

Predictive validity of the Oxford Visual Perception Screen in stroke survivors

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Aims

The **Oxford Visual Perception Screen** (OxVPS; Vancleef et al., 2025) is an evidence-based, 15-minute paper-and-pencil clinical screening tool for the efficient identification of visual perceptual impairments in stroke survivors. The assessment consists of **ten tasks** which test functions such as object and face recognition, reading ability, eye-hand coordination, and spatial neglect.



Findings support the measure as a specific assessment of visual perception (Cowen et al., 2025):

- **High inter-rater reliability:** $N = 107$, $t(106) = -14.77$, $p < .001$
- **Convergent validity:** strong correlation with the Rivermead Perceptual Assessment Battery ($r = 0.78$, $N = 58$, 95% CI: [0.65–0.86])
- **Discriminant validity:** weaker correlations with cognitive measures ($r = 0.52$, $N = 113$, 95% CI: [0.37–0.64]) and sensory vision measures ($r = 0.39$, $N = 110$, 95% CI: [0.22–0.54])

However, there is limited information about the **impact of visual perception difficulties**, as measured by the OxVPS, on stroke survivors in their daily lives.

The present study examined whether early OxVPS performance, administered shortly after stroke, predicts **long-term quality of life** outcomes in stroke survivors.



Methods

Participants: 166 patients completed the OxVPS at baseline. **41** participants completed the follow-up questionnaires.

Design: Within-subjects, longitudinal.

Materials:

- Oxford Visual Perception Screen (OxVPS; Vancleef et al., 2025)
- The Brain Injury associated Visual Impairment – Impact Questionnaire (BIVI-IQ; Hepworth et al., 2024)
- The EuroQol 5-Dimension 5-Level questionnaire (EQ-5D-5L; Herdman et al., 2011) Visual Analogue Scale (VAS) and Quality-Adjusted Life Years (QALY)

Procedure:

- 1) Stroke patients completed the **OxVPS** within six weeks post-stroke
- 2) At follow-up, at least six months later, **vision-related and general quality of life** were assessed using the BIVI-IQ and EQ-5D-5L

Analysis:

Regression analyses evaluated the predictive validity of OxVPS scores for these outcomes, controlling for **stroke severity and lesion location**.

Model comparisons were conducted to determine the incremental value of OxVPS in predicting quality of life.

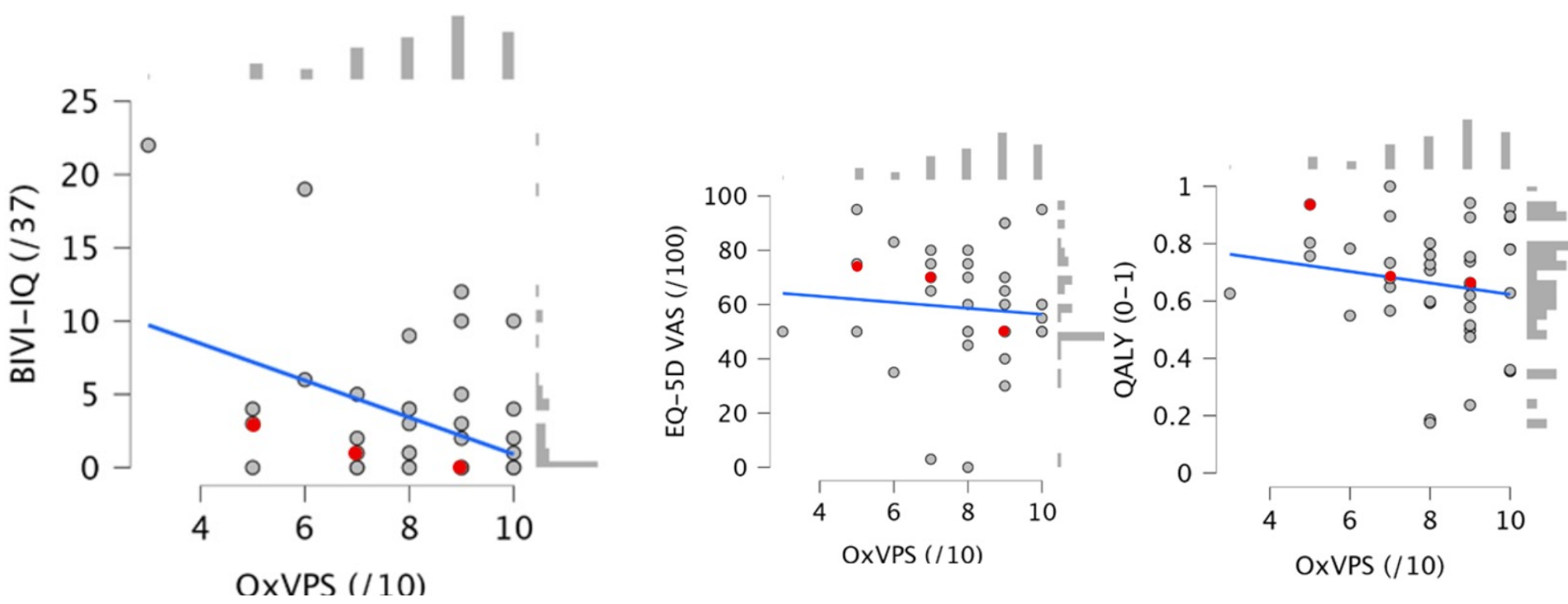
Due to your **eyes or eyesight**, do you have difficulty with...

	No difficulty 0	Some difficulty 1	A lot of difficulty 2	Unable to do 3
1. Finding an item when surrounded by other things? e.g., an item on a cluttered table or a product on a supermarket shelf				
2. Using a computer, tablet or mobile phone?				
3. Looking after your appearance?				
4. Moving around? e.g., the ward, your home, further afield?				
5. Socialising? e.g., seeing people at visiting time or meeting up with friends and family				
6. Doing what you want to do?				

BIVI-IQ (Hepworth et al., 2024)

Results

Six correlations, two Mann Whitney U t -tests, three multiple regressions, and model comparisons using Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC).



- Significant **negative correlation** ($r_s(39) = -.27$, $p = .046$) between OxVPS and BIVI-IQ scores with imputed values.
- Significant difference in **OxVPS scores** between participants who took part in the **follow-up** compared to those who did not, with imputed values ($U = 1756.50$, $p = .002$, $r_b = .32$) and without imputed values ($U = 1563.00$, $p = .001$, $r_b = .34$).
- A **regression model** with OxVPS, NIHSS, and lesion location explained 12.5% of the variability in BIVI-IQ scores ($F(4, 36) = 2.43$, $p = .066$).
- **OxVPS** was a significant predictor ($b = -1.32$, $t = -2.87$, $p = .007$) unlike NIHSS ($b = -0.58$, $t = -0.48$, $p = .636$) and lesion location ($b = -0.65$, $t = -0.41$, $p = .685$): an increase of 1 point on the OxVPS is associated with a decrease of 1.32 points on the BIVI-IQ.
- **Model comparisons** demonstrated improved fit when OxVPS was included in models compared to stroke severity and lesion location alone in predicting BIVI-IQ outcomes, but not for EQ-5D-5L.

Conclusions

- **Early OxVPS assessment** provides prognostic information regarding **long-term vision-related quality of life** after stroke, for example, functional difficulties with reading and locating objects. However, OxVPS scores were not a significant predictor of **general health-related quality of life**, such as pain and anxiety/depression.
- These findings support the integration of brief perceptual screening into **routine stroke care** to enable early identification of individuals at **heightened risk** of poorer vision-specific quality of life.