

Personality Traits and Patient-Reported Outcomes after Multifocal Intraocular Lens Implantation

Traços de Personalidade e Resultados Reportados pelos Doentes após Implante de Lentes Intraoculares Multifocais

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ABSTRACT

INTRODUCTION: Multifocal intraocular lenses (MIOLs) are implanted to achieve spectacle independence. Although refractive and visual outcomes are generally favorable, photic phenomena and loss of contrast may reduce satisfaction. Beyond optical factors, interindividual personality differences may influence postoperative perceptions. This study aimed to investigate the relationship between personality traits and patient-reported outcomes following MIOL implantation.

METHODS: Retrospective study of patients undergoing bilateral cataract extraction with MIOL implantation (Finevision® and Optiflex Trio®). Personality traits were assessed using the NEO-FFI-20. Subjective outcomes were measured with a validated 12-item questionnaire. Descriptive statistics and cross-tabulations explored associations between traits and reported outcomes.

RESULTS: Thirty-six eyes from 18 patients were included. Dominant traits were Conscientiousness in 6 patients (33%), Agreeableness in 5 (28%), Openness in 4 (22%), Extraversion in 2 (11%), and Neuroticism in 1 (6%). Seventeen patients (94.4%) were satisfied with visual results; all (100%) would repeat surgery. Glare at night was reported by 9 patients (50%), halos by 4 (22%), and visual fatigue by 2 (11%). Functional performance was preserved: 15 patients (83.3%) had no driving difficulty, and all reported no impairment in daily tasks. Lens-specific analysis showed 100% satisfaction in the Finevision group, with 14.3% reporting halos and none requiring near correction, but 50% reporting nocturnal glare. In the Optiflex group, satisfaction reached 75%, with 50% reporting halos and 25% requiring near correction, though daytime glare was less frequent. When stratified by personality, Conscientiousness or Agreeableness patients reported consistently high satisfaction, despite glare and halos in 47% and 21%, respectively. The single Neuroticism case reported neutral satisfaction despite no functional impairment.

CONCLUSION: Personality traits influence subjective outcomes after MIOL implantation. Conscientiousness and Agreeableness were linked to high satisfaction and preserved function, even with photic phenomena. Neuroticism, although rare, was associated with neutral satisfaction. Differences between Finevision and Optiflex in halos and spectacle dependence reflected optical design, but acceptance remained high, with all patients willing to repeat or recommend surgery. These findings highlight the relevance of integrating psychological profiling with clinical evaluation in the preoperative selection process, as rigorous screening may contribute decisively to optimizing postoperative satisfaction in refractive cataract surgery.

KEYWORDS: Cataract Extraction; Multifocal Intraocular Lenses; Patient Satisfaction; Patient Reported Outcome Measures; Personality.

RESUMO

INTRODUÇÃO: As lentes intraoculares multifocais (LIOs) são implantadas com o objetivo de alcançar independência de óculos. Embora os resultados refrativos e visuais sejam geralmente favoráveis, fenômenos fóticos e perda de contraste podem reduzir a satisfação. Para além dos fatores óticos, diferenças individuais de personalidade podem influenciar a percepção pós-operatória. Este estudo teve como objetivo avaliar a relação entre traços de personalidade e resultados subjetivos após o implante de LIOs multifocais.

MÉTODOS: Estudo retrospectivo de doentes submetidos a extração bilateral de catarata com implante de LIOs multifocais (Finevision® e Optiflex Trio®). Os traços de personalidade foram avaliados através do questionário NEO-FFI-20. Os resultados subjetivos foram obtidos por questionário validado de 12 itens. Foram realizadas análises descritivas e tabelas cruzadas para explorar associações entre traços e resultados reportados.

RESULTADOS: Foram incluídos 36 olhos de 18 doentes. Os traços dominantes foram: Conscienciosidade em 6 doentes (33%), Amabilidade em 5 (28%), Abertura à Experiência em 4 (22%), Extroversão em 2 (11%) e Neuroticismo em 1 (6%). Dezasete doentes (94,4%) estavam satisfeitos com os resultados visuais e todos (100%) repetiriam a cirurgia. O encandeamento noturno foi reportado por 9 doentes (50%), halos por 4 (22%) e fadiga visual por 2 (11%). Quinze doentes (83,3%) não apresentaram dificuldade na condução, e todos referiram ausência de limitação nas tarefas diárias. No grupo Finevision, observou-se 100% de satisfação, com 14,3% a reportar halos e 50% encandeamento noturno, sem necessidade de correção para perto. No grupo Optiflex, a satisfação foi de 75%, com 50% a reportar halos, 25% necessidade de correção para perto e menor incidência de encandeamento diurno. A Conscienciosidade e a Amabilidade associaram-se a elevada satisfação, apesar da presença de fenômenos fóticos, enquanto o único caso de Neuroticismo apresentou satisfação neutra.

CONCLUSÃO: Os traços de personalidade influenciam os resultados subjetivos após implante de LIOs multifocais. Conscienciosidade e Amabilidade associaram-se a elevada satisfação e função preservada, enquanto o Neuroticismo se relacionou com menor contentamento. As diferenças entre Finevision e Optiflex refletiram o desenho ótico, mas a aceitação global foi elevada. A avaliação psicológica pré-operatória poderá otimizar a seleção de candidatos e maximizar a satisfação pós-operatória.

PALAVRAS-CHAVE: Extração de Catarata; Lentes Intraoculares Multifocais; Medidas de Resultados Relatados pelo Doente; Personalidade; Satisfação do Doente.

INTRODUCTION

Cataract surgery with implantation of a monofocal intraocular lens (IOL) corrects vision at a single focal distance and typically leaves patients dependent on spectacles for other ranges. Multifocal IOLs (MIOLs) were developed to expand visual acuity from near through distance, markedly reducing spectacle dependence.¹ Nevertheless, a proportion of patients report reduced quality of vision under specific conditions, most commonly photic phenomena (glare and halos) and reduced contrast sensitivity, which may diminish postoperative satisfaction.^{2,3}

Links between psychological factors and both health-related behaviors and perceived health status have been extensively documented across medical fields. In some papers/studies, patients with greater “superego strength”, reflecting perseverance and a strong sense of duty, have

shown better adaptation to monovision,⁴ whereas introverted individuals have demonstrated poorer adaptation in comparable settings.^{5,6} In elective corneal refractive surgery, preoperative psychological profiling has been described, and in some cases, surgery is deferred when personality features are considered incompatible with optimal postoperative adaptation and expectation management.⁷⁻⁹ These findings have shaped practical approaches to MIOL candidate selection, emphasizing caution with perfectionist or “type A” individuals and favoring patients with more relaxed and adaptable personalities.

The Five-Factor Model (FFM) provides a validated framework to quantify stable personality dimensions: Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness, that plausibly modulate the perception of quality of vision, tolerance to unwanted

optical phenomena, and satisfaction after MIOL implantation.^{8,10} Despite growing clinical interest, there remains no consensus on which specific personality traits are most strongly associated with dissatisfaction after MIOLs, nor on whether a brief personality instrument could serve as a practical tool for preoperative counseling and patient selection in IOL choice. Recent literature has emphasized the need to clarify these associations.¹¹

Against this background, the present retrospective study investigates the relationship between personality traits, assessed using the validated Portuguese NEO-FFI-20, and patient-reported outcomes following bilateral cataract surgery with MIOL implantation (Finevision® and Optiflex Trio®). By integrating standardized personality profiling with a targeted postoperative questionnaire on photic phenomena, functional performance, spectacle dependence, and global satisfaction, we aimed to determine which traits are linked to better adaptation and higher satisfaction, and to explore the potential role of personality assessment in refining preoperative selection and counseling.

MATERIAL AND METHODS

This was a retrospective study conducted at the Centro de Responsabilidade Intergrada de Otolmologia of Universidade Local de Saúde Almada-Seixal. The protocol adhered to the Declaration of Helsinki and received approval from the institutional ethics committee; written informed consent was obtained from all participants.

Eligibility criteria were defined to minimize factors that could adversely affect postoperative quality of vision. Exclusion criteria comprised: (1) ocular comorbidities with potential impact on postoperative visual acuity; (2) prior ocular surgery; (3) functional monocular; (4) preoperative corneal astigmatism >1.25 diopters, measured using the Pentacam HR; (5) systemic conditions likely to impair visual function; (6) use of medications associated with visual side effects; (7) psychiatric or cognitive disorders limiting reliable questionnaire completion; and (8) age <18 years.

Included patients were referred for cataract surgery and underwent bilateral MIOL implantation after structured counselling that also included the option of monofocal IOLs. Surgical technique and postoperative follow-up were discussed preoperatively, and the possibility of photic phenomena (glare, halos) was explicitly addressed. The same MIOL model was implanted in both eyes of each patient within a short interval after the first surgery. Two MIOL platforms were used to define the study groups: Finevision® and Optiflex Trio®. The implanted MIOLs differed in terms of their optic design, haptic design, and material from which they were produced.

POSTOPERATIVE RESEARCH METHODOLOGY

Postoperative ophthalmic assessment included distance visual acuity at 4 m and near visual acuity at 40 cm, together with slit-lamp examination. Visual acuity outcomes (UDVA - Uncorrected Distance Visual Acuity, CDVA - Corrected Distance Visual Acuity, UNVA - Uncorrected Near Visual Acu-

ity, CNVA - Corrected Near Visual Acuity) were recorded at the designated postoperative visit after second-eye surgery.

At 6 months postoperatively patients completed a questionnaire on self-perceived QoV and postoperative satisfaction - validated 12-item instrument covering the frequency of photic phenomena (daytime and nighttime glare, halos), visual fatigue, functional performance (driving, pouring water), spectacle dependence for distance and near, ease of reading on a mobile phone, global satisfaction, and willingness to repeat/recommend the surgery. Responses were collected on categorical scales (e.g., No/Occasionally/Yes; Easy/Neutral/Difficult; Satisfied/Neutral/Unsatisfied).

Personality traits were assessed using the Portuguese-validated version of the NEO Five-Factor Inventory (NEO-FFI-20).¹² This short form comprises 20 items, with four items allocated to each of the five domains: Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness. Responses are recorded on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). Negatively worded items were reverse-coded before scoring. Higher scores reflect greater expression of the corresponding trait.

The description of the Five Factor Inventory personality traits developed by Žukauskienė and Barkauskienė was used [25]:

- (1) Extraversion. It shows the level of an individual's sociability, i.e. their willingness to communicate with others. Extraverts are optimists, friendly, assertive and active.
- (2) Conscientiousness. This personality dimension tends to plan, organize, set objectives and achieve goals. It is related to academic and educational achievement and is characteristic of organized, trustworthy, thoughtful, orderly and responsible individuals. The drawback of these individuals is excessive scrupulousness and neatness.
- (3) Agreeableness. This personality trait shows that a person is altruistic, emphatic, conscious and willing to help. It is characteristic of helpful, trustful, humble, emphatic, lenient and trusting individuals.
- (4) Neuroticism. It shows that a person is more prone to experiencing negative emotions, i.e. fear, sadness, discontent, guilt, anger, etc. Neuroticism relates to the likelihood of being anxious, hostile, depressed, self-conscious, impulsive and vulnerable. This personality trait is characteristic of irritable, bad-tempered, and impulsive individuals.
- (5) Openness to experience. This personality trait represents a higher level of imagination and curiosity, focus on inner experience, esthetic sensitivity, strive for knowledge, and interest in the inner and outer world. This personality trait is characteristic of intellectuals, freethinkers and individuals with a higher level of imagination.

STATISTICAL ANALYSIS

The statistical analysis was performed with SPSS version 28.0 (IBM SPSS Statistics, September 2021). Descriptive statistics were used to determine both the frequency and

the mean values of the answers given by the participants. Normality was assessed with the Kolmogorov-Smirnov test. Depending on distribution and sample size, parametric tests (t-test, ANOVA, Pearson correlation) or non-parametric procedures (Mann-Whitney U, Kruskal-Wallis with Bonferroni adjustment, Spearman correlation) were applied. Given the ordinal nature of most questionnaire responses and the limited sample size, Spearman's rank correlation coefficient (ρ) was the primary metric to assess associations among NEO-FFI-20 domains (Table 1) and between personality traits and questionnaire outcomes (Table 2). Correlation strength was interpreted as: -1 indicates perfect negative; (-1, -0.75) strong negative; (-0.75, -0.5) moderate negative; (-0.5, -0.25) weak negative; (-0.25, 0.25) no association; (0.25, 0.5) weak positive; (0.5, 0.75) moderate positive; (0.75, 1) strong positive; and 1 perfect positive.

Lens-specific comparisons of postoperative symptoms and functional outcomes were reported descriptively (Table 3, Figs. 2 and 3). A two-sided $p < 0.05$ was considered statistically significant.

RESULTS

Eighteen patients (36 eyes) with age-related cataract completed the study. MIOLs were implanted bilaterally (Finevision in 24 eyes and Optiflex Trio in 12), with a mean postoperative interval of 8.2 months (range 4–18). The mean age was 73.5 ± 3.4 years (range 66–79); by group: Finevision 73.4 ± 3.6 years and Optiflex Trio 73.7 ± 3.1 years, with no between-group difference (t-test, $p = 0.84$). Females comprised 55.6% of the cohort (Finevision 58.3%, Optiflex 50.0%; χ^2 , $p = 0.72$). All patients completed ophthalmologic follow-up measurements and all questionnaires.

Table 1. Internal correlation between personality dimensions (Spearman ρ).

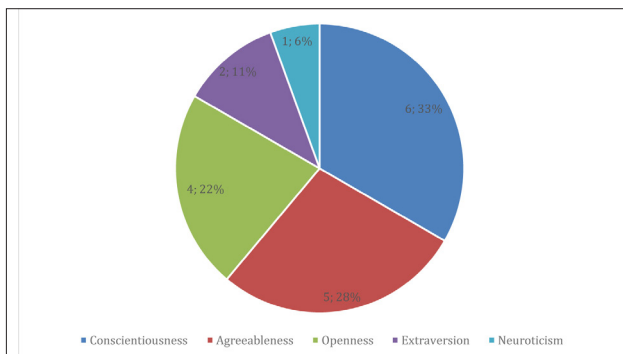
	Neuroticism	Extraversion	Openness	Agreeableness	Conscientiousness
Neuroticism	1.00**	-0.37	-0.05	-0.25	-0.25
Extraversion	-0.37	1.00**	-0.45	-0.06	0.30
Openness	-0.05	-0.45	1.00**	0.38	-0.08
Agreeableness	-0.25	-0.06	0.38	1.00**	-0.08
Conscientiousness	-0.25	0.30	-0.08	-0.08	1.00**

Table 2. Correlation (Spearman ρ) between personality domains and questionnaire items.

	Neuroticism	Extraversion	Openness	Agreeableness	Conscientiousness
Do you see glare during the day? (No / Occasionally / Yes)	-0.00	-0.19	0.38	0.07	0.16
Do you see glare in low light or at night? (No / Occasionally / Yes)	-0.23	0.33	-0.02	-0.30	0.29
Do you see halos in low light or at night? (No / Occasionally / Yes)	-0.57*	0.50*	-0.60*	-0.26	0.12
If you see glare, does it cause visual fatigue? (No / Occasionally / Yes)	-0.29	0.36	-0.28	-0.18	0.05
Do you have difficulty judging the distance to other vehicles while driving? (No / Occasionally / Yes)	0.34	0.12	0.10	-0.08	0.34
Do you have difficulty pouring water into a glass? (No / Occasionally / Yes)	—	—	—	—	—
Can you easily read a menu or text on a mobile phone screen? (Difficult / Neither difficult nor easy / Easy)	-0.22	0.06	0.06	-0.04	0.62**
Do you wear glasses for distance vision? (No / Occasionally / Yes)	0.10	0.02	0.00	-0.40	0.08
Do you wear glasses for near vision? (No / Occasionally / Yes)	0.09	-0.54*	0.54*	0.43	-0.00
If you knew that your visual quality after surgery would be as it is now, would you choose to have the same IOL implanted again? (No / Yes)	—	—	—	—	—
Would you recommend the implantation of this lens to a close relative (brother, sister, spouse, etc.)? (No / Yes)	—	—	—	—	—
Are you satisfied with the visual results? (Dissatisfied / Neutral / Satisfied)	-0.08	0.39	-0.36	-0.10	-0.05

Table 3. Frequency of visual symptoms by IOL and total (%).

	Finevision - No	Finevision - Occasionally	Finevision - Yes	Optiflex - No	Optiflex - Occasionally	Optiflex - Yes
Do you see glare during the day? (No / Occasionally / Yes)	64.3	21.4	14.3	66.7	33.3	0.0
Do you see glare in low light or at night? (No / Occasionally / Yes)	28.6	21.4	50.0	33.3	33.3	33.3
Do you see halos in low light or at night? (No / Occasionally / Yes)	71.4	14.3	14.3	33.3	0.0	66.7
If you see glare, does it cause visual fatigue? (No / Occasionally / Yes)	92.9	7.1	0.0	100.0	0.0	0.0
Do you have difficulty judging the distance to other vehicles while driving? (No / Occasionally / Yes)	85.7	7.1	7.1	66.7	33.3	0.0
Do you have difficulty pouring water into a glass? (No / Occasionally / Yes)	100.0	0.0	0.0	100.0	0.0	0.0
Can you easily read a menu or text on a mobile phone screen? (Difficult / Neither difficult nor easy / Easy)	0.0	28.6	71.4	0.0	0.0	100.0
Do you wear glasses for distance vision? (No / Occasionally / Yes)	85.7	14.3	0.0	100.0	0.0	0.0
Do you wear glasses for near vision? (No / Occasionally / Yes)	71.4	28.6	0.0	66.7	0.0	33.3


Figure 1. Distribution of dominant personality traits (n, %).

No statistically significant differences were observed between groups in preoperative UDVA ($F = 1.31$, $p = 0.247$). Postoperatively, UDVA and CDVA improved versus baseline in both groups (repeated-measures ANOVA, $p < 0.01$ for both). At 6 months, mean UDVA was 0.05 ± 0.07 logMAR for Finevision® and 0.07 ± 0.06 logMAR for Optiflex Trio® ($F = 1.48$, $p = 0.224$); mean CDVA was 0.00 ± 0.04 logMAR for Finevision® and 0.01 ± 0.05 logMAR for Optiflex (F = 1.12, $p = 0.298$). For near vision, UNVA categories were predominantly J1 in the Finevision® group (22 J1; 2 J2) and J1/J2 in the Optiflex group (9 J1; 3 J2), while CNVA did not differ between groups. Preoperative corneal astigmatism averaged 0.64 ± 0.30 D (range 0.1–1.25 D) and was 0.54 ± 0.28 D at 6 months, with no intergroup differences ($F = 1.74$, $p = 0.162$). At 6 months, UDVA did not correlate with residual corneal astigmatism (Pearson $r = 0.03$, $p = 0.81$).

Analysis at the patient level revealed a predominance

of Conscientiousness (33%) and Agreeableness (28%) as dominant traits, followed by Openness (22%), Extraversion (11%), and Neuroticism (6%) (Fig. 1).

Table 1 summarizes the internal correlations between personality domains: Neuroticism correlated negatively with Extraversion ($\rho \approx -0.40$) and also showed negative correlations with Agreeableness and Conscientiousness (several $p < 0.05$); Conscientiousness correlated positively with Agreeableness ($\rho \approx 0.45$, $p < 0.05$); Extraversion correlated weakly and positively with Agreeableness and, to a lesser extent, with Openness. Most coefficients were weak ($|\rho| \leq 0.30$), with occasional moderate values; no strong correlations were observed.

Table 2 presents Spearman correlations (ρ) between personality domains and questionnaire responses. Neuroticism correlated positively with nighttime glare and halos ($\rho \approx 0.30$ – 0.40 ; some $p < 0.05$) and negatively with satisfaction. Conscientiousness correlated positively with global satisfaction and willingness to repeat/recommend surgery ($\rho \approx 0.40$ – 0.50 , $p < 0.05$). Agreeableness showed weak positive correlations with ease of mobile-phone reading, near-spectacle independence, and willingness to recommend (not consistently significant). Extraversion correlated positively with global satisfaction and inversely with visual fatigue ($\rho \approx 0.48$, $p < 0.05$). Openness showed ρ values near zero with symptom items.

Table 3 summarizes symptom frequencies by IOL. Nighttime glare was reported in 50%; daytime glare in 11%. Halos were reported in 22% overall (Finevision® 14%; Optiflex 50%). Visual fatigue was reported in 11%. Driving difficulty was reported in 17%. Difficulty pouring water was not reported. Reading on a mobile phone was rated “easy”

by 72% and “neutral” by 28%. Distance-spectacle use was 11% occasional and 89% none. Near-spectacle use overall showed 72% none; IOL-stratified, near-spectacle requirement was 0% in Finevision® and 25% in Optiflex. Global satisfaction was 94%, and willingness to repeat and recommend surgery was 100% (Figs. 2 and 3).

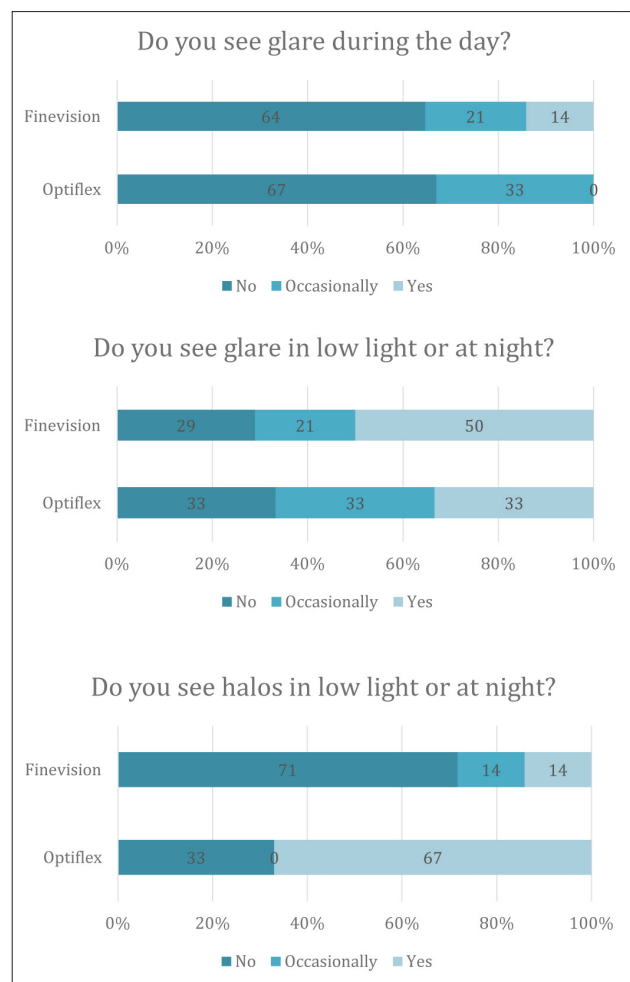


Figure 2. Do you see glare during the day? / Do you see glare in low light or at night? / Do you see halos in low light or at night?

DISCUSSION

In cataract surgery, multifocal intraocular lenses (MIOLs) usually provide binocular rehabilitation for distance and near acuity. The primary objective of MIOL implantation is to maximize spectacle independence. MIOL platforms differ across manufacturers in optical design, constituent materials, sphericity, and near-add power. Their optical architecture distributes incoming light across multiple zones, generating two (or three) simultaneous retinal images of the same object, one perceived as in focus and the others defocused. Although MIOLs generally yield favorable distance and near visual acuity, a proportion of patients report only moderate satisfaction with postoperative visual

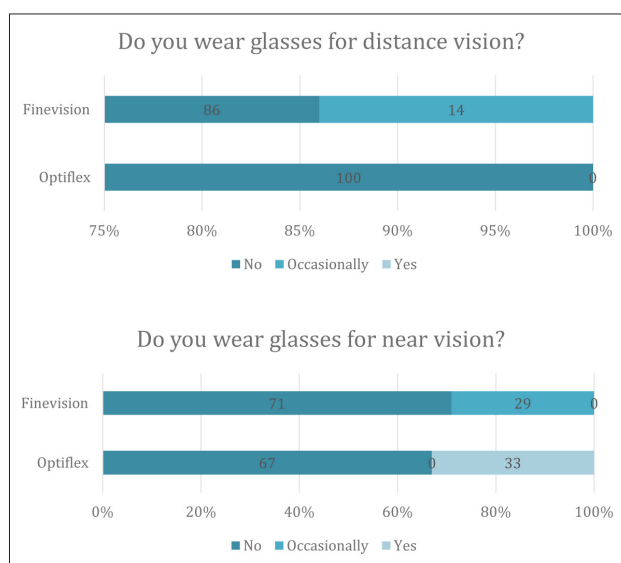


Figure 3. Do you wear glasses for distance vision? / Do you wear glasses for near vision?

quality.^{13–15} In the absence of an objective cause for dissatisfaction, personality-related factors may modulate the perception of visual function^{16,17}; however, this interface between stable psychological traits and subjective visual outcomes warrants further, systematic investigation. Accordingly, the present clinical study examined the relationship between personality dimensions and patient-reported assessments of visual function following MIOL implantation, motivated by the observation that some patients with objectively satisfactory acuity expressed reduced satisfaction.

The present findings indicate that personality traits, as measured by the NEO-FFI-20, are meaningfully associated with patient-reported outcomes after MIOL implantation. The cohort was characterized by a predominance of Conscientiousness and Agreeableness, and the correlation structure in Table 1 was consistent with the Five-Factor Model, with Neuroticism inversely related to Extraversion, Agreeableness and Conscientiousness, and a positive association between Conscientiousness and Agreeableness. The relative independence among the different personality domains (absence of strong inter-trait correlations) supports their use as distinct predictors of subjective visual outcomes.

Interpretation of visual acuity outcomes: postoperative UDVA and CDVA improved significantly in both MIOL groups compared with baseline, and there were no between-group differences in UDVA at 6 months. CDVA was comparable between Finevision® and Optiflex, remaining near emmetropic performance in both. Near-vision outcomes were favorable overall; UNVA distribution favored Finevision®, while CNVA did not differ significantly between groups. These patterns parallel observations that diffractive designs can support strong near performance, and they are coherent with minimal residual ametropia at 6 months.¹⁸ Residual corneal astigmatism was low and similar between groups, with no association with UDVA and only the expected weak influence on uncorrected near performance. Collectively,

these data reinforce that objective postoperative acuity metrics were satisfactory and largely comparable across MIOL platforms, providing a stable optical substrate upon which subjective perceptions then varied.

Regarding symptom frequencies and functional impact, nighttime glare was the most frequent symptom (50%), whereas daytime glare was uncommon (11%), a distribution typical of MIOL optics under mesopic/photopic conditions. Halos were more frequent with Optiflex (50%) than with Finevision (14%), consistent with lens-design differences reported for multifocal platforms. Importantly, these photic phenomena showed limited translation into functional disability: visual fatigue was infrequent (11%), driving difficulty was reported by a minority (17%), and there was no impairment in precision tasks (pouring water: 0% difficulty). Mobile-phone reading was easy for the majority (72%), indicating preserved near/intermediate function in daily activities. Spectacle independence was high for distance (89% none; 11% occasional) and favorable for near, with complete absence of near-spectacle need in Finevision® and a modest proportion in Optiflex (25%). Despite the frequency of nighttime glare and lens-specific halos, global satisfaction remained high (94%), and all patients would repeat surgery and recommend it, underscoring good acceptance in clinical practice.

Within this stable optical context, Table 2 clarifies the psychological modulation of subjective experience. The lack of patient-reported disabling photic phenomena may be a result of our subjective evaluation of patients' personality traits. As we have never used personality classification systems in preoperative evaluations, we have decided to go through validated questionnaires to evaluate the influence of psychological profile on surgical outcomes. Higher Neuroticism was associated with greater reporting of photic phenomena at night (glare and halos) and with lower satisfaction, in keeping with the tendency toward negative affectivity and heightened symptom salience.^{16,17} Conscientiousness correlated with higher satisfaction and willingness to repeat/recommend surgery, consistent with greater adherence to perioperative guidance and more effective adaptation to multifocal optics. Agreeableness showed coherent, albeit modest, associations with functional adaptation (mobile reading, near-spectacle independence) and pro-surgical attitudes. Extraversion correlated with higher satisfaction and lower visual fatigue, though inference is limited by its lower prevalence in this cohort. Openness showed no material associations with symptom items. In the present study, the relationships observed between personality traits and postoperative satisfaction are broadly consistent with those reported in previous investigations.^{19,20} In accordance with the findings of Rudalevičius *et al*,¹⁹ no relevant association was identified between Openness and postoperative visual satisfaction, suggesting a limited role of this trait in shaping subjective visual experience after MIOL implantation.

In line with the reports by Rudalevičius *et al*,¹⁹ our analysis confirmed internal correlations among personality domains, consistent with the Five-Factor Model.

Notably, our study demonstrates, with statistical support, that objective visual acuity outcomes are independent of personality domains, providing direct evidence that personality primarily modulates subjective appraisal and satisfaction rather than the optical performance of the implanted lens itself.

This study has several limitations. First, the small sample size, which reflects both the limited number of multifocal intraocular lenses implanted in a public healthcare setting, constrained by economic factors, and the stringent inclusion criteria, which excluded a substantial proportion of candidates during the study period. Second, a pre-existing, non-formalized preoperative selection at our center, partly based on personality subjective impressions even without a structured instrument, likely enriched the cohort for Conscientiousness and Agreeableness and yielded few patients with dominant Neuroticism, contributing to the high satisfaction rates observed. Accordingly, the sample is not free from selection bias, and the distribution of personality traits may not fully represent the broader MIOL candidate population, which may limit generalizability and reduce power to detect associations in less frequent traits.

This study also has important strengths. It was a study conducted in a real-world public hospital setting, employing uniform surgical techniques with bilateral implantation, and evaluating two multifocal intraocular lens platforms under a single protocol. Personality was assessed with the Portuguese-validated NEO-FFI-20, and patient-reported outcomes were captured using a targeted 12-item questionnaire, enabling integrated analysis of inter-trait correlations (Table 1), trait–outcome associations (Table 2), and lens-stratified symptom frequencies (Table 3). A suggestion to use a psychological questionnaire during the preoperative consultation to help identify patients with higher neuroticism and, by providing targeted counselling, potentially increase satisfaction with surgical outcomes.

CONCLUSION

MIOL implantation ensured improved postoperative visual acuity; however, some patients reported worse visual outcomes. Subjective satisfaction or dissatisfaction after MIOL implantation was related to certain personality traits.

- Patients with higher Neuroticism reported more photic phenomena and lower satisfaction.
- Patients with dominant Conscientiousness, Agreeableness, or Extraversion tended to report higher satisfaction and better adaptation.

Taken together, these findings indicate that MIOL success in routine practice depends not only on optical performance but also on individual psychological predispositions.

CLINICAL IMPLICATIONS

Incorporation of a concise, validated personality instrument (Portuguese NEO-FFI-20) into the preoperative assessment may enhance candidate selection and expectation management for MIOL implantation. Identification of patients with higher Neuroticism should prompt reinforced coun-

selling regarding the likelihood and typically benign nature of photic phenomena, whereas profiles marked by Conscientiousness and Agreeableness are, in general, compatible with favorable adaptation and satisfaction. Selection of the MIOL should be individualized to the optical characteristics of the platform (e.g., energy distribution across foci, contrast profile, propensity for photic phenomena) and aligned with the patient's visual priorities (distance, intermediate, near) and tolerance for trade-offs. In aggregate, coordination of personality profiling, lens-specific attributes, and tailored counselling is likely to optimize subjective outcomes while maintaining robust objective visual performance.

CONTRIBUTORSHIP STATEMENT / DECLARAÇÃO DE CONTRIBUIÇÃO

JV: Writing of the article, data collection and analysis.

MV, IM, FM, IM, ND, NC and TL: Data collection, analysis, and discussion of results.

All authors approved the final version to be published.

JV Escrita do artigo, recolha e análise de dados.

MV, IM, FM, IM, ND e TL: Recolha de dados, análise e discussão dos resultados.

Todos os autores aprovaram a versão final a ser publicada.

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Confidencialidade dos Dados: Os autores declaram ter seguido os protocolos da sua instituição acerca da publicação dos dados de doentes.

Proteção de Pessoas e Animais: Os autores declaram que os procedimentos seguidos estavam de acordo com os regulamentos estabelecidos pela Comissão de Ética responsável e de acordo com a Declaração de Helsínquia revista em 2024 e da Associação Médica Mundial.

Proveniência e Revisão por Pares: Não comissionado; revisão externa por pares.

ETHICAL DISCLOSURES

Conflicts of Interest: The authors have no conflicts of interest to declare.

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Protection of Human and Animal Subjects: The au-

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