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German Translation and Validation of the FACE-Q Nose and Nostrils Subscales

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Background: Septorhinoplasty addresses both functional and aesthetic concerns, and patient satisfaction is a critical outcome. The FACE-Q rhinoplasty module is a validated tool used to assess patient satisfaction in aesthetic procedures, but a German version was previously unavailable. This study aimed to translate and validate the FACE-Q nose and nostrils subscales into German to ensure their reliability and cultural relevance for German-speaking patients.

Methods: This study was conducted in 2 phases: translation and statistical validation. Following international guidelines, the FACE-Q was translated into German using a backward–forward translation process, expert review, and cognitive debriefing interviews with patients. In the second phase, 20 patients with septorhinoplasty and 30 control participants, both fluent in German and English, completed questionnaires. Internal consistency was assessed using Cronbach alpha, and test–retest reliability was evaluated in the control group using intraclass correlation coefficients (ICCs).

Results: The translated FACE-Q demonstrated excellent internal consistency, with Cronbach alpha values ranging between 0.888 and 0.918. The test–retest reliability was excellent for the nose subscale (ICC = 0.938) and good for the nostrils subscale (ICC = 0.819). The minimal clinically important difference values of 9.82 and 13.96 were calculated for the nose and nostrils subscales.

Conclusions: The German version of the FACE-Q rhinoplasty module was a reliable tool for assessing patient satisfaction during septorhinoplasty. Its strong internal consistency and test–retest reliability align with other European translations, making it a valuable resource for clinicians and researchers. *(Plast Reconstr Surg Glob Open 2025;13:e7021; doi: 10.1097/GOX.0000000000007021; Published online 1 August 2025.)*

INTRODUCTION

Septorhinoplasty, a surgical procedure frequently performed by otolaryngologists and facial plastic surgeons, addresses both functional and aesthetic concerns in patients. Recently, there has been a significant increase in the number of rhinoplasty procedures worldwide.[1] Evaluating postoperative outcomes and patient satisfaction with septorhinoplasty is challenging. Patient-reported outcome measures are valuable tools for the systematic and reliable assessment of surgical results from the patient's perspective.[2] To maintain the integrity of research exploring the relationship between patients' subjective experiences and clinical (objective) outcomes, it is crucial to use validated assessment tools.[3,4]

Throughout history, the concept of the "ideal" nose has varied greatly, often reflecting broader societal values and trends. From the straight, slender noses admired in ancient Egypt and Greece to the small, delicate noses preferred during the Victorian era, and the diverse shapes embraced in modern times, each period has had its own standards of beauty.[5,6] Despite these changing ideals, the nose has consistently been a central feature in the definition of beauty and identity. This historical context highlights the importance of using patient-reported outcome measures to assess satisfaction, as perceptions of nasal aesthetics are closely linked to both cultural and individual identities.[7,8]

FACE-Q is a tool specifically designed to collect patient feedback before and after surgical and nonsurgical aesthetic procedures. Developed by Klassen et al[9,10] in 2010, the FACE-Q is a validated instrument that measures the

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psychological impact of cosmetic surgery. This tool is owned by the Memorial Sloan Kettering Cancer Center in New York, which holds the copyright for both the original and all translated versions. By capturing patient perspectives on facial aesthetic procedures, FACE-Q supports a data-driven approach to cosmetic surgery practice.[11] The FACE-Q rhinoplasty module includes 2 subscales to evaluate rhinoplasty outcomes: 1 assessing "satisfaction with the nose" with 10 questions, and another assessing "satisfaction with the nostrils" with 5 questions. Both subscales use a 4-point Likert scale. The responses were adjusted using a Rasch model, transforming ordinal scores into a linear scale ranging from 0 to 100, where higher scores indicate better patient outcomes.[10,12] The English versions of these questionnaires have demonstrated strong structural integrity and consistency.[10] There is a pressing need to translate the validated FACE-Q into German to assess German-speaking patients undergoing septorhinoplasty. Although the module has been translated into several languages such as Dutch, Norwegian, Arabic, French, Portuguese, and Finnish, a German version has not been available until now.[12–17]

Takeaways

Question: Is the German FACE-Q valid for measuring patient satisfaction after septorhinoplasty?

Findings: This study included translation, expert review, and cognitive debriefing. Fifty participants completed the German FACE-Q. The results showed excellent reliability.

Meaning: The validated German FACE-Q nose and nostrils subscales are reliable tools for assessing patient-reported outcomes.

METHODS

This study comprised 2 distinct phases. The initial phase involved the translation process, which began with a meticulous backward–forward translation, followed by an in-depth analysis and optimization of the translated questionnaire. This refinement was achieved through structured interviews with selected patient groups. In the second part, patients undergoing septorhinoplasty and the control group were asked to complete the questionnaires. Besides that, we asked the participants, fluent in both German and English, to complete the original English version of the nose and nostrils subscale. This approach was used to assess the validity of the German version of the questionnaire. The study protocol was approved by the ethics committee of Essen University Hospital.

Phase 1: Translation From English to German

Translation of the "satisfaction with nose" and "satisfaction with nostrils" questionnaires from English to German followed international guidelines and the Q-Portfolio manual for translation, aligning with recommendations from the International Society for Pharmacoeconomics and Outcomes Research and the World Health Organization.[18] The process was conducted in 5 steps: direct translation, backward translation, and patient interviews.

Step 1: Two German speakers independently translated the original English questionnaire into German. A reconciled version was produced through discussion at a reconciliation meeting, resulting in the original German questionnaire.

Step 2: Backward translation into English was carried out by a native English speaker fluent in German, with an emphasis on conceptual and cultural equivalence. The resulting version was reviewed by the developers, resulting in the creation of the second German version of the FACE-Q.

Step 3: An expert panel, including 3 otorhinolaryngologists/facial plastic surgeons, 2 translators, and a coordinator fluent in both German and English, openly discussed and reached a consensus on the third German version.

Step 4: The process involved testing the translated questionnaires for ease of use in the target patient population. Cognitive debriefing interviews were conducted with 8 native German-speaking patients, specifically individuals who had undergone or were about to undergo septorhinoplasty. During these interviews, the patients reviewed the questionnaires and provided insight into their interpretations of each item. Alternative translations were considered in cases where interpretations differed. The process of agreement and harmonization resulted in the development of the fourth German version of the questionnaire.

Step 5: We included a thorough discussion of the results of the patient interviews with the expert panel. Based on these findings, a final version of the German questionnaire was produced to ensure a comprehensive and culturally appropriate adaptation for the target population. The final version was evaluated closely by a Q-Portfolio team.

Phase 2: Statistical Validation of the German FACE-Q Rhinoplasty Module

In a prospective study design, we engaged patients scheduled for septorhinoplasty to complete the translated FACE-Q questionnaire before surgery and again 3 months after the operation. Additionally, to gather comparative data, we included a group of participants who did not consider septorhinoplasty and asked them to fill out the same questionnaire. This control group, referred to as the normative group, was asked to complete the questionnaire twice to evaluate test–retest reliability, ensuring the consistency of responses over time. Participants, both fluent in German and English, were asked to complete the original English questionnaire. The next section of this article will delve into the statistical methods used to validate the findings. All data analysis was performed using SPSS statistical software version 29 (SPSS Inc.).

Internal Consistency

The study assessed the agreement between the different items in the questionnaires by calculating internal consistency using the Cronbach alpha coefficient. This coefficient serves as an index of internal consistency,

indicating the extent to which a collection of items is related within a group, thus acting as an indicator of the scale's reliability. As outlined by Nunnally and Bernstein,[19] Cronbach alpha values greater than 0.80 are considered suitable for practical research applications. In addition, the study recorded the item–rest correlation, a metric that indicates the magnitude of the relationship between the score of an individual item and the composite score of the rest of the test, excluding that particular item.[19]

Test–Retest

The stability of scores from a health outcome measure when administered on multiple occasions was assessed using test–retest reliability. This concept underlines the expectation that repeated patient-reported outcome measurements should yield consistent results. To evaluate this, the analysis was conducted in the normative group with a 14-day interval between the 2 questionnaire sessions. Consistency between these points was assessed using Pearson and intraclass correlation coefficients (ICC), calculated based on a specific model: the individual, absolute agreement, and 2-way mixed-effects model (ICC type 3.1). The reliability was categorized into 4 distinct levels—poor, moderate, good, and excellent—determined by ICC values within a 95% confidence interval (CI): less than 0.5, from 0.5 to 0.75, from 0.75 to 0.9, and greater than 0.9, respectively.[20]

In addition to ICC type 3.1, the Wilcoxon signed-rank test was used to test for possible differences in the FACE-Q nose and nostrils scores between the 2 measurement times. The Z value was calculated for this test. A value close to 0 indicates that the differences between the measurements are due to chance and are not significant. To evaluate the size of the change, the effect size r, according to Rosenthal,[21] was calculated by dividing the Z value of the Wilcoxon test by the square root of the sample size. An r value of 0.1, 0.3, or 0.5 counts as small, medium, or large effect sizes, respectively. A large effect size r, according to Rosenthal,[21] shows that the difference between the 2 time points is not only statistically significant but also practically significant, which indicates a strong change or a large effect.

Minimal Clinically Important Difference

The minimal clinically important difference (MCID) is the smallest value that indicates a perceptible difference between patients. It is used to check whether a test is not only statistically significant, but also relevant to the patient. The MCID was determined by calculating the difference between the nose score before and after the operation, as well as the difference between the nostrils score before and after the operation. The differences were analyzed for descriptive statistics, and the standard error of the mean was multiplied by 1.96 to obtain the MCID.[13]

Comparison to the Original English Questionnaire

In total, 20 patients from the control group were fluent in both English and German and were asked to fill out the original English version. The time between completing the German questionnaire and the English questionnaire was about 4 months.

As with the comparison between the 2 time points of the German version, we conducted the Wilcoxon signed-rank test to compare the German version at time point T2 with the English version. The effect size was calculated according to Rosenthal.[21] To determine the test–retest correlation, the ICC was calculated.

RESULTS

Translation From English to German

Step 1: Forward Translation

Although the 2 forward translations exhibited high similarity, they were susceptible to synonymous translations, resulting in literal discrepancies rather than conceptual ones. Variances were noted in word order and syntax, with the 2 words translated into different synonyms. In collaboration with the local coordinator, reconciliations were made, the most appropriate synonyms were selected, and sentences were constructed to address disparities between the 2 forward translations.

Step 2: Backward Translation

Differences between the backward translation and the original version were minimal. However, upon developer review, it was observed that a section of the question was omitted in the forward translation and, consequently, was not reflected in the backward translation. This included words such as "overall" and "with."

Step 3: Expert Panel Review

The panel of ENT healthcare professionals provided valuable alternatives for words that might pose comprehension challenges for some patients.

Step 4: Cognitive Debriefing Interviews

Eight native German-speaking rhinoplasty patients, comprising 5 women and 3 men with ages ranging from 22 to 58 years, participated in cognitive debriefing interviews. Feedback confirmed the clarity and user-friendliness of the questionnaire. Suggestions from expert panelists were deemed appropriate, and the patients' responses were generally straightforward. Some comments emerged only when specifically asking about potential misinterpretations, mostly recommending additional information for clarification. The question "How much of your nostrils show?" was the only question that led to discussion and alternative suggestions. However, their interpretations were identical. Finally, we chose the translation that most participants found the most accurate.

Step 5: Proofreading by Clinicians and Q-Portfolio

Proofreading by clinicians and the Q-Portfolio team resulted in no further changes, affirming the stability and accuracy of the translated questionnaires (Fig. 1) (Tables 1, 2).

Participant Demographics

In total, 20 patients completed the questionnaires pre- and postoperatively. For the control group, 30 participants

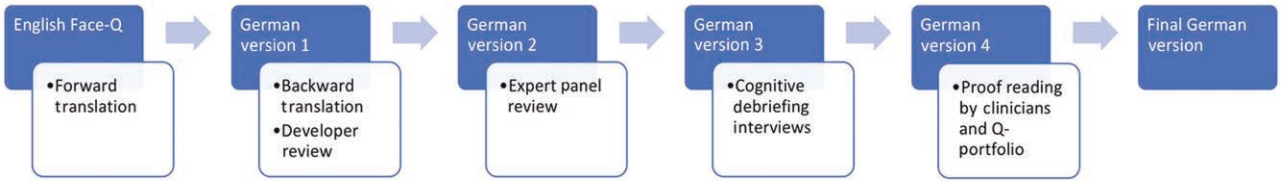

Fig. 1. Flowchart of translation process.

Table 1. FACE-Q Nose

Wählen Sie bei jeder Frage nur eine Antwortmöglichkeit aus. Bezogen auf Ihre Nase, wie zufrieden oder unzufrieden waren Sie in der letzten Woche mit, … ***For each question, circle only one answer. With your nose in mind, in the past week, how satisfied or dissatisfied have you been with:***	**Sehr unzufrieden**	**Etwas unzufrieden**	**Etwas zufrieden**	**Sehr zufrieden**
a. der Breite Ihrer Nase (von Nasenloch zu Nasenloch)? *The width of your nose at the bottom (from nostril to nostril)?*	1	2	3	4
b. der Länge Ihrer Nase? *The length of your nose?*	1	2	3	4
c. dem Aussehen Ihres Nasenrückens (wo eine Brille aufsitzen würde)? *How the bridge of your nose looks (where glasses sit)?*	1	2	3	4
d. wie gut Ihre Nase zu Ihrem Gesicht passt? *How well your nose suits your face?*	1	2	3	4
e. wie gerade Ihre Nase aussieht? *How straight your nose looks?*	1	2	3	4
f. der Gesamtgröße Ihrer Nase? *The overall size of your nose?*	1	2	3	4
g. der Form Ihrer Nase im Seitenprofil? *The shape of your nose in profile (side view)?*	1	2	3	4
h. dem Aussehen Ihrer Nase auf Fotos? *How your nose looks in photos?*	1	2	3	4
i. dem Aussehen Ihrer Nasenspitze? *How the tip of your nose looks?*	1	2	3	4
j. dem Aussehen Ihrer Nase aus jedem Blickwinkel? *How your nose looks from every angle?*	1	2	3	4

Italic: original English questionnaire.

Table 2. FACE-Q Nostrils

Wählen Sie bei jeder Frage nur eine Antwortmöglichkeit aus. Bezogen auf Ihre Nasenlöcher, wie zufrieden oder unzufrieden waren Sie in der letzten Woche mit, … ***For each question, circle only one answer. With your nostrils in mind, in the past week, how satisfied or dissatisfied have you been with:***	**Sehr unzufrieden**	**Etwas unzufrieden**	**Etwas zufrieden**	**Sehr zufrieden**
a. der Größe Ihrer Nasenlöcher? *The size of your nostrils?*	1	2	3	4
b. der Form Ihrer Nasenlöcher? *The shape of your nostrils?*	1	2	3	4
c. der Sichtbarkeit Ihrer Nasenlöcher? *How much of your nostrils show?*	1	2	3	4
d. der Symmetrie Ihrer Nasenlöcher? *How even (well-matched) your nostrils look?*	1	2	3	4
e. dem Aussehen Ihrer Nasenlöcher? *How your nostrils look?*	1	2	3	4

Italic: original English questionnaire.

completed the questionnaire twice (T1) at a time interval of 14 days (T2).

The mean (SD) age of the patient group was 36 (14) years, and the female-to-male distribution was 11 to 9, indicating that 55% of the patients were women. In the control group, the mean (SD) age was 36 (16) years, and 63% (19 of 11) were women.

The mean (SD) FACE-Q nose score of the patients seeking septorhinoplasty was 40 (15). The mean (SD) FACE-Q nostrils was 48 (26). Postoperative patients scored 55 (19) for FACE-Q nose and 57 (31) for FACE-Q nostrils (Figs. 2–4).

For the control group, the mean (SD) score was 74 (16) at T1 for the FACE-Q nose and 89 (16) for the

Fig. 2. Preoperative and postoperative photographs. A, Preoperative front view. B, Preoperative side view. C, Postoperative front view. D, Postoperative side view.

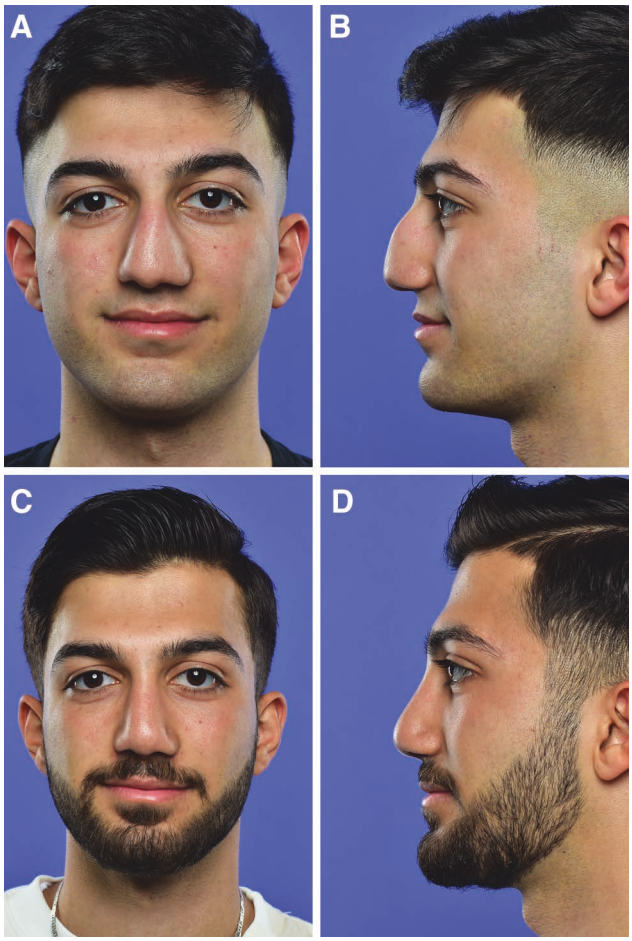

Fig. 3. Preoperative and postoperative photographs. A, Preoperative front view. B, Preoperative side view. C, Postoperative front view. D, Postoperative side view.

FACE-Q nostrils. At T2, FACE-Q nose scored 75 (18), and FACE-Q nostrils scored 88 (16).

Statistical Validation Process of German FACE-Q

Internal Consistency

Because Cronbach alpha is a measure of internal consistency, it was determined for this purpose. The total number of participants included in the study was 30. For the FACE-Q nose, Cronbach alpha was 0.888 at the first time point and 0.918 at the second time point. For the FACE-Q nostrils, Cronbach alpha was 0.912 at the first time point and 0.879 at the second time point. Thus, all values show suitable internal consistency.

For the determination of the item–rest correlation, single items of each questionnaire were removed, and Cronbach alpha was calculated. For the FACE-Q nose, Cronbach alpha was at least 0.861 for each removed item. For FACE-Q nostrils, Cronbach alpha was at least 0.817 or higher for each removed item, indicating a high level of internal consistency.

Test–Retest Correlation

To determine the test–retest correlation, the ICC was calculated. For the FACE-Q nose, the ICC was 0.938 (95% CI: 0.874–0.970), and for the FACE-Q nostrils, it was 0.819 (95% CI: 0.654–0.909). This results in excellent reliability for the FACE-Q nose and good reliability for the FACE-Q nostrils questionnaire. In addition, the Wilcoxon signed-rank test was used to determine significant differences between the 2 time points. For FACE-Q nose, a Z value of −0.594 was obtained, and the asymptotic significance value (2-tailed) was P equal to 0.552. For the FACE-Q nostrils, a Z value of −0.475 was obtained, and the asymptotic significance value (2-tailed) was P equal to 0.635. After the Wilcoxon signed-rank test, the effect size r according to Rosenthal[21] was calculated, resulting in r equal to 0.109 for the FACE-Q nose questionnaire and r equal to 0.087 for the FACE-Q nostrils questionnaire. These values suggested that the differences between the 2 time points were not significant.

Minimal Clinically Important Difference

To calculate the MCID, the standard error of the mean was determined, which was 5.01 for the score difference between pre- and postoperation of the FACE-Q nose questionnaire and 7.12 for the FACE-Q nostrils questionnaire.

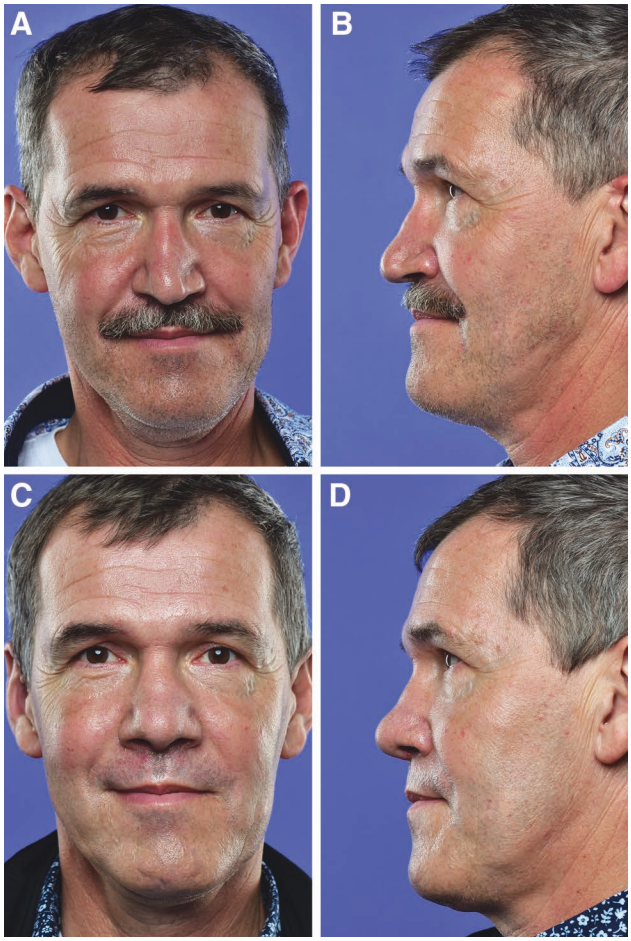

Fig. 4. Preoperative and postoperative photographs. A, Preoperative front view. B, Preoperative side view. C, Postoperative front view. D, Postoperative side view.

The MCID was calculated to determine the lowest score at which patient satisfaction with the questionnaire had clinical significance. In the following, an MCID of 9.82 was obtained for the FACE-Q nose questionnaire and 13.96 for the FACE-Q nostrils questionnaire.

Comparison to the Original English Questionnaire

This subpopulation had a mean (SD) score of 75 (16) for the FACE-Q nose and 88 (16) for the FACE-Q nostrils when completing our German version for the second time. For the original English version, the mean (SD) score of the FACE-Q nose was 77 (16) and 86 (20) for the FACE-Q nostrils.

For the FACE-Q nose, a Z value of −0.691 was obtained, and the asymptotic significance value (2-tailed) was P equal to 0.489. For the FACE-Q nostrils, a Z value of −0.712 was obtained, and the asymptotic significance value (2-tailed) was P equal to 0.476. The effect size was 0.155 for the FACE-Q nose and 0.159 for the FACE-Q nostrils. For the FACE-Q nose, the ICC was 0.922 (95% CI: 0.805–0.969), and for the FACE-Q nostrils, it was 0.885 (95% CI: 0.710–0.954). This results in excellent reliability for the FACE-Q nose and good reliability for the FACE-Q nostrils questionnaire.

These analyses show that there is no significant difference between the German and English measurements. Given the 4-month interval between administrations, the possibility of recall influencing the results can be ruled out.

DISCUSSION

German questionnaires assessing patient satisfaction with the nose before and after septorhinoplasty are rare. We have now successfully translated the FACE-Q nose and nostrils subscales into German, and our statistical validation confirmed its reliability posttranslation. Thus, it is a newly available tool for German-speaking septorhinoplasty patients and surgeons.

Comparison to the Literature

When comparing our results with other translations, such as the Dutch, Norwegian, and Finnish versions of the FACE-Q rhinoplasty module, we observed similar trends in the validation process, as well as similar results. For example, the Dutch version of the questionnaire revealed an MCID of 7.62 for FACE-Q nose and 10.17 for the FACE-Q nostrils. In this study, we observed comparable MCID values (9.82% and 13.96%, respectively). These values can be used to detect clinically meaningful changes in patient satisfaction postsurgery.[13] Similarly, the Norwegian version showed reliable results in patient satisfaction assessments, with cultural adaptations to suit the local population.[12] In another study assessing normative scores for the FACE-Q, the satisfaction with nose scale demonstrated a statistically significant difference between groups, with an area under the receiver operating characteristic curve of 0.964 (95% CI: 0.931–0.997), whereas the satisfaction with nostrils scale had an receiver operating characteristic curve of 0.820 (95% CI: 0.741–0.899).[22] These scores aligned with our findings in the German translation, reinforcing the tool's cross-cultural applicability.

Strengths and Limitations

The primary strength of this study is its rigorous compliance with Q-Portfolio translation guidelines, ensuring that the translated questionnaire is both highly accurate and culturally relevant. The translation process involved meticulous linguistic validation steps, including cognitive debriefing interviews, which were crucial for maintaining the fidelity of translation and cultural suitability. This approach is consistent with international standards set by organizations such as the International Society for Pharmacoeconomics and Outcomes Research and the World Health Organization, mirroring the practices of other research groups that have translated the FACE-Q, thereby ensuring consistency and validity across different cultural contexts.[18,20] Moreover, the inclusion of a normative group, consisting of individuals not seeking septorhinoplasty, enhances the value of the study for future research and helps contextualize patient scores.[22] A recognized limitation of this study was the relatively small sample size. Nevertheless, after examining other published translations of the FACE-Q,[12–17] we found similar

sample sizes and outcomes, suggesting that an increased sample size would likely not significantly impact the conclusions regarding the validation of the translation.

CONCLUSIONS

Employing rigorous international translation protocols, encompassing a meticulous backward–forward translation method and comprehensive cognitive debriefing sessions, resulted in a German translation of the FACE-Q "satisfaction with nose" and "satisfaction with nostrils" subscales that conceptually aligns with the original English version. Statistical evaluation affirms the effectiveness of this German-translated questionnaire, confirming that the translation process preserved its validity. This achievement is anticipated to provide clinicians with an enhanced instrument for evaluating German-speaking patients undergoing septorhinoplasty.

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DISCLOSURE

The authors have no financial interest to declare in relation to the content of this article.

PATIENT CONSENT

Patients provided written consent for the use of their images.

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