that were largely contextual in nature, related to fiscal support, infrastructure, physical environment, and institutional culture. The barriers were highly correlated with each other and did not discriminate across region, practitioner level, or facility type.	Low return rate; lack of interdisciplinary perspective.
Thinnes & Padilla (2011)	To identify the effectiveness of intervention strategies directed at caregivers of people with Alzheimer's disease and related dementias and their ability to sustain participation in that role	Level I Systematic review $N = 43$; 35 Level I: 22 RCTs, 10 SRs, 3 meta-analyses; 3 Level II; 5 Level III Five reports were occupational therapy–specific (4 RCTs and 1 meta-analysis). *Inclusion criteria:* Studies that addressed supportive and educational strategies for caregivers of individuals with AD or related dementias.	*Interventions* Occupational therapy sessions provided caregivers with education, knowledge of AD, problem-solving, task simplification, communication, and simple home modifications. Therapy provided direct caregiver and joint caregiver/client intervention about AD, coping and stress management strategies, social skills training to help caregivers interact with clients with AD, behavior management skills, psycho-education strategies, utilization	Inclusion of occupational therapy was found to decrease the need for assistance, reduce behavioral occurrences, and increase mastery and self-efficacy with continued post-intervention carryover and was suggestive of high cost-effectiveness. Direct interventions to caregivers improved coping skills and caregiving skills and mediated depression, fatigue, hostility, and anxiety. Joint interventions of caregivers with patients improved both the caregiver	Sample size, convenience samples, methodologies, limited follow-up of interventions; heterogeneity of study designs and sample characteristics; subjective measures; high attrition; subjective self-report; inconsistent assessment procedures among testing sites; heterogeneity in type, dose, and intensity of interventions.

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Table 2. Summary of Evidence From Studies (*cont.*)

Author/Year	Study Objectives	Level/Design/Participants	Intervention and Outcome Measures	Results	Study Limitations
		Peer-reviewed scientific literature published in English. *Exclusion criteria:* Data from presentations, conference proceedings, non-peer-reviewed research literature, research reports, dissertations and theses.	of support groups, relationships, daily living skills, self-esteem, planning for the future, legal issues, financial and health considerations, family intervention of counseling, support groups respite information, and home-based interventions. Participants received technology-mediated interventions such as weekly phone calls and video-based caregiver education. Participants also received respite care. *Outcome Measures* • Caregiver depression • Competency • Family conflict • Cost effectiveness • Carryover • Length at home before nursing home admission • Care-recipient behaviors • Caregiver self-efficacy • Mortality • Psychological well-being • QoL	and care-receiver's coping with stress and sense of well-being, mediated depression, and reduced family conflict in the early stages of dementia. Joint multimodal programs slowed down functional decline of the care recipient and improved caregiver knowledge and confidence. Family intervention improved coping with mediated depression and delayed institutionalization of the care recipient. Home-based interventions require more research but appear to have a positive effect. Technology-based interventions of telephone conversations and counseling had a positive effect. Video-based caregiver education was no more effective than telephone or Internet-based education. Respite did not demonstrate significant long-term benefits or adverse effects, but did provide short-term relief of caregivers' anxiety and depression. Adult day programs were helpful in alleviating care-related stress.	
Yuen & Burik (2011)	To examine the preclinical curricular content pertaining to driving evaluation and rehabilitation (DE/R) included in professional entry-level occupational therapy programs.	Descriptive study Survey Directors of the 144 accredited professional entry occupational therapy programs in the United States were invited to participate. *N* = 90 self-selected directors or designees from professional entry occupational therapy programs	*Intervention* An 8-item questionnaire with 7 closed-ended items and 1 open-ended item was administered on Survey Monkey. Questions included specifics about the academic program, extent of course structure, and topics related to DE/R in the curriculum. *Outcome Measures* • Descriptive statistics • Content analysis	Eight of 90 programs included content related to DE/R in required courses; 9 offered DE/R required courses. Some offered electives. Half of the programs used specialists. Most had access to a driving rehab program.	Unable to determine whether the nonresponding programs offer content related to DE/R. Occupational therapy assistant programs not included. Did not explore the depth and breadth of DE/R quality content.

Note. AD = Alzheimer's disease; ADLs = activities of daily living; AMPS = Assessment of Motor and Process Skills; BTW = behind the wheel; IADLs = instrumental activities of daily living; QoL = quality of life; RCT = randomized controlled trial; SR = systematic review.

wandering through doors, labeling drawers, and using names on people's doors (Letts, Minezes, et al., 2011; Padilla, 2011a, 2011b). Jensen and Padilla's (2011) systematic review of 12 studies related to people with Alzheimer's disease and related dementias found strong support for a multifaceted approach to fall intervention that focused on gait, balance, and strength training along with staff education about environmental awareness for fall prevention.

Basic Research, Correlational, and Descriptive Studies

Five basic research studies related to productive aging were published in 2011. Two addressed professional issues, and 3 addressed client-based issues. Of the latter 3, one addressed assessment for return to driving (Dickerson, Reistetter, Davis, & Monahan, 2011), a second explored personal factors of healthy lifestyles in community-dwelling older adults (Peralta-Catipon & Hwang, 2011), and the last was a pilot study exploring the fear of falling among clients who had sustained a stroke (Schmid et al., 2011). Dickerson et al. (2011) concluded that Assessment of Motor and Process Skills process scores were indicative of success during behind-the-wheel assessment of driving skills, with lower scores correlating with unsuccessful behind-the-wheel assessment. Their study also argued for the benefits of using general practice occupational therapists' observation and assessment skills as more cost effective and time sensitive than referrals to driving rehabilitation specialists.

Peralta-Catipon and Hwang (2011) identified healthy lifestyle categories as diet, exercise, stress management and spiritual participation, productive and social activities, leisure, activities of daily living (ADLs), and health promotion or risky behaviors. They found several factors that affected participation in healthy lifestyles, including the number of chronic diseases or impairments identified by the person, self-perception of health status, age, gender, race, education, and employment status. On the basis of their findings, they advocated that occupational therapists should consider strengths and vulnerabilities of clients' personal health factors and demographic attributes for maximum effectiveness when creating intervention plans.

Schmid et al. (2011) found that clients who had fear of falling at hospital discharge had increased anxiety, depression, and lower quality-of-life scores at 6-mo follow-up assessments. These findings led Schmid et al. to advocate that occupational therapists and colleagues consider anxiety and depression when managing the needs of clients with stroke who experience fear of falling.

Directions for the Profession's Growth

Two basic research studies explored professional growth related to the provision of driving and community mobility services. Stav, Snider Weidley, and Love (2011) conducted a survey of therapists and institutional leaders that explored barriers to developing and sustaining driving and community mobility programs. They found many barriers to developing these programs despite an aging U.S. population. They suggested that occupational therapists access the resource toolkit on AOTA's Web site to engage in advocacy of the structural, policy, and systemwide changes needed to make driving and community mobility programs available. Yuen and Burik (2011) explored professional entry programs of occupational therapy driving evaluation and rehabilitation (DE/R) curricula. Of the 144 programs, 90 responded to their survey. They found that 80 of the programs included content related to DE/R in required courses and an additional 9 offered required DE/R courses. Some offered electives with DE/R content. Fifty percent of the programs had access to certified driving rehabilitation specialists as contributing educators on DE/R content, and approximately 77% had access to a driving rehabilitation program nearby. The implementation of this content meets the accreditation standards and society's growing need.

Instrument Development and Testing, Occupational Engagement, and Health

No studies on productive aging published in *AJOT* in 2011 involved instrument development and testing or demonstrated linkages between occupational engagement and health.

Discussion

In contrast to previous reviews of productive aging (Murphy, 2010, 2011), *AJOT* published almost twice as many Level I studies in 2011. However, 6 of these were systematic reviews. Consistent with Murphy's (2010, 2011) previous productive aging reviews, only a single Level I effectiveness study was published in 2011. Although the systematic reviews explored much literature published outside of occupational therapy and often did not specifically identify occupational therapists as team members, the interventions found most beneficial to people with Alzheimer's disease and related dementia and their caregivers are well within the domain of occupational therapy practice. These interventions included occupation-based interventions, engagement in ADLs and leisure, activity and environmental adaptation and modification, social participation, and caregiver education. These reviews also identified many clinical recommendations that occupational therapists should consider

and regularly include in their practice. Such recommendations included always providing caregiver education, using modern technology as a means of providing ongoing support for caregivers, and most important, participating in the creation of comprehensive programs for this population.

Occupational therapists' ability to assess the complexity of people's abilities and their contexts, including dynamic interactions with caregivers and both the clients' and the caregivers' social participation needs, make occupational therapists essential team members in creating comprehensive programs, and occupational therapists were recommended to advocate for themselves to be active participants of such programming development. Last, many limitations were noted in these systematic reviews, including small sample size, lack of replication, inconsistencies in variables measured, and low levels of evidence of the studies included in some of the reviews. All of these limitations indicate the need for further research.

Basic research increased to 41% from the previous review's 28% (Murphy, 2011). The basic research studies that focused on client-based issues offered suggestions for improving practice. The two studies on professional issues identified the inclusion of driving rehabilitation in academic preparation while informing the profession that it needs to advocate more vigorously for driving rehabilitation programs to be accessible to an aging society. Basic research is essential for building the foundations and directions for practice evidence and professional growth. It is important that these studies do not fall by the wayside but that their content be extracted for the development of effectiveness studies and best practice.

No productive aging studies were published that involved instrument development and testing. Not only is pursuing instrument development important but so too is continuing to review and evaluate the effectiveness of assessments used in practice through research methods. No studies were published that demonstrated linkages between occupational engagement and health, which continues to be an important venue for occupational therapists to explore not only with people with disabilities, older and frail but well older adults, working older adults, and people experiencing life transitions.

The opportunity to publish in other journals about aging populations and interventions may limit the number of submissions to *AJOT*. Despite these other opportunities, Murphy's (2011) review of 2009–2010 noted that although 15 effectiveness studies about occupational therapy were published in other journals, they tended to be pilot studies and lacked details indicating rigor. Thus, as a profession, occupational therapy may still be developing the skill set required to produce high-quality research.

Implications for Occupational Therapy Practice

Although many evidence-based recommendations in the articles reviewed would enhance the quality of occupational therapists' practice, the following are a few highlights from the articles in each category. The first four bullet items are specifically from the AOTA reviews about effective intervention for people with Alzheimer's disease and related dementias and their caregivers. The third and fifth bullets are relevant to fall prevention programs for all older adult clients. The last two bullets address the emerging area of driving rehabilitation, including occupational therapists' expertise and the importance of advocacy for the quality of care for the public health that we value as a profession.

- Individually tailoring and adapting leisure activities improves quality of life for both clients and caregivers.
- Occupational therapy intervention that promotes clients' abilities in ADLs and IADLs and educates caregivers in such methods improves satisfaction, participation, and quality of life for both the clients and the caregivers.
- Educating caregivers and involving clients in motor-based occupations, exercises, and activities increase balance and decrease falls.
- Caregiver education is essential, whether a family member or other health care provider, to improve the relationships, health, and participation of persons with Alzheimer's disease or related dementias.
- Community-dwelling older adults benefit from multimedia training about fall prevention that is personally relevant to the participants.
- Occupational therapists need to advocate for funding for community-based driving and mobility programs.
- Occupational therapists should be engaged in assessing clients who desire to resume driving after a cerebral insult before a behind-the-wheel assessment recommendation is made.

Conclusions

A review of articles published in *AJOT* in 2011 yielded only 12 articles. Half of these were systematic reviews of the effectiveness of intervention with people with Alzheimer's disease resulting from AOTA's evidence-based literature review project. The bulk of the remaining articles were basic research, with three focused on driving rehabilitation. Driving evaluation and rehabilitation appears to have a sustained presence in *AJOT* and is still considered an emerging practice area.

Only 1 RCT effectiveness study was published, indicating that *AJOT* continues to publish a small number of occupational therapy effectiveness studies on productive aging.

AJOT is AOTA's flagship journal and, thus, that of the profession. A professional association's flagship journal should reflect the best evidence of the breadth, depth, and effectiveness of the practice, education, and professional standards. The flagship journal of any association should have the highest impact factor in the profession, reflecting the quality of its contents and its larger societal value. When a profession is recognized by society for its value, it has powerful potential to affect and develop public policy. Therefore, *AJOT* will be, or should be, the first journal that occupational therapists, occupational therapy educators, other professionals, and policymakers access for the best publications reflecting the profession and the effectiveness of occupational therapy practice to benefit society.

AJOT is committed to assisting in the promotion and fulfillment of the *Centennial Vision.* The limited effectiveness publications and the large amount of basic research published in *AJOT* may indicate that the occupational therapy profession's development is still young. It may be that occupational therapists are still developing the skill sets required to translate practice into research using the required scientific rigor, or perhaps more occupational therapists need to engage in the process of generating publishable evidence. The hope is that as occupational therapy continues to produce practitioners at the graduate level, this commitment to produce evidence for occupational therapy's effectiveness and efficacy will see many more publications on the societal benefits in all practice areas. This year's review of productive aging articles published in *AJOT* indicates that although occupational therapy is on the path to the *Centennial Vision,* many more quality publications need to be published and read along this path. ▲

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