

Design of a novel low vision questionnaire to evaluate the quality of life and independence

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INTRODUCTION/OBJECTIVES

Low vision (LV) describes a permanent visual impairment, defined by World Health organization (WHO) as visual acuity less than 6/18 and equal to or better than 3/60 in the better eye with best correction that cannot be further corrected by refraction, medical treatment, or surgery¹. Patients with low vision may face difficulties performing activities of every day life, possibly leading to loss of their independence and quality of life (QoL)². There is increasing interest in developing patient-based measurements for a more comprehensive evaluation of visual functioning in patients with LV. The aim of this study was to develop a novel vision-specific QoL

METHODS

54 patients with functional range of 54.6 (SD 29.9) facing various ocular diseases and with Best Corrected Visual Acuity (BCVA) ranging from light perception to 0.2 logMAR were recruited in this study. To be eligible for participation, patients had to be 18 years or older, not cognitively impaired and have given informed consent to take part in this study. The focus group methodology was chosen to identify the content of the questionnaire. During the interview patients were asked to define the most important activities of their daily life in a preference rate and also to express difficulties due to visual impairment. Analysis of the findings resulted in selection of the items that were further categorized into 7 scales (Fig.1). Patients were divided into the following three groups according to their BCVA: group 1 patients with BCVA > 0.5 log MAR, group 2 patients with BCVA ranging from 1.3 to 0.5 logMAR and group3 patients with BCVA < 1.3 logMAR. The total scores regarding the ability and independence of performing the tasks in each scale were compared among the three groups. Reliability of the measurement was assessed using Cronbach's alpha coefficient of internal consistency.

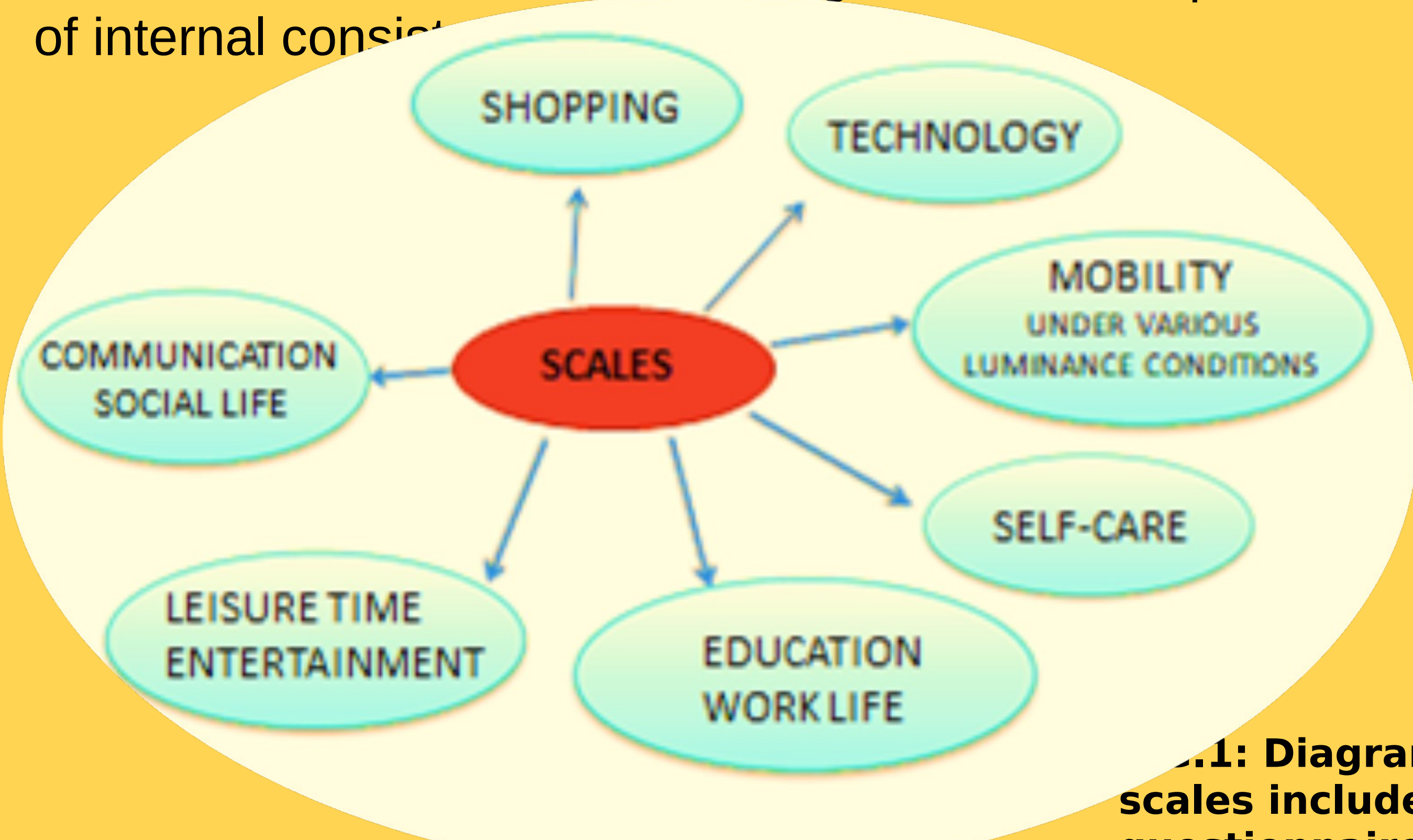
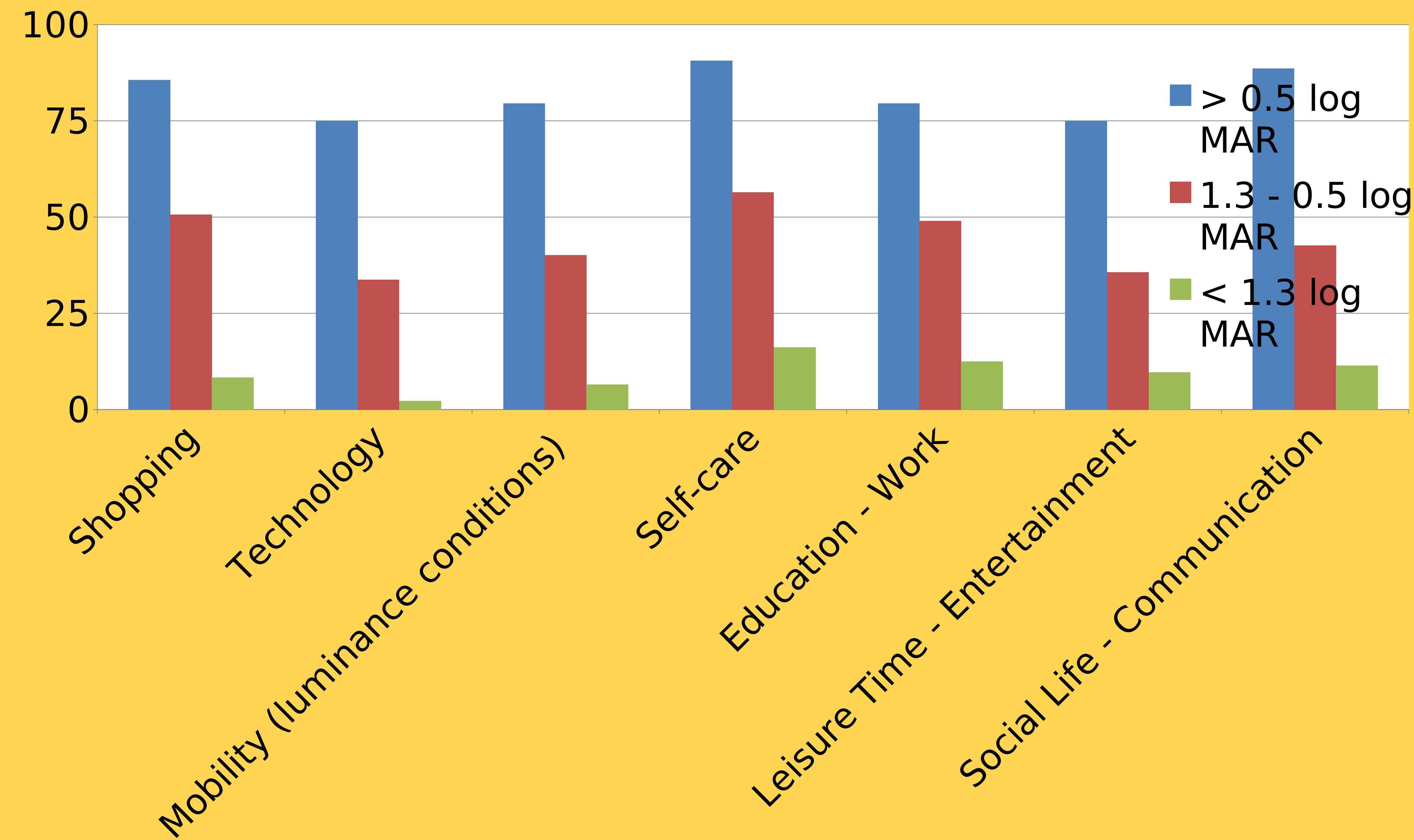
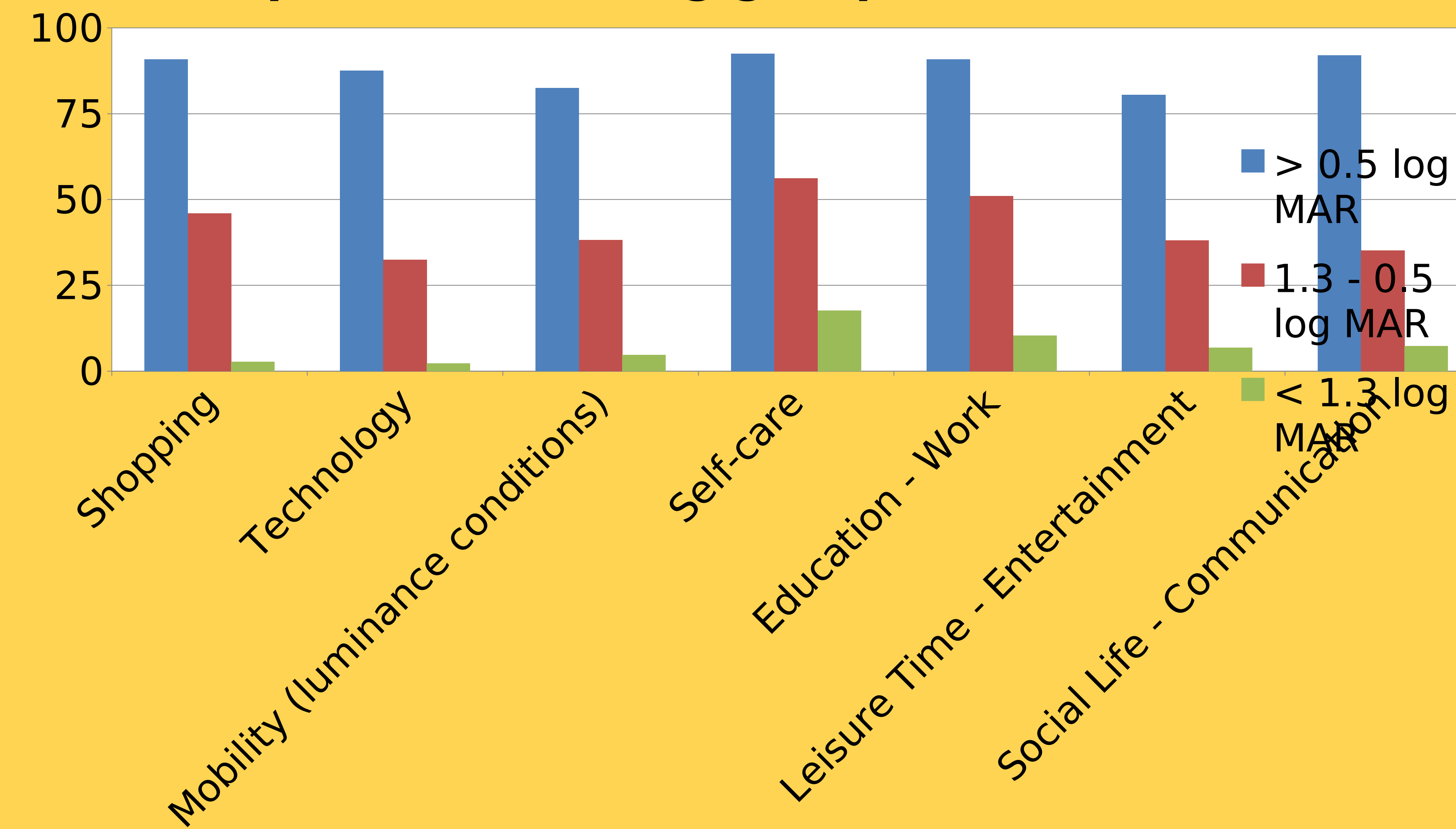


Fig.1: Diagram indicating scales included in the QoL questionnaire

Ability among groups with different BCVA



Independence among groups with different BCVA



RESULTS

Items that were internally inconsistent, unreliable or not relevant were excluded, resulting in the 50-item quality of life and independence assessment questionnaire. Items were distributed into 7 different functional visual domains: shopping, technology, mobility under various luminance conditions, self-care, education-work, leisure time-entertainment and communication-social life. There were no significant differences among patients regarding their general health ($P=0.444$). The questionnaire was proved to have a good internal consistency (Cronbach's alpha >0.8). The average score of patients with low vision was significantly lower ($P < 0.001$) than the average score of those with BCVA >0.5 logMAR and significantly higher ($P < 0.001$) than those with BCVA <1.3 logMAR.

CONCLUSION

There is preliminary evidence that the questionnaire has good internal consistency (alpha >0.8, n=50). Results also suggest that the questionnaire seems to be sensitive to subgroup differences by measuring the vision related quality of life and independence. This instrument is going to be further refined following this pilot study.

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REFERENCES

- <https://www.who.int/blindness/causes/priority/en/index4.html>
- Shah P, Schwartz SG, Gartner S, Scott IU, Flynn HW Jr Low vision services: a practical guide for the clinician. *Ther Adv Ophthalmol*. 2018 Jun 11;10:2515841418776264.