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Validation of the Danish translation of the Measure of Job Satisfaction for pharmacy staff

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Abstract

Objectives: **The Measure of Job Satisfaction (MJS) has been recognized as a questionnaire having good psychometric quality and adequate content validity for evaluating job satisfaction in healthcare settings. This study aimed to validate the Danish translation of the MJS for pharmacy staff.**

Methods: **The MJS was translated into Danish and adapted for pharmacy staff applying the Principles of Good Practice for the Translation and Cultural Adaptation of Outcome Measures. Links to the Danish MJS, alongside demographic and profession-related questions, were distributed to Danish community and hospital pharmacies' institutional emails and selected Facebook groups. The structural validity was assessed through confirmatory factor analysis (CFA). Internal consistency reliability was evaluated by calculating Cronbach's alpha.**

Key findings: **Responses from 500 respondents with complete entries were analyzed. Most respondents worked in a community pharmacy (81.4%), were pharmacy technicians (53.0%), were female (88.6%), and were between 25 and 44 years old (59.8%). CFA revealed an acceptable seven-factor construct [Goodness of Fit (GFI) = 0.766, Adjusted Goodness of Fit (AGFI) = 0.736, Normed Fit Index (NFI) = 0.805, Tucker Lewis Index (TLI) = 0.838, Comparative Fit Index (CFI) = 0.982, Root Mean Square Error of Approximation (RMSEA) = 0.073, Root Mean Square Residual (RMR) = 0.087]. Standardized regression weight values for items loading onto their respective factors ranged from 0.441 to 0.860. Correlations between the factors ranged from 0.360 to 0.810. The internal consistency reliability, Cronbach's alpha for the entire scale was 0.962, and for the subscales it ranged from 0.764 to 0.935.**

Conclusions: **The Danish MJS exhibited an acceptable seven-factor structure with high internal consistency. It can serve as a tool for assessing job satisfaction among pharmacy staff in Denmark, facilitating international comparisons of job satisfaction among pharmacy and other healthcare staff.**

Keywords community pharmacy < community pharmacy, ward pharmacy < clinical practice, job satisfaction < professional practice, other topics < research method

Introduction

Job satisfaction is a critical factor influencing both job performance and employee turnover [1]. In the healthcare sector, the job satisfaction of employees significantly impacts the quality, productivity, effectiveness, and costs of the services provided to patients [2]. In particular, low job satisfaction among pharmacy staff can lead to increased turnover, negatively affecting patient-provider interactions and potentially raising the risk of medication dispensing and handling errors, and therefore increasing the risk of patient harm [3].

One method of assessing employee job satisfaction is through the use of questionnaires. Researchers have employed various types of questionnaires, tailored to both general job contexts and specific workforces. These included single-item and multi-item instruments, as well as multidimensional scales [4]. Among the latter, the Measure of Job Satisfaction (MJS)—a multidimensional scale originally designed for community nurses in England [5]—has been recognized as a tool that meets psychometric quality criteria and possesses adequate content validity for evaluating job satisfaction in healthcare settings [5].

In Denmark, the workload of community pharmacy staff is substantial [6]. The workload for pharmacy staff in Danish hospitals is also increasing, as hospital pharmacists and pharmacy technicians are more often involved in direct patient care, particularly in patient-centred medication management services [7]. The heavy

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workload faced by community pharmacy staff and the increasing demands on hospital pharmacy staff in Denmark may impact job satisfaction and, consequently, the quality of patient care. However, the job satisfaction of Danish pharmacy staff has only been assessed using locally developed questionnaires and qualitative methods [8, 9]. This approach has limited the ability to compare job satisfaction across sectors. Furthermore, its national focus precluded comparisons with international evidence.

To enable comparisons of job satisfaction among pharmacy staff across different sectors, or to compare job satisfaction between pharmacy staff and other healthcare professionals in Denmark, a validated Danish questionnaire is needed. To further compare job satisfaction across different healthcare professions in various countries, a valid and internationally recognized questionnaire for measuring job satisfaction among healthcare professionals is preferable. Therefore, the aim of this study was to translate the MJS into Danish from English and validate the Danish translation of the MJS adapted for pharmacy staff.

Materials and methods

Translation and cognitive debriefing

The translation of the MJS from English to Danish was conducted in accordance with the Principles of Good Practice for the Translation and Cultural Adaptation Process for Patient-Reported Outcome Measures [10]. These principles outline procedures for translation and piloting, including the use of cognitive debriefing, which is a qualitative assessment of participants' understanding and interpretation of questionnaire items. Initially, two bilingual native Danish speakers proficient in English independently translated the questionnaire from English to Danish. Any inconsistencies between the two translations were subsequently addressed and resolved collaboratively. Following this, a native English speaker fluent in Danish performed a back-translation of the Danish version into English. Discrepancies between the back-translation and the original English version were reviewed by the authors in collaboration with the back translator, resulting in adjustments to the Danish translation to better align with the original English version. The revised Danish version was then subjected to cognitive debriefing with two pharmacists and three pharmacy technicians. Insights from the cognitive debriefing interviews informed refinements to the questionnaire's wording. Finally, the Danish version was proofread by a native Danish speaker with a pharmacy background who was not involved in the translation process and had not previously seen the questionnaire.

Study design and the instrument

A cross-sectional online questionnaire survey was conducted. The self-administered questionnaire comprised two sections. The first section (eight questions) addressed demographic characteristics such as age and gender, work-related information, including profession (pharmacist, pharmacy technician, pharmacy student, or pharmacy technician student), workplace setting (hospital or community pharmacy), work location (one of the five Danish administrative regions), weekly working hours (full-time or part-time), and type of employment (permanent or temporary contract). Additionally, hospital employees were asked if they were engaged in patient-specific tasks.

The second section (44 questions) contained the Danish version of the MJS scale, which consists of 44 items. The first 43 items are divided into seven subscales: personal satisfaction, satisfaction with workload, professional support, training, payment, career prospects, and performed standards of care. The final item assesses overall job satisfaction. Participants rated their responses on a 5-point Likert scale, with higher scores indicating greater satisfaction: 5—very satisfied, 4—satisfied, 3—neither satisfied nor dissatisfied, 2—unsatisfied, and 1—very unsatisfied. The original English version of the MJS demonstrated strong factorial, concurrent, and discriminant validity, as well as internal consistency and test–retest reliability [5].

An additional pilot test involving four pharmacists, who were colleagues of the two co-authors working in a community pharmacy, was conducted to assess the clarity of the sociodemographic questions and the feasibility of the questionnaire within the online system, SurveyXact. Given that the Danish MJS scale had already undergone cognitive debriefing during the translation process, the pilot test focused primarily on the first part of the questionnaire. This pilot testing led to minor rephrasing in the final survey.

Data collection

Data collection was conducted using the online survey system SurveyXact in February 2024. In accordance with the guideline recommending a minimum of 10 responses per item in a scale validation study [11], the target sample size was set at a minimum of 440 participants. The target population included pharmacists and pharmacy technicians working in hospital and community pharmacies in Denmark who had direct contact with patients. Consequently, hospital pharmacists and pharmacy technicians not involved in clinical tasks requiring patient interaction were excluded.

A link to the questionnaire was distributed via institutional emails to Danish community and hospital pharmacies and through selected Facebook groups. A comprehensive list of all community pharmacies in Denmark, including their email addresses, was compiled from the website of The Association of Danish Pharmacies [12]. A list of hospital pharmacies in Denmark was obtained from the wholesaler 'Amgros.' [13] with email addresses additionally sourced from the respective hospital pharmacies' websites. Further, the questionnaire was disseminated through four Danish Facebook groups: two exclusively for pharmacy technicians with 2400 and 899 members, one exclusively for pharmacists with 1400 members, and one for both pharmacists and pharmacy technicians interested in research with 380 members. Additionally, a contact person at the Danish pharmacists' trade union, Pharmadanmark, sent the survey link to union members via email and posted it in the union's electronic newsletter. Reminders were sent one week later by resending emails and reposting Facebook invitations. No incentives were provided to the participants.

Data analyses

Only forms with complete entries were analyzed. Descriptive statistics were reported as frequencies and percentages for

categorical variables. Structural validity was evaluated through confirmatory factor analysis (CFA), a component of structural equation modelling (SEM), which examines the extent to which observed variables accurately represent the underlying theoretical constructs. The MJS theoretical model comprised 43 items distributed across seven latent factors. The model fit was assessed using reference values for the Chi square divided by the degree of freedom (X^2/df), Goodness of Fit (GFI), Adjusted Goodness of Fit (AGFI), Normed Fit Index (NFI), Tucker Lewis Index (TLI), Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA), and Root Mean Square Residual (RMR) [14–16]. Further analyses included an evaluation of factor loadings and inter-factor correlations. Internal consistency reliability was assessed using Cronbach's α for both the entire scale and each subscale. CFA was conducted using the IBM SPSS AMOS package version 28; all other analyses were performed using the IBM Statistical Package of Social Sciences (SPSS) version 28 (IBM Corp., Armonk, NY, USA).

Ethical considerations

All participants invited to take part in the study were informed about its purpose and assured of their anonymity. Explicit consent was obtained through the first question of the questionnaire, which confirmed their voluntary participation. Participants who consented were then directed to complete the remainder of the questionnaire. To minimize the risk of personal identification, given the limited number of hospital pharmacies in Denmark, hospital-employed pharmacists and pharmacy technicians were given the option to skip the question regarding their administrative region of employment. All data were collected and stored in an anonymized form in accordance with the University of Copenhagen's policies, which comply with the General Data Protection Regulation (GDPR). According to the Danish law, ethical approval was not required [17].

Results

Characteristics of the study participants

Of a total of 695 individuals who started the questionnaire, 500 provided responses to all the questions and were used in the analysis. The demographic and work-related characteristics of the 500 respondents are presented in Table 1. The majority were female (89%); the largest age group was those aged 25–34 years (33%), followed by those aged 35–44 years (27%). There were more pharmacy technicians (53%) than pharmacists (41%). The majority were employed in community pharmacies (81%). More than half were from the two largest Danish administrative regions: the Central Region of Denmark (26%) and the Capital Region of Denmark (25%). The majority were employed permanently (95%) and full-time (52%).

Structural validity

The results of the CFA, conducted by allocating 43 items into the seven predetermined subscales, are shown in Fig. 1. The overall model fit was fair, as indicated by three indices: X^2/df, CFI, and RMSEA (Table 2). The standardized regression weight values for item-factor loadings ranged from 0.44 to 0.91, with all but one exceeding 0.5 and 70% exceeding 0.7, indicating a fair and good fit of the items into their respective subscales (acceptable fit considered >0.50, good fit considered >0.70) [18]. The correlations between the subscales ranged from 0.31 to 0.81, with all being under 0.85, indicating acceptable factor correlations (acceptable correlation considered >0.85) [14].

Internal consistency reliability

The internal consistency reliability Cronbach's α for the entire Danish MJS scale was 0.962, internal consistency reliability of subscales ranged from 0.764 to 0.935 (Table 3), indicating acceptable to excellent internal consistency reliability (acceptable internal consistency reliability considered >0.7, excellent consistency reliability considered >0.9) [18].

Discussion

This study aimed to psychometrically validate the Danish translation of the MJS scale. CFA showed a fair fit for a seven-factor structure with good item-factor loadings for most items. The seven subscales were distinct, correlating with each other at an acceptable level. The translated instrument demonstrated excellent internal consistency reliability for both the overall scale and all seven subscales. In the following, essential validity and reliability aspects, as well as the methodological considerations of the study, will be discussed in more detail.

Strengths and limitations

A major strength of the study was the thorough translation process, which was conducted in accordance with stringent translation and cognitive debriefing guidelines. This method guaranteed that individual words retained their meaning while also ensuring the use of culturally appropriate language. Additionally, the study benefited from an adequate sample size. Adhering to standard practice, a minimum of 10 respondents per scale item, fulfilling the requirements for validation studies [11] was ensured. Moreover, due to the systematic and convenient sampling approach, the sample appeared to be representative of the Danish pharmacy staff population. For example, in Denmark, more than half of the staff in community pharmacies are pharmacy technicians [19], while in hospital pharmacies, pharmacy technicians make up about two-thirds of the staff [13]. Moreover, the ratio of private to hospital pharmacies exceeds several dozen [12, 13], and the ratio of women to men among individuals with a pharmacist degree is approximately three to one [20]. Additionally, the study included respondents from all regions of Denmark, further enhancing its representativeness.

A limitation of the study is the absence of validation methods beyond psychometric testing. This is because there are no established Danish instruments for measuring job satisfaction, making it impossible to test criterion validity. Furthermore, it was not known in advance which group of respondents would be most satisfied with their jobs, precluding the possibility of testing for known-group validity. A detailed comparison of job satisfaction among Danish pharmacy staff, as measured by the Danish MJS, with results from the existing studies that used local measures and qualitative approaches [8, 9] is warranted to further ensure the validity of the newly translated Danish MJS.

Table 1 Characteristics of the study population.

		N	%
Gender			
	Women	443	89%
	Men	56	11%
	Other	1	0%
Age			
	<25 years	20	4 %
	25–34 years	165	33 %
	35–44 years	134	27 %
	45–54 years	95	19 %
	55–64 years	71	14%
	65+	15	3 %
Profession			
	Pharmacy technician	265	53%
	Pharmacist	204	41%
	Pharmacy technician student	28	6%
	Pharmacy student	3	1%
Setting			
	Community pharmacy	407	81%
	Hospital pharmacy	86	17%
	Both	7	1%
Weekly working hours			
	Part-time (1–10)	11	2%
	Part-time (11–20)	13	3%
	Part-time (21–36)	218	44%
	Full-time (37+)	258	52%
Type of employment contract			
	Permanent employment	477	95%
	Temporary employment	20	4%
	Other	3	1%
Region			
	Capital Region	125	25%
	Central Denmark	129	26%
	North Denmark	54	11%
	Southern Denmark	113	23%
	Region Zealand	70	14%
	Several regions from above	2	0%
	Greenland or Faroe Islands	1	0%
	Skipping the answer	6	1%

Construct validity

The construct validity of the Danish MJS instrument was assessed through CFA, where the 43 items were allocated to seven factors. The goodness-of-fit indices provided preliminary evidence supporting the construct validity. The seven-factor structure of the Danish MJS exhibited good model fit according to three out of eight evaluated indices. Discrepancies between the model fit results of this study and the established benchmarks for five indices might be attributed to the complexity of the model,

Table 2 CFA model fit indexes for the Danish translation of the MJS scale with values for good fit according to references 14–16.

	X^2	df	X^2/df	GFI	AGFI	NFI	TLI	CFI	RMSEA	RMR
Danish MJS	3060.245	839	3.647	0.766	0.736	0.805	0.838	0.982	0.073	0.087
Good fit reference			<5	≥0.95	≥0.90	≥0.95	≥0.95	≥0.90	<0.08	<0.08

X^2 = Chi square, df = degree of freedom, GFI = Goodness of Fit, AGFI = Adjusted goodness of Fit, NFI = Normed Fit Index, TLI = Tucker Lewis Index, CFI = Comparative Fit Index, RMSEA = Root Mean Square Error of Approximation, RMR = Root Mean Square Residual.

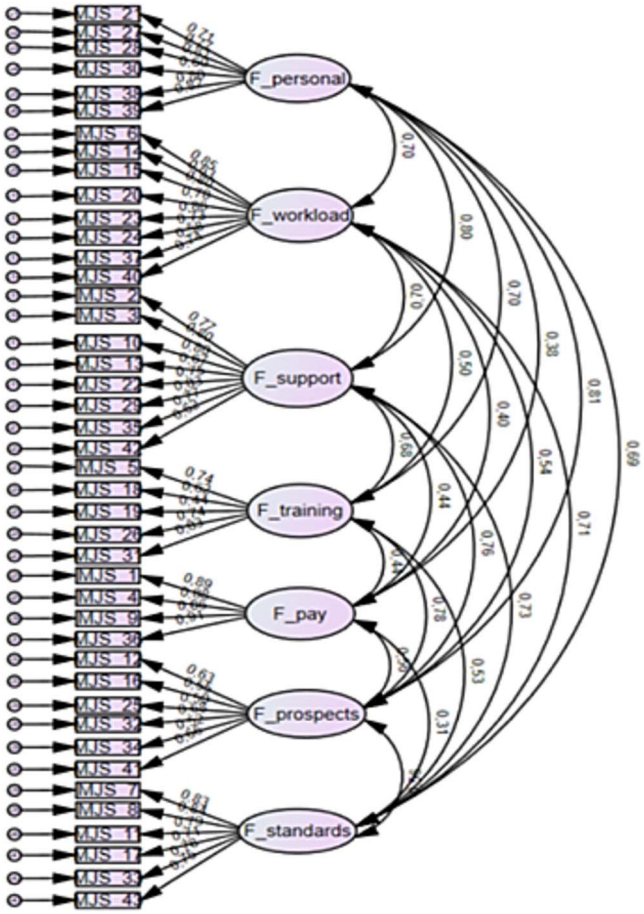

Figure 1 CFA model for the Danish translation of MJS showing factor loading and correlation between factors. F_personal—personal satisfaction; F_workload—satisfaction with workload, F_support—satisfaction with professional support; F_training—satisfaction with training, F_pay—satisfaction with pay; F_prospects—satisfaction with prospects; F_standards—satisfaction with standards of care.

potentially leading to poorer fit [21]. The Danish MJS model, comprising 43 items and seven factors, is more complex than other published versions of the MJS that include CFA results, and the superior factor fit observed in the latter versions could be due to their simpler constructs (Table 4).

The item loadings on the factors, expressed as standardized regression weights, indicate how well observed variables measure the underlying latent variables, or factors, thus reflecting the convergent validity of the construct. In the CFA of the Danish MJS, factor loadings ranged from 0.44 to 0.91. Only one item, Item 18 ('The opportunities I have to advance my career'), within the 'Satisfaction with Training' factor, had a loading below 0.50. In the Exploratory Factor Analysis of the original English version, this item exhibited similar loadings on two factors: 0.51 for 'Satisfaction with Training' and 0.42 for 'Satisfaction with Pay and Prospects' [5]. Due to its slightly stronger loading on the 'Satisfaction with Training' factor, it was grouped with this factor. However, both Traynor and Wade's study and the current study suggest that this item could also belong to the 'Satisfaction with Prospects' factor. Notably, the 'Satisfaction with Prospects' factor was omitted from the Australian MJS version by Chou *et al.* [22]. The standardized factor loadings of the remaining 42 items in the Danish MJS supported good convergent validity, with 70% of the items loading at 0.70 or higher on their respective factors.

Concerning discriminant validity, the correlations between subscales in a CFA construct should not exceed 0.85 [14]. Correlations higher than 0.85 would suggest that the factors may not represent distinct latent variables. In the Danish MJS, the estimated correlations between different factors ranged from 0.31 to 0.81, with none exceeding 0.85, thereby supporting the discriminant validity of the instrument. A similar range of correlations, indicating good discriminant validity, was also observed in the Australian MJS as reported by Chou *et al.* [22].

Internal consistency reliability

Internal consistency reliability, measured by Cronbach's α, reflects the degree to which a set of items is related as a group. The Danish MJS demonstrated acceptable to excellent internal consistency reliability, with an overall Cronbach's α of 0.962 and subscale Cronbach's α values ranging from 0.764 to 0.935 (Table 3). Similar results were observed in the original MJS version by Traynor and Wade, where Cronbach's α ranged from 0.83 to 0.93 [5], as well as in the Australian version by Chou et al., with Cronbach's α ranging from 0.857 to 0.950 [22]. High internal consistency is generally desirable, as it indicates that the items consistently measure the same underlying construct [23]. However, extremely high Cronbach's α values above 0.95 may suggest redundancy, indicating that some items in the scale might be measuring the same aspect too closely and contributing little additional information [24]. The higher internal consistency reliability of the overall Danish MJS compared to the original version may be due to the Danish MJS containing more items than the Traynor and Wade version. Additionally, the Cronbach's α value exceeding 0.95 for the overall Danish MJS scale may even suggest the presence of redundant items.

Conclusions

The Danish translation of the MJS exhibited an acceptable seven-factor structure with high internal consistency. This indicates that

Table 3 Internal consistency reliability results for the Danish translation of MJS.

Scale/subscale	MJS scale	Personal satisfaction subscale	Satisfaction with workload	Satisfaction with professional support	Satisfaction with training	Satisfaction with pay	Satisfaction with prospects	Satisfaction with standards of care
Cronbach α	0.962	0.883	0.906	0.912	0.793	0.935	0.764	0.905
Number of items	43	6	8	8	5	4	6	6

Table 4 MJS models and their fit indices from the CFA in different studies.

MJS models	X^2	df	X^2/df	GFI	AGFI	NFI	TLI	CFI	RMSEA	RMR
Trainor and Wayde (5), five-factor, 37 items	8026.81	619	12.97	0.969	0.965	0.958	n.a.	0.961	0.12	n.a.
Chou et al (19), five-factor, 22 items	498.22	199	2.50	0.985	0.981	0.976	n.a.	0.979	0.04	n.a.
Danish MJS-scale, seven-factor, 43 items	3060.25	839	3.65	0.766	0.736	0.805	0.838	0.982	0.073	0.087
Good fit value			<5	≥0.95	≥0.90	≥0.95	≥0.95	≥0.90	<0.08	<0.08

CFA= confirmatory factor analysis; X^2 =Chi square, df = degree of freedom, GFI = Goodness of Fit, AGFI = Adjusted goodness of Fit, NFI = Normed Fit Index, TLI = Tucker Lewis Index, CFI = Comparative Fit Index, RMSEA = Root Mean Square Error of Approximation, RMR = Root Mean Square Residual.

the Danish version of the MJS can serve as a valid and effective tool for assessing job satisfaction among pharmacy staff in Denmark. It can also be utilized as an outcome assessment tool evaluating interventions aiming to improve the work environment within the Danish pharmacy sector. Additionally, since the MJS has been widely employed to measure job satisfaction among nurses and physicians, the Danish MJS for pharmacists could provide a valuable resource for making both national and international comparisons of job satisfaction levels across pharmacy and other healthcare professions. This capability would help identify common challenges and best practices, ultimately supporting efforts to enhance job satisfaction and overall well-being within healthcare settings.

Author contributions

Melissa Moussa (Data curation, Formal analysis, Investigation, Writing—review & editing), Victoria Changizi (Data curation, Formal analysis, Investigation, Writing—review & editing), Ulla Hedegaard (Conceptualization, Methodology, Supervision, Validation, Writing—review & editing), and Ramune Jacobsen (Conceptualization, Formal analysis, Methodology, Project administration, Supervision, Validation, Writing—original draft)

Conflicts of interest

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Data availability

Data available on request.

References

1. Spector PE. *Job Satisfaction: Application, Assessment, Causes, and Consequences*. Thousand Oaks, California: SAGE Publications, Inc, 1997.
2. Karaferis D, Aletras V, Niakas D. Determining dimensions of job satisfaction in healthcare using factor analysis. *BMC Psychol* 2022;10:240. https://doi.org/10.1186/s40359-022-00941-2
3. Thin SM, Nakpun T, Nitadpakorn S *et al.* What drives pharmacists' turnover intention: a systematic review. *Pharm Pract (Granada)* 2021;19:2559. https://doi.org/10.18549/PharmPract.2021.4.2559
4. van Saane N, Sluiter JK, Verbeek JHAM *et al.* Reliability and validity of instruments measuring job satisfaction–a systematic review. *Occup Med (Lond)* 2003;53:191–200.
5. Traynor M, Wade B. The development of a measure of job satisfaction for use in monitoring the morale of community nurses in four trusts. *J Adv Nurs* 1993;18:127–36.
6. Husted GR, Rossing CV, Jacobsen R *et al.* A mixed methods evaluation of a mentalising education programme for the community pharmacy workforce in Denmark-a promising way forward to deliver patient-centred counselling. *Pharm Educ* 2023;23:237–51.
7. AMGROS. *Klinisk farmaci [Clinical pharmacy]* 2023. 2023.
8. Jørgensen CSL, Pedersen S. *Det Psykosociale arbejdsmiljø for Apoteksansatte Farmaceuter. En spørgeskemaundersøgelse Og Kvalitative Interviews Med Farmaceuter [Psychosocial Work Environment for Pharmacy-Employed Pharmacists. A Questionnaire Survey and Qualitative Interveiws with Pharmacists]*. København K [Copenhagen]: Wilke A/S, 2013.
9. Farmakonomers psykosociale arbejdsmiljø. En spørgeskemaundersøgelse og kvalitative interview med 15 farmakonomer [Psychosocial work environment for pharmacy technicians. A questionnaire survey and qualitative interviews with 15 pharmacy technicians]. København K [Copenhagen]: VIVE – Viden til Velfærd Det Nationale

Forsknings- og Analysecenter for Velfærd [Knowledge about Welfare, The National Research and Analysis center for Welfare]; 2022.
10. Wild D, Grove A, Martin M *et al.* Principles of good practice for the translation and cultural adaptation process for patient-reported outcomes (PRO) measures: report of the ISPOR task force for translation and cultural adaptation. *Value Health* 2005;8:94–104. https://doi.org/10.1111/j.1524-4733.2005.04054.x
11. Boateng GO, Neilands TB, Frongillo EA *et al.* Best practices for developing and validating scales for health, social, and behavioral research: a primer. *Front Public Health* 2018;6:149.
12. Danmarks Apotekerforening [Danish Pharmacy owners association]. Alle apoteker - oversigt over alle danske apoteksenheder [All pharmacies - overview of all Danish pharmacies]. https://www.apoteket.dk/alle-apoteker (11 September 2024, date last accessed).
13. AMGROS. Contact details for hospital pharmacies. https://amgros.dk/en/pharmaceuticals/procurement-and-supply/urgent-contact-recalls/contact-details-for-hospital-pharmacies/ (11 September 2024, date last accessed).
14. Brown TA. *Confirmatory Factor Analysis for Applied Research*. 2nd edn. Guilford Press: e-book, 2015.
15. Hooper DC, Coughlan J, Mullen MR. Structural equation modelling: guidelines for determining model fit. *EJBRM.* 2008;6:7.
16. Statistics Solutions. The Chi-Square Test in Structural Equation Modeling. https://www.statisticssolutions.com/the-chi-square-test-in-structural-equation-modeling/ (11 September 2024, date last accessed).
17. Forskerportalen [The research portal]. Danish research ethics committees. https://forskerportalen.dk/en/health-research-projects/ (15 December 2025, date last accessed).
18. Kline RB. *Principles and Practice of Structural Equation Modeling*. 3rd edn. New York: The Guilford Press, 2011.
19. Danmarks Apotekeforening [Danish pharmacy owners association]. Medarbejdere på apoteket. https://www.apotekerforeningen.dk/apotekerne/medarbejdere-paa-apotek (11 September 2024, date last accessed).
20. Wikipedia. Farmaceut [Pharmacsits]. https://da.wikipedia.org/wiki/Farmaceut (11 September 2024, date last accessed).
21. Goretzko D, Siemund K, Sterner P. Evaluating model fit of measurement models in confirmatory factor analysis. *Educ Psychol Meas* 2024;84:123–44. https://doi.org/10.1177/00131644231163813
22. Chou S-C, Boldy DP, Lee AH. Measuring job satisfaction in residential aged care. *Int J Qual Health Care* 2002;14:49–54.
23. Taber KS. The use of Cronbach's alpha when developing and reporting research instruments in science education. *Res Sci Educ* 2018;48:1273–96.
24. Tavakol M, Dennick R. Making sense of Cronbach's alpha. *Int J Med Educ* 2011;2:53–5. https://doi.org/10.5116/ijme.4dfb.8dfd

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