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RESPONSE TO LETTER

Assessing everyday action in dementia: A response to de Jonghe (2006)

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The Cognitive Neuropsychology Laboratory at Temple University applies neuropsychological models of action processes to the study of everyday action (EA) in dementia. Our ultimate goals are to develop models of EA impairment and inform interventions that promote EA in the home. Our recent paper (Giovannetti et al., 2006b) was an initial step in this overarching plan. We examined differences in EA *between* participants with Alzheimer's disease (AD) *versus* Vascular dementia (VaD), two distinct neurocognitive syndromes (see Libon et al., 2004). The groups obtained comparable overall accomplishment scores, but VaD participants made more commissions and accomplished fewer steps when distractor objects were in the workspace. Thus, VaD participants demonstrated a different pattern of EA impairment than AD participants.

I strongly disagree with de Jonghe's statement that our conclusions are "tautological" or "redundant." While the DSM-IV and numerous studies have reported EA impairment *within* various dementia syndromes, few studies have compared performance *between* syndromes. Our paper directly assessed quantitative and qualitative differences in EA between individuals with AD *versus* VaD. This is an important step in understanding EA impairment in dementia.

I echo de Jonghe's concern over the numerous EA measures in the literature; the heterogeneity of methods threatens progress. However, contrary to de Jonghe's assumption, we did not "construct another rating scale." We chose the Naturalistic Action Test (NAT; Schwartz et al., 2003), a commercially available and well-researched instrument, for several reasons. First, it yields accomplishment *and* error scores, which may reflect distinct EA processes (Giovannetti et al., 2002). In our recent paper, this level of analysis revealed between-group differences that were not detected with global scores that are generated by most performance measures (e.g., correct/incorrect). Second, NAT tasks vary in complexity and the presence of distractors. Such task factors have been shown to differentially influence performance (Giovannetti et al., 2002, 2006b). Third, the NAT has good scoring reliability, internal consistency, concurrent criterion validity, and predictive validity. It was developed following pilot data with over 100 neurologically impaired participants and controls, and psychometric analyses were performed in an additional sample of over 100 inpatient rehabilitation patients (Schwartz et al., 2003).

We have shown the NAT is appropriate for dementia participants. It is sensitive to impairment even early in the disease (e.g., MMSE $>$ 23; Giovannetti et al., 2002). Thus, the NAT is a promising method for MCI, although we know of no studies with this population. Significant correlations between NAT scores and caregiver reports of EA in the home have shown convergent validity (Giovannetti et al., 2002). We have recently replicated this finding in a new sample of 46 dementia participants and have shown divergent validity as well; there was no relation between NAT scores and caregiver reports of psychiatric symptoms (see Table 1; Giovannetti et al., 2006a).

In conclusion, I appreciate de Jonghe's critique of our paper. I urge more scientists to engage in this challenging

Table 1. Spearman Rank Order Correlations for NAT and Caregiver Report Scales

	Caregiver Report Scales (n = 46)		
	ADL Scale* r, p value	IADL Scale* r, p value	Neuropsychiatric Inventory** r, p value
NAT Total Score	.32,.03	.45,<.01	−.13,.42

*Lawton, M.P. & Brody, E.M. (1969). Assessment of older people self-maintaining and instrumental activities of daily living. *Gerontologist*, *9*, 179–186.; **Cummings, J.L., Mega, M., Gray, K., Rosenberg-Thompson, S., Carusi, D.A. & Gorbein, J. (1994). The neuropsychiatric inventory: Comprehensive assessment of psychopathology in dementia. *Neurology*, *44*, 2308–2314.

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research enterprise. Further research is needed to understand EA and spur the development of interventions that improve patients' everyday life.

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