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Variation in Sources of Clinician-Rated and Self-Rated Instrumental Activities of Daily Living Disability

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Background. It is unclear how well self-reports and clinician ratings of performance in the instrumental activities of daily living (IADLs; household maintenance tasks) correspond and why they may differ.

Methods. We assessed clinician-rated IADL performance using an occupational therapy protocol, the Assessment of Motor and Process Skills (AMPS). AMPS and self-rated IADL disability were compared in two groups of nondemented elderly persons without ADL limitation: a group with functional limitation only (self-reported difficulty in some area of upper or lower body function, $n = 139$) and a group that reported functional limitation plus IADL disability (difficulty in at least one IADL task, $n = 49$). Occupational therapists were blind to self-reports, and all assessments were conducted in respondent homes.

Results. Self-rated IADL disability was significantly associated with the AMPS motor skill score ($r = -.34$, $p < .001$), but the motor skill score was only moderately sensitive (61%) and specific (67%) in identifying self-rated disability. In adjusted logistic regression models, clinician-rated performance and self-rated IADL disability shared some physical predictors, but only clinician-rated performance was related to cognitive status. AMPS process skill scores did not relate to self-rated IADL disability or physical or cognitive status.

Conclusions. In this sample of older adults without dementia or ADL disability, clinician ratings of IADL motor skill and self-rated IADL disability were correlated. Physical deficits appear to be more salient in self-ratings than is cognitive ability, because cognitive ability (in particular, verbal fluency) was associated only with clinician-rated IADL performance.

THE relative role of physical, cognitive, and environmental factors in self-reports of difficulty with the instrumental activities of daily living (IADLs, e.g., preparing meals or managing medications) remains unclear. It would be valuable to clarify these relationships, because self-reported IADL disability is associated with an increased risk of mortality, hospitalization, development of more extensive disability (such as disability in the activities of daily living [ADLs]), and need for long-term care (1,2) and because identifying sources of IADL disability may point the way to effective strategies to mitigate and delay the onset of such disability. Although findings from the National Long Term Care Survey suggest that IADL disability is declining (3,4), this trend may not reflect an aggregate improvement in health. Between 1984 and 1999, declines have been reported for need for help in managing money (from 8.4% to 3.8%), doing laundry (from 7.9% to 5.3%), and using the telephone (from 3.2% to 2.2%); but the same period saw the introduction of direct deposit banking, microwaves, and adapted telephones (5). Until the sources of IADL disability are made clear, it will be difficult to separate how much of this reduction in disability is due to improvement in physical and cognitive ability in later life, and how much is due to improvement in home and community environments. These issues have become more pressing with an increasingly older population.

In this research, we examined sources of IADL disability in a comparison of two groups of nondemented elderly persons, both drawn from a community sample: a group with functional limitation only (self-reported difficulty in some area of upper or lower body limitation, $n = 139$) (6,7), and a group that reported functional limitation plus IADL disability (difficulty in at least one IADL, $n = 49$). Neither group included people with disability in the ADLs, i.e., none reported difficulty in personal self-maintenance tasks, such as bathing. We examined the following questions: (i) Do older adults who report disability in IADLs perform tasks less efficiently, as rated by occupational therapists (OTs) blind to self-reports? (ii) Are self-reported IADL disability and clinician-rated IADL performance similarly related to underlying cognitive and physical abilities? and (iii) In what ways is discordance between self-reported IADL disability and clinician-rated IADL performance clinically meaningful?

Methods

Study Population

The Sources of Independence in the Elderly (SITE) project is designed to investigate risk factors for disability, as well as factors associated with recovery from disability, in nondemented, community-dwelling people 70 years old or older.

To be included in the study, participants were required to have self-reported difficulty with at least one but no more than three of four different domains of function: upper extremity, lower extremity, IADLs, or ADLs. We defined the four domains by adapting criteria developed in the Women's Health and Aging Study I (8). For example, a person was said to have lower extremity functional limitation if he or she reported difficulty with walking a quarter mile, climbing a flight of stairs, or transferring from bed or chair. People were excluded from the study if they met criteria for depression or dementia. Depressive symptoms were assessed with the Patient Health Questionnaire, a self-report elicitation consistent with the Diagnostic and Statistical Manual of Mental Disorders Fourth Edition (DSM-IV) criteria (9). Dementia was established in a comprehensive cognitive assessment, which was reviewed in a consensus conference along with medical and other assessments.

SITE participants were selected from the larger pool of New York City elders followed in the Washington Heights-Inwood Columbia Aging Project (WHICAP). WHICAP is a population-based survey of Medicare beneficiaries residing in northern Manhattan, New York City (10–13). Eighty-five percent of WHICAP participants who were eligible for SITE agreed to enroll in this additional study. An initial telephone interview established which tasks were to be completed in the AMPS occupational therapy assessment conducted during home visits. The telephone interview was followed within the week by a 90-minute in-home assessment. Between the telephone interview and home assessment, less than 2% of participants altered reports of disability in any task. All participants provide written informed consent, and the Columbia University Institutional Review Board approved the study protocol.

Self-Reported IADL Disability and Clinician-Rated IADL Performance

Self-reported disability was defined by a report of difficulty in performing at least one of six IADL (using the telephone, doing light housework, preparing light meals, doing light shopping, handling finances, managing medications).

Clinician-rated IADL performance was established in the Assessment of Motor and Process Skills (AMPS), a clinician rating of specific motor and cognitive skills used in IADL tasks (14). Several studies of the AMPS have provided evidence of reliability and high sensitivity and specificity for discriminating between disease severity groups (15–18). OTs (all of whom completed a 5-day AMPS training program) conducted these assessments, which require respondents to perform a housekeeping and meal preparation task from a prespecified set of 54 tasks.

Following the AMPS protocol, OTs observed participants perform two tasks, and rated participants in a range of ergonomic domains. Motor skill domains include posture, mobility, coordination, strength and effort, and energy. Process skill domains include knowledge use, temporal organization, handling space and objects, and adaptation. In each domain, OTs provided multiple ratings on a 4-point scale (competent, questionable, ineffective, deficit).

An important advantage of the AMPS is its use of a Rasch measurement model. The Rasch model has been used to calibrate difficulty levels for the 54 tasks, establish difficulty levels for ratings of each skill item, and incorporate rater propensity to score participants more or less severely (established in the calibration period). AMPS software converts skill ratings in all domains for the two observed tasks into a single logit score on two underlying dimensions, a motor and a process skill dimension. This approach allows participants who perform different IADL tasks to be compared on common underlying ability dimensions.

Age-referenced norms for motor and process skill performance are available from AMPS developers (http://www.ampsintl.com/). Following test developer recommendations, we considered motor and process scores ≤ -1.0 standard deviation (*SD*) below age-referenced means to indicate inefficient performance, which we consider a performance-based indicator of IADL disability. For example, motor logit scores (which range from −3 to 4) below 2.07 (age 70), 1.91 (age 71–76), 1.80 (age 77–83), or 1.62 (age 84+) indicate performance 1 *SD* below the mean for the age group. Fisher (14) reports a normative sample of 16,000 people (across all ages) used in developing the AMPS. Use of alternative cut points (such as 1.5 and 2.0 *SD* below age means) did not alter sensitivity and specificity relative to self-reports.

All 188 people included in this analysis completed AMPS tasks in their homes. None performed at the AMPS motor or process ceiling score. The most frequently performed tasks (>10 people performing task) included sweeping the floor, mopping the floor, washing dishes by hand, preparing a salad, preparing a sandwich, and making coffee. The mean time to complete AMPS evaluations was 30 minutes.

Physical Performance

Lower-extremity tests assessed gait speed, balance, and strength and exercise tolerance (8). Gait was assessed with a 4-meter walk. Respondents were asked to walk at normal speeds, and the mean of two trials (in s) was computed. Static balance was assessed with progressively complex stances. Dynamic balance was assessed with the Functional Reach Test (19). In the chair stand test, respondents were asked to stand up from a chair, without using their arms, and sit five times in a row. Time to completion was recorded. Upper extremity tests included grip and pinch strength of both dominant and nondominant hands. Grip and pinch strength were assessed using a dynamometer and pinch gauge (Jamar, Sammons-Preston, Bolingbrook, IL). The results of two trials were averaged. All respondents were able to complete the timed gait assessment, and less than 10% were unable to complete one or more assessments of upper and lower extremity strength. Participants unable to complete tests were assigned a score that corresponded to the poorest 1% of performance in the sample distribution (20).

Cognitive Performance

By design, no SITE participant met criteria for dementia as determined in a consensus conference. As part of this determination, all participants completed a detailed neuropsychological evaluation. This 45-minute assessment was conducted by Spanish–English bilingual testers, and covered the domains of memory (Selective Reminding Test)

(21), verbal fluency (frequency of words beginning with C, F, or L and animal naming) (22), executive function (Color Trails Test) (23), abstract reasoning (Similarities Test) (24), and psychomotor speed (Grooved Pegboard Test) (25). Tests of memory and language were converted to *z* scores and summed to create two composites, and participants were categorized by tertile of performance.

Environmental Assessment

Features of home environments were assessed with the Quality of Circumstances scale (26). This measure requires research assistants to rate the state of the household on a variety of dimensions, including general clutter and disrepair and adequacy of shelter.

Analyses

We compared respondents reporting only functional limitation to respondents reporting both functional limitation and IADL disability. Similarly, people with low motor skill on the AMPS (using the –1 *SD* criterion) were compared to people with higher scores. These comparisons involved chi-square tests for categorical measures and *t* tests for continuous distributions. Logistic regression models were developed to examine potential differences in predictors of self-reported and performance-based IADL disability. Collinearity diagnostics were examined to assess the appropriateness of models. Finally, we cross-classified self-reported IADL and clinician ratings of performance and used analysis of variance (ANOVA) models to compare discordant groups to groups in which clinician and self-report agreed. For a more strict comparison, we limited IADL disability to self-reports of difficulty with light housework or meal preparation, which are explicitly assessed in clinician AMPS ratings, and repeated analyses.

Results

Self-reports of IADL difficulty ranged from 0% (telephone) to 11.2% (''managing money and paying bills''). Of people reporting IADL disability (26.1%), 36 reported difficulty in 1–2 tasks and 13 in 3 or more. The prevalence of self-reported difficulty was 10.6% for light shopping, 6.4% for light housework, 5.3% for preparing meals, and 4.3% for taking medications. People reporting that they did not do a task for nonhealth reasons (range, 0% [telephone] to 8.5% [preparing meals]) were not considered to have disability in the task. Nine percent of participants (17/189) reported difficulty in light housework or meal preparation.

The 188 nondemented older adults examined in this research were drawn from a larger pool of 213 who completed AMPS assessment. Only one person reported IADL disability in the absence of functional limitation, and we excluded this person along with 24 reporting ADL disability.

Do Older Adults Who Report Disability in IADL Perform Tasks Less Efficiently, as Rated by OTs Blind to Self-Reports?

AMPS motor efficiency scores were significantly lower in people reporting IADL disability (1.41 ± 1.1 vs 2.21 ± .97, $p < .001$). AMPS process scores did not significantly differ (1.50 ± 1.5 vs 1.53 ± 0.7, $p = .81$). The AMPS motor score and number of self-reported IADL disabilities (0–6) were significantly correlated (–0.34, $p < .001$), indicating that people reporting more difficulty with IADL tasks had lower motor skill scores in IADL performance as observed by clinicians.

OTs observed motor performance below age-specific norms in 40.4% (76/188) of respondents and process skill deficits in 28.2% (53/188). Using performance < –1 *SD* below age norms as an indicator of IADL disability, clinician-rated motor performance was moderately sensitive (62%) and specific (67%) in identifying people reporting IADL disability. Clinician ratings of process skills were not significantly associated with self-reports.

Limiting IADL disability to reports of disability in light housework and cooking did not alter this relationship. Motor performance by clinician rating was significantly lower in people reporting disability in light housework or cooking (1.22 ± 1.3 vs 2.07 ± 1.0, $p = .002$). Process scores were again not significantly different. Clinician-rated performance was similarly sensitive (71%) and specific (63%) in identifying people reporting difficulty with cooking and cleaning.

Are Self-Reports and Clinician Ratings of Performance Similarly Related to Underlying Cognitive and Physical Abilities?

Table 1 presents sociodemographic, clinical, and home environment features of the sample by both IADL self-report and AMPS motor skill performance. The proportion reporting IADL disability was significantly higher in older ($p < .05$), less educated ($p < .01$), female ($p < .05$), and Hispanic ($p < .05$) participants. The proportion performing below age norms in AMPS motor performance did not differ by sociodemographic status. Similarly, the proportion reporting IADL disability was higher for people with pulmonary disease ($p < .05$) and diabetes ($p < .05$) compared to those without, but the proportion performing below age norms in AMPS motor performance did not significantly differ by disease status. Self-reports of IADL disability were higher in people with poorer home environments.

As shown in the univariate analyses of Table 2, self-reports of functional limitation did not discriminate well between groups. Only people reporting ''difficulty carrying something as heavy as 10 lbs'' were significantly more likely to report difficulty in IADLs ($p < .05$) and perform below age norms in motor performance ($p < .01$). Measures of physical performance were related to both self-reported IADL disability and motor performance, as shown in Table 3. Cognitive performance was related to self-reported IADL disability but not to clinician-rated motor performance. However, cognitive performance was also significantly lower among minorities (for example, in the letter fluency test, whites produced 13.1, African Americans 9.4, and Hispanics 8.2 words, $p < .001$; this pattern was evident in all cognitive assessments). As Hispanics were significantly more likely to report IADL disability (see Table 1); the association

Table 1. Sociodemographic and Medical Status of Cohort by Self-Rated IADL Disability and Clinician-Rated Performance

	Reporting IADL Disability, % (*N*)	Performing Below Age Norm, AMPS Motor Score, % (*N*)	Total Sample, % (*N*)
Sociodemographic status			
Age <80 y	20.5 (23)	41.1 (46)	59.6 (112)
80+	34.2 (26)*	39.5 (30)	40.4 (76)
Education <12 y	34.3 (34)	36.4 (36)	52.7 (99)
12+ y	16.9 (15)†	44.9 (40)	47.3 (89)
Female	31.3 (41)	40.5 (53)	69.7 (131)
Male	16.3 (8)*	30.3 (23)	30.3 (57)
Living alone	20.5 (18)	34.1 (30)	60.1 (110)
Shared household	30.5 (29)	45.3 (43)	39.9 (73)
White	17.7 (11)	37.1 (23)	33.3 (62)
African American	18.8 (6)	56.3 (18)	17.2 (32)
Hispanic	33.7 (31)*	38.0 (35)	49.5 (92)
Medical conditions			
Any cardiovascular	23.9 (11)	37.0 (17)	24.5 (46)
None	26.8 (38)	41.5 (59)	75.5 (142)
Any pulmonary	50.0 (10)	55.5 (11)	10.6 (20)
None	23.2 (39)*	38.7 (65)	89.4 (168)
Diabetes	41.2 (14)	44.1 (15)	18.1 (34)
None	23.2 (39)*	39.6 (61)	81.9 (154)
Home environment			
Clean, in good repair	26.5 (45)	41.2 (70)	90.9 (170)
Clutter and health danger	6.3 (3)	29.4 (5)	9.1 (17)
Shelter adequate	25.3 (45)	42.1 (75)	97.8 (178)
Inadequate (space, temp)	75.0 (3)*	0.0 (0)	2.2 (4)
Safe from crime	24.3 (43)	40.7 (72)	96.2 (177)
Insecure	71.4 (5)†	42.9 (3)	3.8 (7)
Total sample	26.1 (49)	40.4 (76)	100.0 (188)

Notes: $N = 182–188$ ($n = 2$ other race-ethnicity).
*$p < .05$; †$p < .01$.
IADL = Instrumental activities of daily living; AMPS = Assessment of Motor and Process Skills.

Table 2. Self-Reported Functional Limitation by Self-Rated IADL Disability and Clinician-Rated Performance

Self-Reported Difficulty	Reporting IADL Disability, % (*N*)	Performing Below Age Norm, AMPS Motor Score, % (*N*)	Total Sample, % (*N*)
Raising arms over head			
No	24.7 (39)	39.2 (62)	84.0 (158)
Yes	33.3 (10)	46.7 (14)	16.0 (30)
Using fingers to grasp			
No	23.8 (38)	38.8 (62)	85.1 (160)
Yes	39.3 (11)	50.0 (14)	14.9 (28)
Lifting/carrying 10 lbs			
No	19.8 (22)	36.0 (40)	59.0 (111)
Yes	37.3 (22)*	46.8 (36)†	41.0 (77)
Walking ¼ mile			
No	23.4 (25)	38.3 (41)	56.9 (107)
Yes	30.0 (24)	42.5 (35)	43.1 (81)
Walking 10 steps, stairs			
No	20.7 (18)	42.5 (37)	46.3 (87)
Yes	30.8 (31)	38.6 (39)	53.7 (101)
Transferring from bed/chair			
No	23.4 (33)	39.7 (56)	75.0 (141)
Yes	34.0 (16)	42.6 (20)	25.0 (47)

Notes: *$p < .05$; †$p < .01$.
IADL = Instrumental activities of daily living; AMPS = Assessment of Motor and Process Skills.

between self-reported IADL and cognitive performance may reflect confounding by race-ethnicity. Indeed, in ANOVA models that adjusted for race–ethnicity and education, the association between self-reported IADL disability and cognitive performance was no longer significant.

Adjusted analyses for predictors of self-reported disability and clinician-rated motor skill performance are shown in Table 4. To ensure comparability, we used the same set of predictors and included representative indicators for a variety of domains. Goodness-of-fit measures for both outcomes were highly significant. In adjusted models, cognitive performance was a significant predictor only for clinician-rated motor skill performance. Relative to the participants in the highest tertile of performance for verbal fluency, those participants scoring in the lowest tertile were three times more likely to demonstrate poor motor skills in IADL tasks. Slower gait was associated with greater risk of self-reported disability and also poorer clinician-rated motor skill; for both outcomes, each additional second required for the 4-meter gait was associated with a 20% increase in risk. Other predictors were specific to self-reported IADL disability (age, presence of respiratory disease) or clinician rating (living alone, which was protective).

In What Ways Is Discordance Between Self-Reported IADL Disability and Clinician-Rated Performance Clinically Meaningful?

The cross-classification of clinician-rated motor skill performance (using the 1 *SD* below age norm criterion) and self-reported disability resulted in 124 (66%) concordant respondents (93 without IADL disability and 31 with disability by both criteria). Discordant cases included 46 with inefficient performance by clinician rating but no self-reported disability, and 19 with self-reported IADL disability whom clinicians considered competent in IADL performance. The four groups did not differ by gender or other sociodemographic features.

Clinician ratings of poor motor performance in observed IADL tasks were associated with longer time (about 1 s) to complete the 4-meter walk in both self-report groups, as shown in Figure 1. Motor skill score was a significant predictor ($p = .02$) in ANOVA models that adjusted for age, gender, and self-report.

Finally, to examine the nature of discordant ratings in more detail, we examined ratings of the home environment made by the research team. Respondents who considered themselves disabled in IADL but who were rated competent by clinicians lived in home environments that were rated as more cluttered and in need of repair ($p = .04$), less adequate in space and comfort ($p = .01$), and less well secured for preventing crime ($p = .02$), compared to the other three groups.

Table 3. Correlates of Self-Rated IADL Disability and Clinician-Rated Performance, Unadjusted

	Self-Report		AMPS Motor Skill Score	
	IADL Competent $N = 139$	IADL Disability $N = 49$	Above Age Norm $N = 112$	Below Age Norm $N = 76$
Physical performance				
Upper extremity				
Grip strength (kg)	21.0	18.0*	21.2	18.8*
Pinch, key (kg)	5.7	4.6†	5.6	5.2
Pinch, palmar (kg)	4.5	3.5‡	4.5	4.0*
Lower extremity				
Gait, 4 m (s)	5.9	7.7†	5.8	7.2‡
Tandem stand (s)	6.0	5.3	6.4	5.1*
Chair stand (s)	19.1	26.4	17.2	26.5‡
Functional reach (cm)	24.5	22.5	25.9	21.2‡
Cognitive performance				
Memory				
Memory, total recall#	37.6	33.9*	36.6	36.7
Memory, z	1.2	-0.2*	0.9	0.8
Language ability				
Fluency: letter#	30.5	24.8†	29.9	27.8
Fluency: semantic#	13.6	12.5*	14.1	13.6
Language, z	1.3	−1.0†	1.2	0.1
Executive function				
Color Trails (s)	61.3	70.7*	64.6	61.4
Abstract reasoning				
Similarities, score	11.4	7.8†	10.7	10.1
Psychomotor skill				
Pegboard (s)	150.6	176.8†	153.6	162.3

Notes: High scores on gait, chair stand, Color Trails, and Grooved Pegboard indicate poorer performance.

*$p < .05$; †$p < .01$; ‡$p < .001$.

IADL = Instrumental activities of daily living; AMPS = Assessment of Motor and Process Skills.

= number of words produced.

Table 4. Predictors of Self-Rated IADL Disability and Clinician-Rated Performance: Adjusted Analyses

Predictor (n)	Self-Rated IADL Disability	Performance < AMPS Motor Score Age Norm
Age, y	1.08 (1.00, 1.18)*	1.03 (0.96, 1.10)
Female (123)	1.45 (0.49, 4.29)	0.48 (0.20, 1.20)
Education, y	0.91 (0.81, 1.03)	1.08 (0.97, 1.20)
Living alone (85)	0.54 (0.23, 1.28)	0.43 (0.20, 0.90)*
Race/ethnicity		
White (62)	1.00 (Ref)	1.00 (Ref)
African American (31)	0.87 (0.24, 3.17)	2.15 (0.71, 6.56)
Hispanic (84)	1.15 (0.35, 3.81)	1.21 (0.43, 3.42)
Diabetes (30)	2.01 (0.70, 5.75)	1.00 (0.35, 2.27)
COPD (19)	4.35 (1.26, 15.1)*	1.67 (0.61, 6.05)
Grip strength (kg)	.98 (0.91, 1.05)	0.94 (0.89, 1.01)
Gait (s)	1.24 (1.01, 1.52)*	1.21 (1.01, 1.46)*
Language composite		
Top tertile (62)	1.00 (Ref)	1.00 (Ref)
Middle (59)	0.68 (0.23, 2.00)	0.97 (0.36, 2.34)
Lowest tertile (56)	0.98 (0.29, 3.25)	2.98 (1.04, 9.36)*
Memory composite		
Top tertile (62)	1.00 (Ref)	1.00 (Ref)
Middle (59)	0.99 (0.35, 2.87)	0.42 (0.17, 1.05)
Lowest tertile (56)	0.93 (0.29, 3.01)	0.51 (0.18, 1.41)
Model		
−2 log likelihood	160.8†	202.5†
R^2	.29	.25

Notes: $n = 177$. Table entries are odds ratios (95% confidence intervals).

*$p < .05$; †$p < .001$.

IADL = Instrumental activities of daily living; AMPS = Assessment of Motor and Process Skills; COPD = chronic obstructive pulmonary disease.

Discussion

In this sample of older adults with functional limitation or IADL disability, only 1/189 reported IADL disability without also reporting upper or lower body functional limitation. We conclude that IADL disability in the absence of functional limitation is rare among nondemented elders.

Although OT ratings of motor skill based on observed performance of IADL tasks were significantly related to self-reported IADL disability, discordance was common. Still, the AMPS motor skill assessment proved valuable in a number of ways.

First, self-reported IADL disability was associated with sociodemographic indicators, such as gender and race–ethnicity. Clinician-rated motor skill derived from observed IADL performance was not. This finding suggests that response biases need to be considered in self-reports of IADL disability.

Second, in adjusted analyses only observed motor skill performance, not self-reported IADL disability, was related to cognitive ability. Low performance in verbal fluency is considered an indicator of deficit in executive function (27) and, in our sample, was associated with a 3-fold increase in the risk of OT ratings of poor motor skill. Consistent with our findings, deficits in verbal fluency have been shown to be a risk factor for mild cognitive impairment and Alzheimer's disease (28,29) as well as poor motor performance (30). In adjusted models, self-reported disability was associated with slower gait, but not verbal fluency, suggesting that deficits in physical performance may be

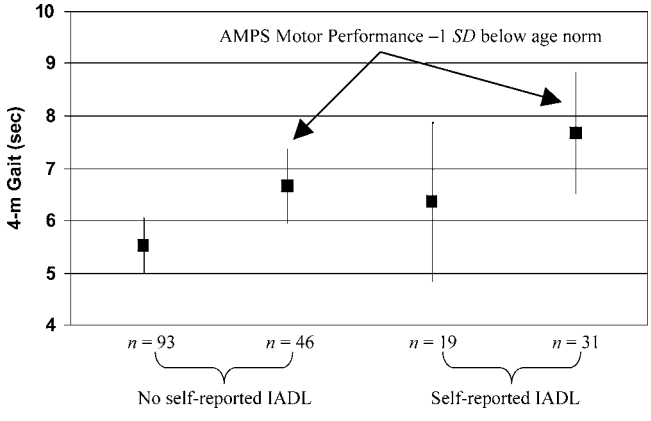

Figure 1. Gait by self-reported instrumental activities of daily living (IADL) disability and Assessment of Motor and Process Skills (AMPS) motor performance. Means and 95% confidence intervals were adjusted for age and gender. *SD* = standard deviation.

more salient to nondemented older adults than are deficits in cognitive performance.

Third, the AMPS assessment was able to discriminate ability within self-report categories. For example, even among people not reporting IADL disability, elders with poor OT-rated motor skill were likely to walk slower than elders receiving better scores in the OT assessment.

Finally, discordance between OT assessment and self-report appears to be clinically important. Among people reporting disability despite adequate observed motor performance, home environments were significantly more challenging and thus a potential source of disability.

In contrast to findings related to the AMPS motor score, we did not find significant associations between the AMPS process score and self-reports or cognitive or physical indicators. The AMPS process score may be sensitive only across a wider range of disability.

Limitations in this research include its cross-sectional nature and narrow range of disability. The cross-sectional nature of this research does not allow a true test of progression from functional limitation to disability. Also, inclusion of a wider range of disability, including people without functional impairment and also people with ADL disability, will be useful for assessing the utility of the AMPS process score. Although this research shows that motor performance is only one of many elements of IADL competency, such assessment may still be valuable for understanding the risk of incident IADL disability (as in the case of people who demonstrated poor motor performance but did not report disability) and environmental sources of disability (as in the case of people who reported disability despite OT reports of adequate motor skill performance).

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