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Huizinga, Famke; Heutink, Joost; Haan, de, Gera; Lijn, van der, Iris; Feen, van der, Fleur; Vrijling, Anne; Melis-Dankers, Bart; Vries, de, Stefanie; Tucha, Oliver; Koerts, Janneke

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The Development of the Screening of Visual Complaints Questionnaire for Patients with Neurodegenerative Disorders: Evaluation of Psychometric Properties

F. Huizinga, J. Heutink, G. A. de Haan, I. van der Lijn, F. E. van der Feen, A. C. L. Vrijling, B. J. M. Melis-Dankers, S. M. de Vries, O. Tucha, J. Koerts

Background
Approximately 75% of patients with Parkinson’s disease (PD), 33% of patients with multiple sclerosis (MS) and 50% of early dementia patients tend to suffer from visual problems. Nevertheless, visual complaints are little recognized in clinical care and there is a lack of clinical instruments that can be used to assess visual complaints. A 21-item Screening of Visual Complaints (SVC) questionnaire was developed to assess visual complaints in patients with PD, MS or early dementia.

Results
- Exploratory and confirmatory factor analyses resulted in a three-factor structure (Figure 1):
  - Altered visual perception ($R^2=28.6\%$)
  - Reduced visual perception ($R^2=7.7\%$)
  - Ocular discomfort ($R^2=6.8\%$)
- Sufficient convergent and divergent validity (Figure 2)
- High internal consistency (Cronbach’s alpha = 0.85) and test-retest reliability (ICC=0.82)

Methods
1,461 healthy Dutch participants (18-95 years) were assessed with:
- Screening of Visual Complaints questionnaire (SVC)
- Cerebral Visual Disorders questionnaire (CVS)
- National Eye Institute Visual Function Questionnaire–25 (VFQ-25)
- Behavior Rating Inventory of Executive Function–A (BRIEF–A)
- Depression Anxiety Stress Scale-21 (DASS-21)
- Questionnaire for Experiences of Attention Deficits (FEDA)
- Structured Inventory for Malingered Symptomatology (SIMS)

Analyses:
- Exploratory (subsample 1; n=730) and confirmatory factor analyses (subsample 2; n=731) to evaluate the factor structure of the SVC
- Correlation analyses to assess convergent and divergent validity
- Reliability analyses to evaluate internal consistency and test-retest reliability

Conclusion
The SVC is a valid and reliable tool for the assessment of subjective visual complaints in a community-sample and appears promising for use in clinical practice of patients with PD, MS or early dementia.

Contact:
Famke Huizinga
f.huizinga@rug.nl

Figure 1. Factor structure of the SVC
Figure 2. Scatterplots of correlations of convergent validity (A–B) and divergent validity (C–F)

References