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Adaptation and Validation of the Moral Distress Scale-Healthcare Professionals in Latvia

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Abstract

Moral distress occurs when an individual recognizes the ethically appropriate action in a given situation but is prevented from acting on it due to external factors. The MMD-HP represents a major update to the previously revised Moral Distress Scale (MDS-R). This tool was designed and refined to measure the extent of moral distress experienced by healthcare professionals when encountering ethical challenges. The adaptation and validation process was conducted in four phases, employing various psychometric measures to ensure the scale's consistency with the original study. Psychometric indicators used include Cronbach's alpha, Pearson correlation, and confirmatory factor analysis, among others. The MMD-HP total score ranged from 4 to 207, with a mean score of 95.3 (SD 53.8) for n=12, 79 19 (SD 46.4) for n=48, and 115.7 (SD 75.1) for n=201. The overall Cronbach's alpha in each phase of our study ranged from 0.907 to 0.965 The Chi-square of the scale was 315.49 and $\chi^2/df = 0.9$. The CFI was 0.934, TLI 0.913, and NFI was 0.891. The RMSEA was 0.059 and SRMR 0.08. We determined that the Latvian version of the MMD-HP is valid and reliable for assessing moral distress among nurses in Latvia.

Keywords: *Moral Distress, Validation, Latvia, Adaptation, Confirmatory Factor Analysis, Nurses.*

Introduction

Moral distress was first defined by Andrew Jameton in 1984. In his nursing ethics textbook, A. Jameton classified three experiences related to ethical problems that a nurse may encounter in a clinical setting: moral uncertainty, moral dilemmas, and moral distress [1]. Moral distress was initially described by Jameton as feelings of frustration, anger, and guilt caused by institutional obstacles to providing care according to personal values and judgments [2].

Moral distress is a condition in which a moral agent has a clear understanding of ethically normative behavior in a specific situation but is unable to act on it due to external reasons [3]. Moral distress differs from a moral dilemma, where the individual faces a choice between optimal strategies of action, and is closely related to the problem of burnout, being one of its subtypes [4]. While professional burnout is primarily linked to the distressing effects of organizational working conditions, such as salary and workload, moral distress involves a specific component of ethical experience in its pathogenesis [5]. These negatively charged ethical experiences are connected to the implementation of ethical values in medicine—both deontological and professional virtues, as well as purely utilitarian criteria of maximizing benefits for all participants in medical interactions, including the patient, their relatives, healthcare workers, volunteers, and other involved parties [4-7].

Jameton A. [8] distinguishes between initial and reactive moral distress. The initial distress arises from encountering external obstacles that block action, while reactive distress occurs due to a lack of real action to overcome these obstacles. In some studies [4, 9-10], the latter is referred to as "moral residue"

Moral distress is a complex and heterogeneous phenomenon with an internal structure and dynamics [8, 11]. According to Epstein [11], its main components include:

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- Participation in wrongful actions with no ability to change the situation.
- Inability to express one's opinion, including neglect by colleagues.
- Wrong actions from the perspective of professional (rather than personal) ethics
- Repeated experience of distressing acts, leading to an accumulation of distress.
- Multi-level distress: arising at the level of relationships with the patient and their family, teamwork, and interaction with colleagues, and at the systemic level.

Today, the level of moral distress in studies is often assessed using the MDS (Moral Distress Scale) developed by Corley [12] in 2001. Since 2001, various modifications of the scale have been made. Researchers [13, 14] worldwide have modified and adapted the Moral Distress Scale according to the specificities of their country's healthcare system.

The MMD-HP (Moral Distress Measurement Scale for Healthcare Professionals) is a significant revision of the older revised Moral Distress Scale (MDS-R) [11]. The instrument was developed and adapted to assess the level of moral distress among healthcare professionals who face ethical dilemmas and situations [15].

The survey is designed exclusively for professionals working in healthcare [16]. The situations described in the survey are general and can be used by specialists from various fields of healthcare [17]. This scale has only one version—it is suitable for all healthcare disciplines, including acute care, long-term acute care hospitals, and clinics [11].

Objectives: This study reports on the translation of the MMD-HP into Latvian and the validation of this instrument among Latvian healthcare professionals - nurses.

Materials and Methods

Questionnaire - Scale Description

The instrument consists of a description, 27 items, and two additional questions. Respondents are asked to indicate how frequently they have experienced each situation. Responses are recorded using a Likert scale ranging from 0 (never) to 4 (very often or very distressing). Additionally, they must rate how distressing these situations are for them. If they have never encountered a particular situation, they should select "0" (never) in the frequency section. Even if they have never experienced the situation, they must indicate how distressing the situation would be if it occurred in their practice. The survey is organized into two main variables: the frequency and the intensity of moral distress [11].

The MMD-HP evaluation procedure is designed to measure the current level of moral distress. The level of moral distress experienced depends on how often a situation occurs and how distressing it is now of experience. Both elements should not be studied separately, as they both contribute to the creation of moral distress. Conceptually, episodes that have never been experienced or are not considered distressing do not contribute to moral distress. To calculate the combined score for each situation, the frequency score and the distress level score for each situation are multiplied; each frequency × distress (fxd) score will range from 0 to 16. It is important to note that this scoring approach excludes combined situations that have never been experienced or are not considered distressing, thereby more accurately reflecting the respondent's actual level of moral distress. To obtain a combined moral distress score, the scores assigned to each situation are summed. The total score, based on 27 items, will range from 0 to 432 [11].

An exploratory factor analysis of the MMD-HP revealed a four-factor structure aimed at capturing the root causes of moral distress experienced by healthcare professionals. Factor 1 includes system-level root causes,

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while Factor 2 involves clinical root causes at the patient level. Factors 3 and 4 pertain to team-level root causes, with a differentiation between them. Factor 3 relates to compromises to integrity within a team that can be perceived as a personal threat by a team member. In contrast, Factor 4 concerns breakdowns in the team's interactions with patients and their families. A confirmatory analysis validated this four-factor structure [11, 17-18].

Translation Phase

After deciding to use the Moral Distress Scale, several letters were sent to the authors mentioned in global research studies on moral distress. On November 20, 2020, a response was received electronically, granting permission to use the 2019 modified and adapted [11] MMD-HP scale.

During the translation phase, it was initially determined that the survey would be translated from English into the official language of Latvia—Latvian. The translation process began with the selection of a unidirectional translation strategy. Three independent translators translated the original scale, after which three other independent experts compared the translations and selected the best version for each item [19]. The survey was translated into Latvian in February 2021. On February 18, the survey was sent to the original author for final review and approval of the translation.

Following the translation phase, a pilot test was conducted with five respondents. The aim was to gather feedback on the clarity of the item formulations, the appropriateness of the translation, whether additional materials were needed, and the time required to complete the questionnaire. The adaptation phases were carried out by the guidelines of the International Test Commission [20] and the principles of survey theory [19].

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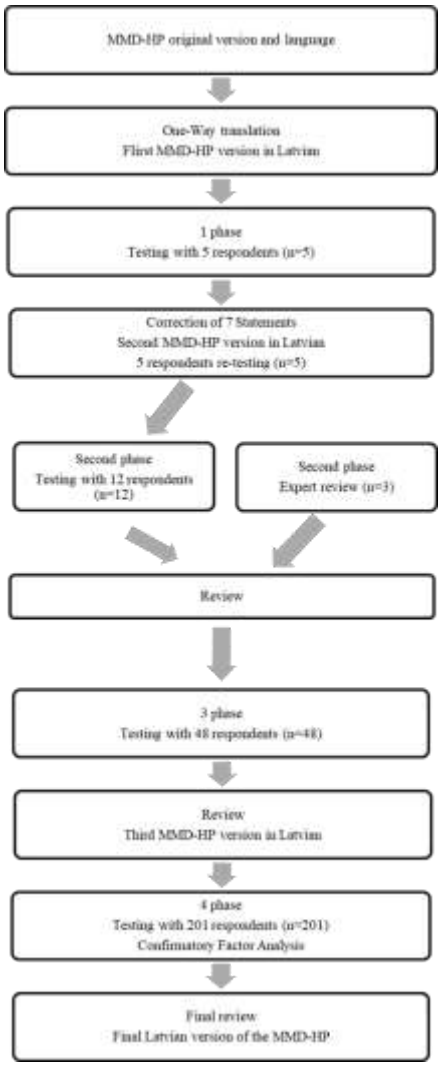
The process of translation, adaptation, and validation of the Moral Distress Scale is illustrated in Figure. 1.



This figure visually represents the comprehensive process of translating, adapting, and validating the scale to ensure it is appropriate for use in Latvian healthcare settings.

Study Settings and Participants for Validation

A snowball sampling technique was used – participants were intentionally sought out and involved in the study according to specific criteria, which in turn led to the involvement of other participants. The snowball sample was combined with a convenience sample – individuals who were available and willing to participate in the study were included [21].

Criteria for including respondents: nurses, regardless of gender, education level, position, work experience, or ethnicity, who were at least 18 years old and practicing in Latvia.

In all phases of the study, respondents were informed about the study's purpose, the method of data processing, and how the results would be handled – specifically, how the collected data would be analyzed in a summarized form.

The validation study was part of the coursework in the master's program. In total, 5 respondents (n=5) participated in Phase 1, 12 respondents (n=12) and 3 experts (n=3) in Phase 2, 48 respondents (n=48) in Phase 3, and 201 respondents (n=201) in Phase 4. The demographic data of the respondents are presented

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in Table 1.

Table 1. Participants Characteristic

	n = 5	n = 12	n = 48	n = 201
Age,years (Men)	47	45	40	42
Female	5 (100%)	12 (100%)	47 (97,9%)	201 (100%)
Male	0	0	1 (2,1 %)	0
Cronbach's alpha	-	.943	.907	.965
MMD-HP score (Mean)	-	95.3 (SD 53.8)	79 (SD 46.4)	115.7 (SD 75.1)
Pearson correlation (r)	r = 0.89	r = 0.90	r = 0.87	r = 0.91
First question	Yes, I left (0 %) Yes, I considered leaving but did not leave (80%) No (20%)	Yes, I left (8,3%) Yes, I considered leaving but did not leave (66,5 %) No (25,2%)	Yes, I left (10,5 %) Yes, I considered leaving but did not leave (60,9 %) No (28,6%)	Yes, I left (13,5%) Yes, I considered leaving but did not leave (63,5%) No (23 %)
Second question	Yes (20%) No (80%)	Yes (25,2%) No (74,8%)	Yes (21 %) No (79 %)	Yes (26,5 %) No (73,5 %)

Data Collection

The MMD-HP scale was used and implemented in all phases via the Google Forms platform. The data collection process took a total of three months.

Statistical Analysis

The data from electronically completed questionnaires were entered online and compiled into a table. Once all the data were compiled, they were transferred to SPSS version 23.

Descriptive statistics were calculated, and item response and discrimination indices were determined. The test p-value was also calculated. The internal consistency of the scales was assessed using Cronbach's alpha, with good values ranging from 0.70 to 0.95 [22-23]. To determine the stability of the results over time, Pearson correlation coefficients were analyzed between measurement results.

Overall, the psychometric properties of the survey were analyzed in four different aspects: at the item level – item response indices and discrimination indices; scale and subscale consistency; and factor structure, analyzing confirmatory factors.

Item Response Theory (IRT) and discrimination index in Classical Test Theory (CTT) are used to assess the quality of test questions, with specific value ranges that help understand how well the questions differentiate between different levels of ability and their difficulty. IRT was measured directly by difficulty level – b (IRT-b) (with normative limits ranging from -3 to 3) [24].

To verify the instrument's alignment with the original [11] version, Confirmatory Factor Analysis (CFA) [25] was conducted on 27 items. For assessing goodness of fit (GFI), the chi-square statistic, chi-square to degrees of freedom ratio (df), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Squared Residual (SRMR) were used.

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Results

Characteristics of the Study Participants

After the translation phase, testing was conducted with 5 respondents. Based on their feedback, corrections and validation were made to 7 statements in the survey. The estimated time required to complete the survey is 8-10 minutes. Two weeks later, respondents were re-tested. The aim was to calculate the repeatability, accuracy, and stability over time of the psychological measures. The correlation of the values obtained was calculated. The Pearson correlation was r = 0.89. A Pearson correlation of r > 0.80 indicates good test-retest reliability [26].

A "Demographic Data Survey" was also used throughout all stages of the adaptation and validation, which was prepared for the study's purposes. It aimed to obtain information on the respondents' gender, age and included two questions. First question: "Have you ever left or thought about leaving clinical work due to moral distress?" and second question: "Are you currently thinking about leaving work due to moral distress?". The results are presented in Table 1.

It can be concluded that nurses participated in all phases of the study, with an average age of 40-47 years. Except for one respondent, all were women. The overall Cronbach's alpha in each phase of the study ranged from .907 to .965, indicating a high level of internal consistency for the scale.

In response to the question, "Have you ever left or considered leaving clinical work due to moral distress?" more than half of the respondents in each phase answered, "Yes, I considered leaving, but I did not leave." Regarding the question, "Are you currently thinking about leaving your job due to moral distress?" more than 70% of all respondents in each phase answered "No."

The MMD-HP total score ranged from 4 to 207, with a mean score of 95.3 (SD 53.8) for n=12, 79 (SD 46.4) for n=48, and 115.7 (SD 75.1) for n=201. The five top-ranked items are shown in Table 2, and the Top 5 were the same across all phases.

Analyzing the situations with the highest levels of moral distress reveals that two of the identified situations are related to personal beliefs and strategies, while three are associated with administrative and organizational strategies.

Table 2. Top 5 Ranked Items In The MMD-HP Scale

Rank	Items	Mean	SD
1.	Be required to care for more patients than I can safely care for	135.1	75.2
2.	Continue to provide aggressive treatment for a person who is most likely to die regardless of this treatment when no one will make a decision to withdraw it	124.8	74.1
3.	Follow the family's insistence to continue aggressive treatment even though I believe it is not in the best interest of the patient	123.7	74.2
4.	Experience compromised patient care due to a lack of resources/equipment/bed capacity	101.8	61.7
5.	Have excessive documentation requirements that compromise patient care	97.6	54.8

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Psychometric Properties

The second phase of adaptation involved data collected from 12 respondents. The Cronbach's alpha for the given group was .943.

Additionally, three experts were consulted in the second phase of adaptation. The goal was to determine the Content Validity Index (CVI) [27]. Each expert was sent a translated version of the instrument – MMD-HP Version 1. The aim was to review the statements to ensure that the research questions were fully represented and aligned with the formulated goals and tasks of the study, as well as to assess the technical execution of the survey by identifying any unclear, leading, or repetitive statements. Each expert was required to evaluate the relevance of each item to the concept of nursing practice evaluation, where 0 indicated "not relevant" and 1 indicated "relevant."

According to Lynn's 1986 book [28], it is established that if the number of experts is between 3 and 5, the CVI should not be less than 0.83. If the CVI is below 0.83, it indicates that the given items or statements are incorrect and need to be reviewed or revised. The overall CVI for all items was 0.893, and the overall CVI across all experts was 0.892. This means that, in general, there is no need to revise the items. An internal consistency test was conducted, resulting in a reliability coefficient of r = 0.90.

The third phase of adaptation involved data collected from 48 respondents. The goal was to evaluate the psychometric properties of the survey, specifically its reliability and validity.

A validity test was conducted to determine whether the instrument measures the phenomenon it is intended to measure [29]. Face validity was used, which refers to the extent to which the content of the instrument reflects the construct it is designed to measure [30]. It was found that the survey has high validity and reliability. An internal consistency test was conducted to determine whether each item or scale in the instrument measures the same construct. Internal consistency was calculated by splitting the items into two halves, calculating the total score for each half, and then computing their correlation (split-half correlation) [26]. The result was r = 0.87. Cronbach's alpha for each group ranged from .829 to .963, with an overall Cronbach's alpha of .907.

The fourth phase of adaptation involved data collected from 201 respondents. Although 254 participants took part in the pilot study, only 201 surveys were valid and fully completed. The Cronbach's alpha for this group was .965.

An analysis of item response and discrimination indices was conducted for the group of 48 respondents and the group of 201 respondents. The results are presented in Table 3.

Table 3. IRT-b (b-difficulty) and discrimination CTT respondent group data n=48 and n=201

Item	IRT-b n=48		IRT-b n=201		CTT n=48		CTT n=201	
	Intensity	Frequency	Intensity	Frequency	Intensity	Frequency	Intensity	Frequency
1.	1.35	.94	1.69	2.35	-.219	-.119	.389	.567
2.	1.31	1.33	1.58	1.79	.231	.281	.279	.693
3.	2.04	2.33	1.76	1.80	.790	.682	.496	.728
4.	1.23	1.58	1.71	2.59	.689	.871	.516	.393
5.	2.02	2.04	2.01	2.56	.718	.685	.620	.445
6.	1.81	2.19	2.17	1.92	.429	.528	.576	.528
7.	2.15	1.90	1.70	2.07	.399	.588	.673	.492
8.	1.94	2.31	1.89	2.40	.491	.690	.691	.626
9.	2.15	1.94	2.14	2.35	.840	.780	.628	.678
10.	1.65	1.19	2.01	2.04	.041	.093	.451	.496
11.	1.54	1.38	1.95	2.06	-.053	-.060	.651	.501

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12.	1.06	1.31	2.07	1.75	.897	.924	.575	.414
13.	1.88	1.85	2.11	1.80	.567	.577	.614	.437
14.	2.48	2.69	2.06	1.49	.393	.507	.651	.671
15.	1.40	1.44	1.99	1.42	.814	.786	.676	.687
16.	3.48	3.40	2.39	2.13	.017	-.092	.694	.617
17.	1.88	1.85	2.28	2.06	.128	.153	.707	.580
18.	2.73	2.56	2.24	1.87	.763	.735	.671	.536
19.	2.04	2.04	2.02	1.88	.049	.010	.378	.442
20.	1.77	1.81	1.73	1.69	-.491	-.400	.561	.643
21.	1.10	1.06	1.70	1.64	.495	.483	.564	.601
22.	2.42	2.33	1.73	1.49	.634	.567	.530	.516
23.	1.54	1.79	1.70	1.58	-.115	–.314	.771	.603
24.	1.25	1.21	1.70	1.21	.345	.315	.797	.516
25.	1.15	1.23	2.04	1.24	-.017	.016	.574	.537
26.	.60	.60	1.91	1.67	.193	.193	.616	.582
27.	1.58	1.58	2.26	1.77	.562	.562	.555	.545

In the IRT-b analysis, the values for the group with 48 respondents ranged from .60 to 3.48, while for the group with 201 respondents, the values ranged from 1.42 to 2.39. IRT- b values typically range from -3 to +3 [24].

Negative values (below 0) indicate that a question is easier, with more people likely to answer it correctly. In this case, there were no negative values. Positive values (above 0) indicate that a question is more difficult, with fewer people likely to answer it correctly. In this study, all IRT-b values were positive, meaning the items were more challenging. Higher values suggest a greater likelihood that the answer may be guessed [31].

In the group with 48 respondents, the highest values were found in items 14, 16, 18, and 22. In the group with 201 respondents, the highest values were in item 16. These higher values were observed when respondents indicated how frequently they encountered the given situation.

In the CTT (The discrimination index in classical test theory) analysis, the values in the group of 48 respondents ranged from -.491 to .924, and in the group of 201 respondents, from .279 to .797. A negative CTT value [32] (below 0) indicates that a question functions contrary to its intended purpose, which could signal a problematic item that may need to be removed or revised. The compiled CTT analysis data are presented in Table 4.

Table 4. CTT Data Ranges for Groups n=48 and n=201

	Negative (< 0)	**Low (0-0.19)**	**Moderate (0.2-0.39)**	**High (above 0.4)**
n=48 (items)	1; 11; 20; 23; 25	10; 16; 17; 19; 26	2; 7; 14; 24	3; 4; 5; 6; 8; 9; 12; 13; 15; 18; 21; 22; 27
n=201 (items)	-	-	1; 2; 19	3-18; 20-27

In the group of 48 respondents, negative CTT values were found for items 1, 11, 20, 23, and 25. After analyzing the data from this group, these items were reviewed, and in the group of 201 respondents, no negative CTT values were detected. Based on the results from Tables 3 and 4, it can be concluded that after the survey was revised, the items more effectively and accurately distinguished between higher and lower ability levels among the test subjects.

These ranges and their interpretations support the assertion that the test is both reliable and valid, ensuring that the questions accurately measure what the test is intended to assess.

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Confirmatory Factor Analysis

Confirmatory Factor Analysis (CFA) - A multivariate equation model with one or more unobserved common factors describing or explaining the relationships among empirical measures [33]. The specific goal of the fourth phase was to test the factor structure. The factor loadings for each domain are shown in Figure 2.

Domain	Item	Factor loading	p	a	Domain	Item	Factor loading	p	a
Clinical causes (Factor 2)	1	.783	< 0.01	.938	Team/patient (Factor 3)	9	.647	< 0.01	.975
	2	.819	< 0.01			13	.653	< 0.01	
	3	.914	< 0.01			14	.804	< 0.01	
	5	.891	< 0.01			15	.759	< 0.01	
	8	.892	< 0.01			24	.699	< 0.01	
	10	.738	< 0.01			26	.888	< 0.01	
Domain	**Item**	**Factor loading**	**p**	**a**	**Domain**	**Item**	**Factor loading**	**p**	**a**
System-level (Factor 1)	4	.715	< 0.01	.968	Team/staff (Factor 4)	6	.749	< 0.01	.979
	7	.727	< 0.01			11	.689	< 0.01	
	16	.919	< 0.01			12	.787	< 0.01	
	17	.802	< 0.01			20	.729	< 0.01	
	18	.701	< 0.01			21	.786	< 0.01	
	19	.789	< 0.01			25	.793	< 0.01	
	22	.751	< 0.01			27	.786	< 0.01	
	23	.773	< 0.01						

The Factor Loadings analysis revealed strong loadings, ranging from .701 to .919. All domains exhibit high values, indicating a strong relationship between the items and their corresponding latent factors. This suggests that each item effectively represents the respective construct. Cronbach's alpha values are all high (above .938), indicating very high internal consistency and reliability for each factor. This means that the items within each factor are highly consistent and reliably measure a common construct. These results indicate that the model is hugely stable and reliable, with a well-established factor structure and items that effectively represent their respective latent factors. All the loadings are statistically significant ($p < 0.01$), indicating that each item contributes meaningfully to the factor.

The Chi-square of the scale was 315.49 and $\chi^2/df = 0.9$. The CFI was 0.934, TLI 0.913, and NFI was 0.891. The RMSEA was 0.059 and SRMR 0.08.

The CFA model shows a good fit to the data, with strong and significant factor loadings and generally good

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fit indices. The model is likely to be reliable for explaining the relationships among the observed variables and the latent constructs.

Discussion

Overall, the given adaptation and validation of the MMD-HP scale are consistent with known data and can be used to measure moral distress within the Latvian healthcare system. The adaptation and validation process occurred in four phases and involved several psychometric indicators and aspects to thoroughly assess the scale's alignment with the original study [11] and its suitability for use in Latvian hospitals.

In the original study [11], Cronbach's alpha was 0.93, and in similar MMD-HP validation studies [18, 34, 41-42], Cronbach's alpha ranged from 0.91 to 0.97. The overall Cronbach's alpha in each phase of our study ranged from 0.907 to 0.965, indicating a high level of internal consistency for the scale. After each new validation phase, the wording of statements was modified, and Cronbach's alpha gradually increased.

The MMD-HP total score ranged from 4 to 207, with a mean score of 95.3 (SD 53.8) for n=12, 79 (SD 46.4) for n=48, and 115.7 (SD 75.1) for n=201. In the study conducted by Epshtein et al. [11], the mean MMD-HP score for the 80% of participants who were not considering leaving was 94.3 (SD 61.2). Our study showed higher scores than the study conducted in Spain [35] in 2022, but lower results than the study conducted in Japan [18] in 2021. Overall, it can be concluded that in our study and several others [11, 33-35], healthcare professionals have a high level of moral distress.

In the second adaptation phase, one of the components measured was the Content Validity Index (CVI). The CVI for all items was 0.893, and the overall CVI across all experts was 0.892. Comparing this with other global studies [36], it can be concluded that, given our result was more than 0.83 [28], no items needed to be changed in the second adaptation phase.

In the third phase, Face Validity was measured. Upon analyzing studies, it was found that only the 2022 study conducted in Iran [37] measured Face Validity, and the results also showed high validity and reliability.

During the MMD-HP validation, Confirmatory Factor Analysis (CFA) was primarily conducted, but in our study, an analysis of Item Response Theory (IRT) (b-difficulty) and discrimination indices (CTT) was conducted for a group of 48 respondents. Upon analyzing the data, it was found that some items (1; 11; 20; 23; 25) needed to be reviewed and reformulated. To confirm that the items were successfully revised, an analysis of IRT (b- difficulty) and discrimination indices (CTT) was conducted for a group of 201 respondents. The data were compared, and it was found that all items met high IRT-b and CTT thresholds. Confirmatory Factor Analysis (CFA) is a powerful tool for validating theoretical models and helps ensure that the data align with the researcher's preconceived notions about how different variables are interrelated. It is a crucial step in ensuring the reliability and validity of measurements [25, 38]. Through CFA, it was concluded that our version of the MMD-HP scale in Latvian has a good psychometric structure. The SRMR of 0.08 is at the acceptable boundary, indicating a reasonable fit. SRMR values less than 0.08 are generally considered good, so this is just at the threshold. Chi-square ($\chi^2 = 315.49$) and $\chi^2/df = 0.9$. A low χ^2 relative to degrees of freedom indicates a good fit. The χ^2/df ratio of 0.9 is excellent, suggesting that the model fits the data very well.

The RMSEA (Root Mean Square Error of Approximation) assesses how well a model with unknown but optimally chosen parameter estimates would fit the population covariance matrix. Values less than 0.05 indicate a close fit, while values between 0.05 and 0.08 indicate a reasonable fit [39]. In this case, RMSEA 0.059 falls within the "reasonable fit" range, close to the "close fit" range, indicating that the model fits well.

The CFI compares the target model's fit to an independent, or null, model. Values above 0.90 are generally considered acceptable, while values above 0.95 are considered excellent [39]. In this case, CFI 0.934 indicates a good fit, as it is above the 0.90 threshold, though slightly below the 0.95 threshold, indicating a very good fit.

The TLI is similar to the CFI but includes a penalty for model complexity. Values above 0.90 are generally

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considered acceptable [39]. In our study, TLI 0.913 indicates that the model fits well and meets the commonly accepted threshold.

The NFI compares the model's Chi-square value to that of a baseline model. Values above 0.90 are desirable, although in some studies, values above 0.80 are considered sufficient [39]. NFI 0.891 is slightly below the desired 0.90 threshold, indicating that the fit is adequate but could be improved.

Comparing the CFA analysis data with other global studies [11, 34-37, 40-42], we can conclude that overall, the data (Chi-square; RMSEA; SRMR; TLI; CFI; NFI) are similar, and each validation process has its strengths and weaknesses.

The model fits the data well. The factor loadings are mostly strong, indicating that the observed variables (items) are good indicators of the underlying latent factors. The goodness-of-fit indices reinforce this, with most indicators meeting or exceeding acceptable thresholds. The RMSEA, CFI, and TLI are particularly strong, suggesting a robust model. The NFI is just below the ideal threshold, and the SRMR is right at the acceptable limit. If necessary, minor adjustments to the model, such as considering additional paths or adjusting the factor structure, might improve these values slightly, but the overall model fit is already strong.

Conclusions

We translated the MMD-HP which was originally developed in English into Latvian. We determined that the Latvian version of the MMD-HP is valid and reliable for assessing moral distress among nurses in Latvia. This version aligns well with the original English version, allowing comparisons with other studies. While effective in measuring moral distress, it could be shortened to offer a quicker and more focused assessment in the workplace.

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