We reviewed 22 articles on children and youth published in 2011 in the American Journal of Occupational Therapy and organized the articles by level of research and research type according to a framework adapted from the International Classification of Functioning, Disability and Health (ICF; World Health Organization, 2007). The largest percentage of articles described intervention effectiveness studies classified as Level III or IV. The bulk focused on the Body Function/Body Structure construct of the ICF, but as a whole the studies addressed all the constructs except Biomedical Molecular/Cellular. Rigor remains a concern, although laudable efforts have been made to increase strength of the evidence. Longitudinal, efficacy, and qualitative studies, as well as studies examining adolescents and the transition to adulthood, were absent from articles in this review and are important areas for future investigation. Several studies explicitly addressed intervention fidelity, an imperative in evidence-based research needed to move the profession toward the Centennial Vision.


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The Centennial Vision of the American Occupational Therapy Association (AOTA) states that occupational therapy will be 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). Supporting this effort, the American Journal of Occupational Therapy (AJOT) has the potential to guide practitioners in making evidence-based decisions by disseminating well-designed clinical trials; making practitioners, clients, and third-party payers aware of science-driven and evidence-based innovations that have the potential to improve participation and quality of life; and, eventually, influencing health care decisions for present and future clients.

Several of the elements viewed as relevant to a shared vision in AOTA’s Centennial Vision support engagement in rigorous research. They include the “power to influence,” “evidence-based decision making,” and “science-fostered innovation in occupational therapy practice” (AOTA, 2007, p. 614). For these elements, it is important to examine the level of rigor in research that informs occupational therapy practice. Another Centennial Vision element that may be addressed by research is “expanded collaboration for success” (p. 614), which could include collaborative research and measures to assess attitudes and opinions of various stakeholders.

AJOT has identified six main practice areas of focus with regard to publication of evidence-based practice: (1) productive aging; (2) children and youth; (3) rehabilitation, disability, and participation; (4) mental health; (5) work and industry; and (6) health and wellness (Corcoran, 2007). These areas of focus help the profession track research production and evolution with the desired result of facilitating practitioners’ use of evidence.

In 2006, the AOTA Children and Youth Ad Hoc Committee responded to a request by AOTA President Carolyn Ad Hoc Committee to address issues related to children and youth. The committee’s report (AOTA, 2006) identified the following key areas of research to inform practice in the area of children and youth:

- Basic and applied scientific studies related to skills, processes, and foundations for childhood and adolescent occupations
- Factors that contribute to the success or failure of a specific frame of reference
Both qualitative and quantitative methodologies to address multiple facets of above
Efficacy studies that examine interventions (efficacy, effectiveness, outcomes development)
Theory development and development of conceptual models that promote integration of theory and practice
Empirical studies conducted in context
Translational research providing information on applications to practice, policy development, systems change, program development
The roles and participation of parents, siblings, and other family members within family centered services
Longitudinal studies of the participation of children with special needs in their daily lives as they transition through childhood and adolescence into adulthood
Studies that examine factors central to the children, youth and their families such as finding a friend, participating in community life, and procuring and maintaining jobs
Studies that examine the emotional and social cost of occupational deprivation and occupational injustice for children and youth such as depression, alcohol and substance abuse, and suicide in disenfranchised youth, and what this is costing emotionally to youth and family as well as to society. (p. 8)

In their most recent review of studies involving children and youth, Bendixen and Kreider (2011) used the International Classification of Functioning, Disability and Health (ICF; World Health Organization [WHO], 2001) and the ICF–Children and Youth Version (ICF–CY; WHO, 2007) as frameworks for categorizing the areas of study addressed in AJOT. Recently, Baum (2011) expanded the ICF categories to incorporate levels of rehabilitation science. We used this classification framework with a pediatric focus to examine the areas addressed for children and youth because it offers a more comprehensive categorization of these levels of research (Table 1).

Evidence-based research is particularly crucial in the focus area of children and youth because a substantial proportion of occupational therapy practitioners work with this population. According to the AOTA (2010) Workforce Study, 21.7% of occupational therapists and 21.4% of occupational therapy assistants currently practice in schools, in addition to the 5.2% of occupational therapists and 1.8% of occupational therapy assistants who practice with children and their caregivers in early intervention programs. In this review, we examined the AJOT articles published in the area of children and youth during 2011 and identified the types of research published; determined whether the published research has the rigor to provide evidence for practice; and discussed implications for use of this evidence by practitioners, clients, and third-party payers.

Method
We analyzed 22 research studies related to children and youth published in AJOT during 2011. We identified the research design used in each published study and categorized it into one of the following six research categories: (1) systematic reviews, (2) intervention effectiveness studies, (3) efficacy studies, (4) basic research, (5) instrument development and testing studies, and (6) professional issues.

We used the level-of-evidence hierarchy system developed by the AOTA Evidence-Based Literature Review Project (Lieberman & Scheer, 2002) to classify the reviewed articles. Level I consists of systematic reviews, meta-analyses, and randomized controlled trials. Level II includes two-group pretest–posttest designs in which control is present and randomization is not (e.g., cohort designs, case control studies). Level III designs involve neither control nor randomization but instead use a one-group pretest–posttest design. Level IV includes single-subject designs, descriptive studies, and case series. Level V involves case study or expert opinion that is not based on systematic review.

Results
Of the 22 articles, 45.5% (10) were intervention effectiveness studies, 22.7% (5) were instrument development and testing studies, 27.3% (6) were basic research, and 4.5% (1) was a professional issues study.

### Table 1. Language of Rehabilitation Science

<table>
<thead>
<tr>
<th>Framework Category</th>
<th>Terms Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biomedical molecular/cellular</td>
<td>Plasticity, Synapse, Neurogenesis, Receptor, Neurotransmitters, Neuromodulators</td>
</tr>
<tr>
<td>Biomedical</td>
<td>Attentional control, Motor inhibition, Anatomical connectivity, Pattern recognition, Cerebellar activation, Motor control, Metabolism</td>
</tr>
<tr>
<td>Body function/body structure (ICF)</td>
<td>Executive function, Sensory processing, Mood, Motivational state, Motor planning and praxis, Language, Attention, Arousal, Sleep, Intellectual function, Theory of mind</td>
</tr>
<tr>
<td>Functional limitations</td>
<td>Gait, Strength, Postural control, Grasp and pinch, Problem solving, Range, Mobility, Endurance, Planning, Social skills, Self-regulation</td>
</tr>
<tr>
<td>Activity (ICF)</td>
<td>Stair climbing, Standing, Walking, Dressing, Grooming and hygiene, Feeding, Toileting, Writing, Listening, Learning, Communication, Social interaction</td>
</tr>
</tbody>
</table>

(Continued)
We identified no systematic reviews or efficacy studies published during 2011. Table 2 summarizes the studies.

### Intervention Effectiveness Studies

All the intervention effectiveness studies were quantitative. Ages of children examined in the studies were 3–12 yr. Three of the 10 studies were Level I (Golos et al., 2011; Case-Smith et al., 2011; Golos et al., 2011; Lust & Donica, 2011), Participation (Collins & Dworkin, 2011; Fedewa & Erwin, 2011; Golos et al., 2011), and Environment (Bendixen et al., 2011; Umeda & Deitz, 2011).

A frequent limitation of past intervention effectiveness studies—a very small research cohort (n ≤ 10)—plagued 3 of the studies (Collins & Dworkin, 2011; Fedewa & Erwin, 2011; Umeda & Deitz, 2011). Limited generalizability of findings was also a concern for the 2 studies that examined only boys (Golos et al., 2011; Umeda & Deitz, 2011) and the 2 that examined children from only one classroom (Case-Smith et al., 2011; Umeda & Deitz, 2011). Issues regarding potential bias were a concern in several of the studies. In 1 study, the occupational therapist who was conducting the study also administered the assessments (Hahn-Markowitz et al., 2011). In another, the experimental group consisted of all students in one classroom, and the control group consisted of all students in another classroom, introducing a potential selection bias (Lust & Donica, 2011).

Several of the studies incorporated measures into their protocols to increase scientific rigor. Four included fidelity measures or examined procedural reliability to ensure consistency across interventions (Case-Smith et al., 2011; Collins & Dworkin, 2011; Hahn-Markowitz et al., 2011; Umeda & Deitz, 2011). Another study included a social validity scale to assess the degree to which teachers believed the intervention was helpful for the students, thus incorporating the opinions of a stakeholder into the study (Fedewa & Erwin, 2011). Three of the studies used blinded coders who were unaware of the study’s purpose or assignment of the participants for scoring to reduce the potential for assessment bias (Collins & Dworkin, 2011; Silva et al., 2011; Umeda & Deitz, 2011).

### Instrument Development and Testing

The 5 instrument development and testing studies examined assessments addressing body function (Little et al., 2011; Spirtos, O’Mahony, & Malone, 2011; Vanvuchelen, Roeyers, & De Weerdt, 2011), participation (Taylor, Lee, Kramer, Shirashi, Kielhofner, 2011), and intervention fidelity (Parham et al., 2011). Two studies were Level II (Spirtos et al., 2011; Taylor et al., 2011), and 3 were Level III (Little et al., 2001; Parham et al., 2011; Vanvuchelen et al., 2011). All instruments were quantitative and addressed issues in assessment of children between preschool and 18 yr. All studies examined the validity and reliability of the instruments. The assessments addressed Body Function/Body Structure (Little et al., 2011; Spirtos et al., 2011; Vanvuchelen et al., 2011), Participation (Taylor et al., 2011), and Environment mechanisms (Parham et al., 2011). No studies examined assessments addressing Functional Limitations or Activity mechanisms.

The small size of the research cohorts (n ≤ 30) was a concern for 3 of the studies (Little et al., 2011; Parham et al., 2011; Spirtos et al., 2011). Little et al. (2011) used a larger sample for their examination of internal consistency (n = 358) but a small number for test–retest reliability (n = 24).

### Basic Research

The 6 basic research studies were all quantitative and examined children from age 4 mo through adulthood or their care providers. None of the studies were longitudinal. Mechanisms examined included Biomedical (electroencephalography; Gavin et al., 2011), Body Function/Body Structure (sensory processing; Mailloux et al., 2011), Functional Limitations (postural control, fine motor skills; Bigsby et al., 2011; Clayton, Kaiser, de Pue, & Kaiser, 2011; Wang, Howe, Hinojosa, & Weinberg, 2011), and Environment (parent knowledge; Zachry & Kitzmann, 2011). Only 1 study examined a very small cohort (n ≤ 10; Clayton et al., 2011); most examined more substantial cohorts (n ≥ 100; Bigsby et al., 2011; Mailloux et al., 2011; Wang et al., 2011; Zachry & Kitzmann, 2011). For 3 of these studies, the implications for occupational participation were not clearly articulated (Bigsby et al., 2011; Clayton et al., 2011; Gavin et al., 2011). Four of the basic research studies were Level IV (Gavin et al., 2011; Mailloux et al., 2011; Wang et al., 2011; Zachry & Kitzmann, 2011), and 2 were Level III (Bigsby et al., 2011; Clayton et al., 2011).
<table>
<thead>
<tr>
<th>Author/Year</th>
<th>Study Objectives</th>
<th>Intervention</th>
<th>Outcome Measures</th>
<th>Results</th>
<th>Comments and Study Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Golos, Sarid, Weill, &amp; Weintraub (2011)</td>
<td>To examine results of a preschool-based multidisciplinary early intervention program for children at risk for or diagnosed with developmental delays.</td>
<td>Level I RCT</td>
<td>N = 81 boys at risk for or diagnosed with developmental delays</td>
<td>Intervention group n = 27; Control group n = 54</td>
<td>All children in the intervention group scored significantly better than control participants on most performance skills and participated more fully in preschool activities. The study examined only boys, and no fidelity measure was used.</td>
</tr>
<tr>
<td>Pfeiffer, Koenig, Kinnealey, Sheppard, &amp; Henderson (2011)</td>
<td>To establish a model for RCT research, identify appropriate outcome measures, and address the efficiencies of treatment implementation in children with autism spectrum disorders.</td>
<td>Level I RCT</td>
<td>N = 37 (33 boys and 4 girls, 27 with autism, 10 with other PDDs)</td>
<td>Intervention group n = 20; Control group n = 17</td>
<td>SI participants displayed significantly fewer autistic mannerisms than the FM group, as measured by a subscale of the SRS. SI participants who were able to complete the QNST–II showed a significant change from pretreatment posttest, whereas the FM group did not. Significant improvements occurred in GAS scores in both groups; the SI group demonstrated more improvement. The study used a convenience sample. Issues with objective measurement tools for children on the autistic spectrum: The SPM and the QNST–II have not yet been established psychometrically to measure changes over time, and several of the assessments were not developed specifically for children with autism spectrum disorders. The authors recommended use of intervention manuals and fidelity measures.</td>
</tr>
<tr>
<td>Silva, Schalock, &amp; Gabrielsen (2011)</td>
<td>To evaluate the effect of the parent-delivered component of Qigong Sensory Training (QST).</td>
<td>Level I RCT</td>
<td>N = 57</td>
<td>Treatment group n = 24; Wait list control group n = 33</td>
<td>Findings showed efficacy in improving measures of autism. Effect sizes were all in the medium to large range. Teacher evaluators were blinded to group assignment.</td>
</tr>
</tbody>
</table>
Collins & Dworkin (2011) Pilot study to determine the effectiveness of a weighted vest on attention to task for 2nd-grade general education students with difficulty attending

**Level II**
- ABA
- Intervention group: 11
- Control group: 4

**Outcome Measure**
- Teacher questionnaires

**Intervention**
- Participants wore weighted or nonweighted vests. Videotapes were made of nine 10-min sessions. Teacher fidelity to the instructions was examined by means of teacher questionnaires.

Weighted vests were not effective in increasing time on task.

The sample size was small. Coders and participants were blinded. Teacher fidelity to instructions was examined.

Lust & Donica (2011) To measure skill improvement in prewriting skills, kindergarten readiness, first-name writing, and (handwriting-nonspecific) fine motor skills of students at Head Start who participated in Handwriting Without Tears®-Get Set for School (HWT–GSS) programming

**Level II**
- Pretest–posttest
- N = 32
- Intervention group: 17
- Control group: 15

**Outcome Measures**
- Learning Accomplishment Profile–3rd Edition
- Check Readiness tool in HWT–GSS student workbook

Participants in both groups showed significant improvements, but the intervention group showed greater improvements in all tests.

Participants were not randomized; potential bias may have resulted from different classrooms.

Bendixen et al. (2011) To explore parental differences before and after an interdisciplinary in-home training program for children with autism

**Level III**
- Quasi-experimental
- N = 19 children with autism and their parents

**Outcome Measures**
- Autism Diagnostic Interview–Revised
- Autism Diagnostic Observation Schedule
- VABS
- Parenting Stress Index Short Form Total
- Family Adaptability and Cohesion Evaluation Scales II (FACES II)—Compatibility
- FACES II—Adaptability

Before intervention, both mothers and fathers reported high levels of stress. After intervention, fathers’ stress was reduced but not significantly, possibly because of the variability in their scores; mothers’ stress was reduced significantly. Parenting styles were significantly different pre- and postintervention. Subscale scores on the FACES–II indicated that mothers were more adaptable, whereas fathers were more structured.
Table 2. Articles on Children and Youth Published in 2011 in the *American Journal of Occupational Therapy* (cont.)

<table>
<thead>
<tr>
<th>Author/Year</th>
<th>Study Objectives</th>
<th>Level/Design/Participants</th>
<th>Intervention and Outcome Measures</th>
<th>Results</th>
<th>Comments and Study Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case-Smith, Holland, &amp; Bishop (2011)</td>
<td>To pilot test a program for 1st-grade students to promote development of legible handwriting and writing fluency</td>
<td>Level III, Single-group pretest-posttest, N = 19 (17 with complete data), Age: 1st grade</td>
<td>Intervention 12-wk Write Start program using a coteaching model in which occupational therapists and teachers collaborated to develop and implement a handwriting program</td>
<td>The students made significant gains in handwriting legibility and speed and in writing fluency and samples pre- to posttest. Handwriting legibility and speed scores were maintained, and writing fluency scores continued to improve 6 mo after the intervention ended.</td>
<td>A fidelity measure was included. Future research is needed with a more rigorous study design, including a control group and larger sample, to test how and to what degree these skills are linked.</td>
</tr>
<tr>
<td>Fedewa &amp; Erwin (2011)</td>
<td>To evaluate the use of stability balls to increase the frequency of on-task and in-seat behavior for students identified with attention and hyperactivity concerns</td>
<td>Level III, Single-subject, AB continuous time series, N = 8 children with ADHD (5 diagnosed, 3 with symptoms), Age: 4th–5th grade</td>
<td>Intervention 12-wk intervention using stability balls</td>
<td>Participants showed increased levels of attention, decreased levels of hyperactivity, and increased time on task and in-seat/on ball; teachers preferred the stability balls over chairs.</td>
<td>The sample for in-seat and on-task behaviors was small. No control group was included. A social validity scale was used to assess the degree to which teachers and students believed the balls helped students.</td>
</tr>
<tr>
<td>Hahn-Markowitz, Manor, &amp; Maer (2011)</td>
<td>To describe initial assessment of the Cognitive–Functional (Cog–Fun) program, an intervention focused on cognitive strategies to enable occupational performance for children with ADHD</td>
<td>Level III, Single subject, N = 17, Age: 7–8 yr</td>
<td>Intervention Ten 1-hr weekly sessions of the Cog–Fun program</td>
<td>Participants showed significant improvements with medium to large effects on outcome measures after treatment; most improvements were maintained at follow-up.</td>
<td>No control group was used. An occupational therapist administered the assessments. One investigator checked fidelity using a log kept by the occupational therapist.</td>
</tr>
</tbody>
</table>
To assess the effects of therapy cushions on the classroom behaviors of children with autism spectrum disorder

Umeda & Deitz (2011)  
Level III  
Participants used chairs during baseline phases (A) and cushions during intervention phases (B). A choice phase (C) was included to determine participants’ seating preferences.

Outcome Measures  
- Observation of in-seat, out-of-seat, on-task, and off-task behaviors

Intervention  
- Participants used chairs during baseline phases (A) and cushions during intervention phases (B).

No clinically relevant changes in the in-seat or on-task behaviors of either participant were observed with cushion use.

This study was small and used a single classroom.

Two coders, blind to the study’s purpose, viewed the video recordings and recorded data on both in-seat and on-task behavior.

The study benefited from natural environment, good interrater agreement, and procedural reliability.

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Instrument Development and Testing Studies

Spirtos, O’Mahony, & Malone (2011)  
To examine the interrater reliability of the Melbourne Assessment of Unilateral Upper Limb Function (MAUULF)

Level II  
Interrater reliability study

Intervention  
No intervention

Outcome Measure  
- Quality of Upper Extremity Skills Test

High correlation was found between raters’ total scores (ICC = .961). Correlations for test components between raters included fluency (ICC = .902), range of movement (ICC = .866), target accuracy (ICC = .786), and quality of movement (ICC = .683). The ICC for individual test item scores ranged from .368 to .899.

The convenience sample of raters was small.

Taylor, Lee, Kramer, Shirashi, & Kielhofner (2011)  
To examine the psychometrics of the Occupational Self Assessment (OSA)

Level II  
Construct validity study

Intervention  
No intervention.

Outcome Measures  
- OSA  
- Fatigue Scale  
- Checklist of Infectious Symptoms  
- Child Health Questionnaire  
- Perceived Stress Scale

OSA items captured the intended constructs; the rating scales functioned as intended. More than 90% of the adolescents were validly measured. The OSA showed adequate sensitivity and stability over time. The OSA measure of competence was moderately associated with infectious symptoms, fatigue severity, health status, and stress, and the measure of values was not. Neither measure was associated with age, gender, or ethnicity.

The sample size was moderate.

(Continued)
<table>
<thead>
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</tr>
</thead>
<tbody>
<tr>
<td>Little et al. (2011)</td>
<td>To evaluate the psychometric properties of the Sensory Experiences Questionnaire (SEQ)</td>
<td>Level III</td>
<td>Intervention No intervention</td>
<td>Internal consistency for the SEQ was 5.80. Test–retest reliability for the total score was excellent (ICC = 5.92).</td>
<td>The sample was moderate for examining internal consistency and small for examining test–retest reliability. Future research is needed to consider eliminating items that are less reliable and adding new items to subscales that have few items, test the factor structure, develop item sets for different age groups, and establish the SEQ’s sensitivity to change as a result of maturation or intervention.</td>
</tr>
<tr>
<td>Parham et al. (2011)</td>
<td>To evaluate the reliability and validity of the Ayres Sensory Integration (ASI) Fidelity Measure</td>
<td>Level III</td>
<td>Intervention No intervention</td>
<td>Reliability of the process section was strong for total fidelity score (ICC = 5.99, Cronbach’s α = 5.99) and acceptable for most items. Total score significantly differentiated ASI from four alternative interventions. Expert ratings indicated strong agreement that items in the structural and process sections represent ASI intervention. The ASI Fidelity Measure has strong content validity. The process section is reliable and valid when scored by trained raters with expertise in ASI.</td>
<td>Participants were from 6 countries and had not participated in the development of the ASI Fidelity Measure. The instrument’s process section may not be reliable or valid when scored by an unqualified observer. Whether the section measuring structural elements is adequately reliable remains unknown.</td>
</tr>
<tr>
<td>Vanvuchelen, Roeyers, &amp; De Weerdt (2011)</td>
<td>To examine rater and test–retest reliability of the Preschool Imitation and Praxis Scale (PIPS)</td>
<td>Level III</td>
<td>Intervention No intervention</td>
<td>Trained examiners administered the PIPS and were videotaped for analysis. They demonstrated acceptable intra- and interrater reliability at the item level (0.45–1.00) and scale level.</td>
<td>Implications for occupational participation are discussed in article.</td>
</tr>
<tr>
<td>Study Authors (Year)</td>
<td>Objective</td>
<td>Design</td>
<td>Level</td>
<td>Intervention</td>
<td>Outcome Measures</td>
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<tr>
<td>Bigsby et al. (2011)</td>
<td>To examine the relationship between prenatal cocaine exposure and quality of movement in babies</td>
<td>Case control</td>
<td>Level III</td>
<td>No intervention</td>
<td>Posture and Fine-Motor Assessment of Infants</td>
</tr>
<tr>
<td>Clayton, Kaiser, de Pue, &amp; Kaiser (2011)</td>
<td>To compare anteroposterior and mediolateral range of motion and velocity of the center of pressure (COP) between horseback riders without disabilities and riders with cerebral palsy</td>
<td>Cohort</td>
<td>Level III</td>
<td>No intervention</td>
<td>Electronic pressure mat used to track COP movements beneath the saddle</td>
</tr>
<tr>
<td>Gavin et al. (2011)</td>
<td>To determine whether children with sensory processing disorder (SPD) differ from typically developing children on electroencephalographic (EEG) measures</td>
<td>Group comparison</td>
<td>Level IV</td>
<td>No intervention</td>
<td>SSP, Clinical Observation of Motor and Postural Skills, EEG measures (N200 and P300 components)</td>
</tr>
<tr>
<td>Mailloux et al. (2011)</td>
<td>To examine patterns of sensory integrative dysfunction in children ages 4–9 who received occupational therapy evaluations in 2 private practice settings using a retrospective study</td>
<td>Retrospective chart review</td>
<td>Level IV</td>
<td>No intervention</td>
<td>Sensory Integration and Praxis Tests, Portions of the SPM representing tactile overresponsiveness, Parent report of attention and activity level</td>
</tr>
<tr>
<td>Author/Year</td>
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<tr>
<td>Wang, Howe, Hinojosa, &amp; Weinberg (2011)</td>
<td>To examine the relationship between postural control and fine motor skills in preterm infants</td>
<td>Level III Retrospective cohort N = medical records from 105 preterm infants evaluated at a follow-up clinic in Taiwan</td>
<td>Development of postural control was related to the development of fine motor skills, especially in the group of preterm infants with delayed postural control, supporting the theoretical assumption of proximal–distal development.</td>
<td></td>
<td>Postural control was examined as a whole; previous studies focused on only a single component or position. A longitudinal study is needed to examine developmental motor trajectory.</td>
</tr>
<tr>
<td>Zachry &amp; Kitzmann (2011)</td>
<td>To examine caregiver awareness of the American Academy of Pediatrics’ prone play recommendation and determine the amount of prone play children experienced</td>
<td>Level IV Questionnaire N = 205 questionnaires from 300 caregivers of healthy infants</td>
<td>Intervention No intervention</td>
<td>One-fourth of caregivers were not aware of prone play recommendations from the American Academy of Pediatrics. About half of infants received 30 min of prone play per day; one-third were intolerant of the prone position.</td>
<td>The study used a small convenience sample of caregivers.</td>
</tr>
<tr>
<td>Myers, Schneck, Effgen, McCormick, &amp; Shasby (2011)</td>
<td>To identify factors associated with occupational therapists’ involvement as children receiving early intervention services transition into preschool</td>
<td>Level IV Questionnaire survey Participants N = 246 members of AOTA School System Special Interest Section</td>
<td>Intervention No intervention</td>
<td>Relationship with early intervention providers, employer-based supports, and knowledge of the transition process were significantly associated with involvement in two transition planning areas: transition planning with early intervention programs and family support.</td>
<td>The study used a small representational sample.</td>
</tr>
</tbody>
</table>

Note. ADHD = attention deficit hyperactivity disorder; AOTA = American Occupational Therapy Association; ICC = intraclass coefficient; RCT = randomized controlled trial; SPM = Short Sensory Profile; VABS = Vineland Adaptive Behavior Scales.
Professional Issues
The study in the professional issues category examined factors associated with the Environment supporting the collaborative nature of early intervention practice (Myers, Schnick, Effgen, McCormick, & Shasby, 2011). Findings suggest that practices to enhance relationships among programs influence occupational therapist involvement. This study was Level IV; the research was quantitative and incorporated descriptive methods and regression analysis. The survey instrument used showed a high degree of internal consistency and reliability.

Discussion
The most common evidence level was Level III (36.4%), followed by Level IV (31.8%), Level II (18.2%), and Level I (13.6%). All studies were quantitative, indicating a failure to address the objective of including both qualitative and quantitative methodologies (AOTA, 2006) in this group of AJOT publications.

Instrument Development and Testing
Each of the instrument development studies supports “power to influence,” “evidence-based decision making,” and “science-based innovation in occupational therapy practice” (AOTA, 2007, p. 614). Attention to scientific rigor continues to be an important priority in occupational therapy research, and continued efforts to increase rigor, such as manualizing intervention protocols, including procedural fidelity and social validity measures, and using blinded coders, all support the Centennial Vision elements.

Intervention Effectiveness Studies
Inclusion of several Level I and Level II studies supports “power to influence,” “evidence-based decision making,” and “science-based innovation in occupational therapy practice” (AOTA, 2007, p. 614). Attention to scientific rigor continues to be an important priority in occupational therapy research, and continued efforts to increase rigor, such as manualizing intervention protocols, including procedural fidelity and social validity measures, and using blinded coders, all support the Centennial Vision elements.

Conclusion
An important theme in intervention effectiveness studies is that of fidelity, defined as “the strategies that monitor and enhance the accuracy and consistency of an intervention to ensure it is implemented as planned and that each component is delivered in a comparable manner to all study participants over time” (Smith, Daunic, & Taylor, 2007, p. 121). Fidelity was explicitly addressed in several of the research studies but found lacking in others. Fidelity ensures that measurement of the effectiveness of our interventions is consistent; without it, we cannot claim that these interventions are evidence based. Use of larger study cohorts, blinded coders, and social validity scales are other important factors that contribute to strength of the evidence.

In their most recent review of occupational therapy research related to children and youth, Bendixen and Kreider (2011) used the concept of occupational therapy’s impact on positive youth development and the framework of the ICF to assess the research. They found that the bulk of studies fell within the ICF domains of Body Function/Body Structure and Activity. The levels of rehabilitation addressed in the studies published in 2011 were Body Function/Body Structure (50%), Functional Limitations (32%), Environment (23%), Participation (18%), Activity (14%), and Biomedical (5%), with none from Biomedical Molecular/Cellular. In the revised categorization used in this analysis, the largest group of studies continued to be those examining Body Function/Body Structure, but a representation was seen, at least modestly, across the levels, except for the most basic Biomedical Molecular/Cellular, which is not typically addressed by occupational therapy research.

The study authors did not always explicitly translate their findings to implications for participation, an omission that suggests a continuing need to document changes in children’s engagement in everyday life situations to build the evidence of occupational therapy’s efficacy in facilitating participation. None of the studies on children and youth published in AJOT in 2011 focused on efficacy (i.e., the ability of an intervention to produce the effect intended), and only 1 focused on professional issues. Longitudinal studies were not included among the 2011 studies. In addition, none of the intervention studies examined...
adolescents or issues involving the transition to adulthood. These are all important areas for future attention to enable a better understanding of developmental and occupational patterns of children and adolescents and better inform practitioners, clients, and third-party payers.

Gillen (2010) observed that occupational therapists frequently publish their studies in journals outside the discipline of occupational therapy. They may do so for two reasons: (1) the desirability of publishing in a variety of journals and (2) the difficulty of having manuscripts accepted for publication in AJOT. Although sharing our findings in journals outside our own profession may support our Centennial Vision—expanded collaboration for success and “power to influence” (AOTA, 2007), it is also important toward these objectives that researchers include AJOT and other occupational therapy journals in their choices of where to publish. Conversely, it is no less important that AOTA support these efforts by maximizing the capacity of AJOT to publish the rapidly expanding evidence being produced by members of this profession. ▲

References


American Occupational Therapy Association. (2010, September 13). Surveying the profession: 2010 AOTA Workforce Survey points to rising demand for and commitment to occupational therapy. OT Practice, 8–11.


Therapy, 61, 216–227. http://dx.doi.org/10.5014/ajot.61.2.216


