

Received: 14 May 2024 / Accepted: 18 June 2024 / Published online: 30 June 2024

DOI 10.34689/SH.2024.26.3.012

UDC 614.253.52+616.896

VALIDATION OF HEALTHCARE WORKERS' MOTIVATION SCALE IN KAZAKHSTAN

Aidos Bolatov^{1,2}, <https://orcid.org/0000-0002-5390-4623>

Akhat D. Amanzholov³, <https://orcid.org/0000-0002-5393-4187>

Ayazhan E. Mukazhanova³, <https://orcid.org/0009-0004-0617>

Dariga S. Smailova⁴, <https://orcid.org/0000-0002-7152-7104>

Meiramgul D. Zhorokpayeva³, <https://orcid.org/0000-0001-9101-654X>

¹ Shenzhen University Medical School, Shenzhen University, Shenzhen, China;

² Astana Medical University, Astana, Republic of Kazakhstan;

³ Semey Medical University, Semey, Republic of Kazakhstan;

⁴ Asfendiyarov Kazakh National Medical University, Almaty, Republic of Kazakhstan.

Abstract

Background: Understanding healthcare worker motivation is crucial for improving the quality of care and achieving positive healthcare outcomes.

Aim: This study aims to validate a healthcare workers' motivation scale in Kazakhstan, adapted from the original scale developed by J. Lohmann et al. (2017), grounded in the framework of Self-Determination Theory.

Materials and methods: A sample of 1,654 healthcare workers across various medical sectors in Kazakhstan participated in this study. The scale included subscales for intrinsic motivation, integrated regulation, identified regulation, introjected regulation, and external regulation (both social and economic). Data were collected through a structured online questionnaire, and the scale's reliability and validity were assessed using Cronbach's alpha and confirmatory factor analysis.

Results: The healthcare workers' motivation scale demonstrated excellent internal consistency (Cronbach's alpha = 0.978) and good construct validity (CFI = 0.944, TLI = 0.935, RMSEA = 0.076), with significant correlations between higher motivation levels and lower burnout rates, as well as increased job satisfaction. The validated scale provides a robust tool for assessing motivation, which can help tailor motivational strategies and interventions to enhance workforce performance and well-being in Kazakhstan's healthcare system.

Conclusion: The study successfully validated a motivation scale that can be instrumental in understanding and enhancing healthcare worker motivation in Kazakhstan, thereby contributing to better healthcare delivery and worker satisfaction.

Keywords: healthcare workers, motivation scale, validation, physician, nurse, Kazakhstan.

Резюме

ВАЛИДАЦИЯ ШКАЛЫ МОТИВАЦИИ МЕДИЦИНСКИХ РАБОТНИКОВ В КАЗАХСТАНЕ

Айдос Болатов^{1,2}, <https://orcid.org/0000-0002-5390-4623>

Ахат Д. Аманжолов³, <https://orcid.org/0000-0002-5393-4187>

Аяжан Е. Мұқажанова³, <https://orcid.org/0009-0004-0617>

Дарига С. Смаилова⁴, <https://orcid.org/0000-0002-7152-7104>

Мейрамгул Д. Жорокпаева³, <https://orcid.org/0000-0001-9101-654X>

¹ Медицинская школа Шэньчжэньского университета, Шэньчжэньский университет, г. Шэньчжэнь, Китай;

² НАО «Медицинский университет Астана», г. Астана, Республика Казахстан;

³ НАО «Медицинский университет Семей», г. Семей, Республика Казахстан;

⁴ НАО «Казакский Национальный Медицинский Университет имени С.Д. Асфендиярова», г. Алматы, Республика Казахстан.

Актуальность: Понимание мотивации медицинских работников имеет решающее значение для повышения качества медицинской помощи и достижения положительных результатов в области здравоохранения.

Цель исследования: подтвердить валидность шкалы мотивации работников здравоохранения в Казахстане, адаптированной на основе шкалы, разработанной J. Lohmann et al. (2017), в рамках теории самоопределения.

Материалы и методы: В данном исследовании приняли участие 1654 медицинских работника из различных секторов медицины Казахстана. Шкала включала в себя подшкалы для оценки внутренней мотивации, интегрированного регулирования, выявленного регулирования, интроецированного регулирования и внешнего

регулирования (как социального, так и экономического). Данные были собраны с помощью структурированного онлайн-опросника, а надежность и валидность шкалы оценивались с помощью альфа-Кронбаха и подтверждающего факторного анализа.

Результаты: Шкала мотивации медицинских работников продемонстрировала высокую внутреннюю согласованность (альфа Кронбаха = 0,978) и хорошую конструктивную валидность (CFI = 0,944, TLI = 0,935, RMSEA = 0,076), при этом были выявлены значимые корреляции между уровнем мотивации и эмоциональным выгоранием, а также удовлетворенностью работ. Утвержденная шкала представляет собой надежный инструмент для оценки мотивации, который может помочь адаптировать мотивационные стратегии и мероприятия для повышения эффективности и благополучия персонала в системе здравоохранения Казахстана.

Заключение: В ходе исследования была успешно валидизирована шкала мотивации, которая может помочь понять и повысить мотивацию медицинских работников в Казахстане, тем самым способствуя улучшению оказания медицинской помощи и удовлетворенности работников.

Ключевые слова: медицинские работники, шкала мотивации, валидация, врач, медсестра, Казахстан.

Түйіндеме

ҚАЗАҚСТАНДАҒЫ МЕДИЦИНА ҚЫЗМЕТКЕРЛЕРІНІҢ МОТИВАЦИЯСЫН АНЫҚТАУ ШКАЛАСЫН ВАЛИДАЦИЯЛАУ

Айдос Болатов^{1,2}, <https://orcid.org/0000-0002-5390-4623>

Ахат Д. Аманжолов³, <https://orcid.org/0000-0002-5393-4187>

Аяжан Е. Мұқажанова³, <https://orcid.org/0009-0004-0617>

Дарига С. Смаилова⁴, <https://orcid.org/0000-0002-7152-7104>

Мейрамгул Д. Жорокпаева³, <https://orcid.org/0000-0001-9101-654X>

¹ Шэньчжэнь университетінің медицина мектебі, Шэньчжэнь университеті, Шэньчжэнь қ., Қытай;

² «Астана медицина университеті» КеАҚ, Астана қ., Қазақстан Республикасы;

³ «Семей медицина университеті» КеАҚ, Семей қ., Қазақстан Республикасы;

⁴ «С.Д. Асфендияров атындағы Қазақ ұлттық медицина университеті» КеАҚ, Алматы қ., Қазақстан Республикасы.

Өзектілігі: Медициналық қызмет көрсетушілерінің мотивациясын түсіну медициналық көмектің сапасын жақсарту және денсаулық сақтау оң нәтижелеріне қол жеткізу үшін өте маңызды.

Мақсаты: өзін-өзі анықтау теориясы аясында J. Lohmann et al. (2017) әзірлеген шкаланың Қазақстандық медицина қызметкерлеріне бейімделген нұсқасының валидтілігін растау

Материалдар және әдістері: Бұл зерттеуге Қазақстан медицинасының түрлі секторларынан 1654 медицина қызметкері қатысты. Шкала ішкі мотивацияны, интеграцияланған реттеуді, анықталған реттеуді, енгізілген реттеуді және сыртқы реттеуді (әлеуметтік және экономикалық) бағалауға арналған ішкі шкалаларды қамтыды. Деректер құрылымдық онлайн сауалнама арқылы жиналды және шкаланың сенімділігі мен жарамдылығы альфа-Кронбах және растаушы факторлық талдау арқылы бағаланды.

Нәтижелер: Денсаулық сақтау саласындағы кәсіби мотивация шкаласы жоғары ішкі сәйкестігін (Кронбах альфасы = 0,978) және жақсы құрылымның жарамдылығын (CFI = 0,944, TLI = 0,935, RMSEA = 0,076) көрсетті. Мотивация деңгейі мен эмоционалды күйіп қалу, сондай-ақ жұмысқа қанағаттану арасындағы маңызды корреляциялар анықталды. Валидацияланған шкала мотивацияны бағалаудың сенімді құралы болып табылады, ол Қазақстанның денсаулық сақтау жүйесінде қызметкерлердің жұмысын мен әл-ауқатын жақсарту үшін мотивациялық стратегиялар мен араласуларды бейімдеуге көмектеседі.

Қорытынды: Қазақстандағы медицина қызметкерлерінің мотивациясын түсінуге және жақсартуға көмектесетін мотивация шкаласын сәтті растады, осылайша медициналық қызмет көрсетуді жақсартуға және қызметкерлердің қанағаттануын арттыруға ықпал етеді.

Түйінді сөздер: медицина қызметкерлері, мотивация шкаласы, валидация, дәрігер, медбике, Қазақстан.

For citation / Для цитирования / Дәйексөз үшін:

Boлатов А., Аманжолов А.Д., Мұқажанова А.Е., Смаилова Д.С., Жорокпаева М.Д. Validation of healthcare workers' motivation scale in Kazakhstan // *Nauka i Zdravookhranenie [Science & Healthcare]*. 2024. Vol.26 (3), pp. 108-115. doi 10.34689/SH.2024.26.3.012

Болатов А., Аманжолов А.Д., Мұқажанова А.Е., Смаилова Д.С., Жорокпаева М.Д. Валидация шкалы мотивации медицинских работников в Казахстане // *Наука и Здравоохранение*. 2024. Т.26 (3). С. 108-115. doi 10.34689/SH.2024.26.3.012

Болатов А., Аманжолов А.Д., Мұқажанова А.Е., Смаилова Д.С., Жорокпаева М.Д. Қазақстандағы медицина қызметкерлерінің мотивациясын анықтау шкаласын валидациялау // *Ғылым және Денсаулық сақтау*. 2024. Т.26 (3). Б. 108-115. doi 10.34689/SH.2024.26.3.012

Introduction

The healthcare sector globally faces significant challenges, ranging from managing outbreaks of infectious diseases to providing chronic disease care and maintaining the well-being of healthcare workers. In this context, understanding the motivation levels of healthcare workers is crucial, as their motivation directly impacts the quality of patient care, job satisfaction, and overall healthcare outcomes. This is particularly pertinent in Kazakhstan, where the healthcare system is navigating transitions in healthcare policies and practices aimed at improving healthcare delivery.

Healthcare workers who are motivated are more likely to provide higher quality care to patients. Research indicates that motivation in healthcare professionals is linked to improved treatment outcomes, greater patient satisfaction, and reduced errors in patient care [1]. High levels of motivation among healthcare workers are associated with lower turnover rates, which is critical in healthcare settings where the cost of turnover can be high, both in economic terms and in terms of patient care continuity [14]. As Kazakhstan undergoes healthcare reforms, motivated healthcare workers are more likely to adapt to new policies and practices effectively. They play a key role in the successful implementation of these reforms, which aim to enhance the efficiency and effectiveness of healthcare services [6]. Understanding the factors that motivate healthcare workers can help in designing better programs for professional development, ensuring that these programs align with their intrinsic and extrinsic motivational drivers [5]. High motivation can mitigate the risk of burnout among healthcare workers, a significant issue in the healthcare industry globally. Burnout not only affects the mental health of the healthcare workers but also impacts their ability to provide care, thus affecting overall healthcare delivery [11].

Self-Determination Theory (SDT) provides a robust framework for understanding motivation, particularly in healthcare settings. Developed by Deci and Ryan, SDT distinguishes between different types of motivation based on the degree to which they are self-determined or autonomous [4]. The theory posits that motivation quality impacts behavioral outcomes, job satisfaction, and psychological well-being, making it highly relevant for developing a healthcare workers' motivation scale. SDT can guide the measurement of motivation by distinguishing between intrinsic and extrinsic motivational forces. SDT has been effectively applied in creating motivation scales that assess not only the intensity of motivation but also its quality. This approach helps in identifying the underlying motivations that drive healthcare workers. Studies show that healthcare workers driven by intrinsic and well-integrated extrinsic motivators report less emotional exhaustion and higher job satisfaction [13]. Furthermore, SDT-based interventions that support worker autonomy, competence, and relatedness are proven to enhance motivation and reduce burnout [5]. The Self-Determination Theory provides a valuable theoretical basis for understanding and measuring motivation in healthcare settings. A motivation scale developed on SDT principles can offer insights into both the quantity

and quality of motivation, aiding in the design of more effective workforce policies and practices.

Given the importance of motivated healthcare personnel, this study aims to validate a healthcare workers' motivation scale in Kazakhstan, adapted from the scale based on SDT and developed by *J. Lohmann et al.* (2017) [9]. This scale will help measure various dimensions of motivation, providing insights that could be used to enhance motivational strategies within healthcare settings in Kazakhstan. By understanding the specific motivational factors influencing healthcare workers in the region, stakeholders can better address the challenges and capitalize on the opportunities within the healthcare sector.

Aim: this study aims to validate a healthcare workers' motivation scale in Kazakhstan, adapted from the original scale developed by *J. Lohmann et al.* (2017), grounded in the framework of Self-Determination Theory.

Materials and methods

Study Design and Participants

This study involved the validation of a healthcare workers' motivation scale in Kazakhstan, utilizing a sample of 1,654 healthcare workers from various medical sectors across the country. Participants ranged in age from 18 to 72 years, with a mean age of 39.5 years.

Instrument

The motivation scale used in this study was adapted from the scale developed by *J. Lohmann et al.* (2017), which was originally designed to measure different dimensions of healthcare workers' motivation. The scale included several subscales such as Intrinsic Motivation (IM), Integrated Regulation (INTEG), Identified Regulation (IDEN), Introjected Regulation (INTRO), and External Regulation (both social and economic aspects). Each item on the scale was measured on an 11-point scale from 0 to 10, where 0 indicated low motivation and 10 indicated high motivation [9].

Data Collection

Data were collected via a structured online questionnaire, which included the healthcare workers' motivation scale along with demographic questions to profile the participants' gender, job position, employment setting, managerial position, family status, and whether they had children.

Statistical Analysis

The validity and reliability of the scale were assessed using Cronbach's alpha to determine internal consistency. Confirmatory factor analysis was employed to explore the factor structure of the scale and confirm its construct validity. Concurrent validity was assessed by examining correlations between the motivation subscales and external variables such as job satisfaction and burnout, measured by the Copenhagen Burnout Inventory.

The results of this validation study offer insights into the motivational drives among healthcare workers in Kazakhstan and provide a robust tool for further research and practical application in motivational assessments and interventions within healthcare settings.

Ethical consideration

The study was approved by the Local Ethics Committees of "University Medical Center" Corporate Fund (extract from protocol No. 11 of December 30, 2021). All

methods were performed in accordance with the relevant guidelines and regulations. All participants provided informed consent online before the survey.

Results

The study population consisted of 1,654 healthcare workers from various sectors in Kazakhstan. The mean

age of participants was 39.5 years, with an age range of 18 to 72 years. The majority of participants were female (83.1%), and the distribution across job positions showed a predominance of nurses (71.8%) over physicians (28.2%). Study population characteristics presented in Table 1.

Table 1.

Study population and the level of healthcare workers' motivation level (N=1,654).

Variable	n (%)	Healthcare workers' Motivation level	
		M±SD	T/F-test, p
Gender			
Male	279 (16.9%)	40.8±13.8	4.43, p<0.001
Female	1375 (83.1%)	44.8±13.8	
Job position			
Nurse	1188 (71.8%)	44.8±13.9	3.15, p=0.002
Physician	466 (28.2%)	42.4±13.6	
Employment			
Ambulance	278 (16.8%)	40.0±14.2	13.4, p<0.001 post-hoc ¹
Out-patient	880 (53.2%)	44.3±13.9	
In-patient	466 (28.2%)	46.5±12.8	
National centers	30 (1.8%)	41.1±16.5	
Manager position			
No	1565 (94.6%)	44.3±13.7	1.92, p=0.056
Yes	89 (5.4%)	41.4±16.0	
Family status			
Single	410 (24.8%)	41.1±14.3	10.5, p<0.001 post-hoc ²
Married	960 (58.0%)	44.7±13.6	
Divorced	206 (12.5%)	46.9±13.2	
Widowed	78 (4.7%)	46.2±14.5	
Children			
No	465 (28.1%)	40.2±14.5	7.25, p<0.001
Yes	1189 (71.9%)	45.7±13.3	

Post-hoc¹: Ambulance VS Out-patient (p<0.001), Ambulance VS In-patient (p<0.001), Out-patient VS In-patient (p=0.020); Post-hoc²: Single VS Married (p<0.001), Single VS Divorced (p<0.001), Single VS Widowed (p=0.022).

Scale validity and reliability

The validation of the Healthcare Workers' Motivation Scale in Kazakhstan involved analyzing various subscales and their respective items to determine internal consistency and item correlations. The study sample comprised healthcare workers, each responding to items across several motivation subscales (Table 2).

Responses to the IM subscale items demonstrated high internal consistency, with Cronbach's alpha values slightly increasing if any single item was removed, except for IM5, where alpha would increase more significantly to 0.978. The item-rest correlations ranged from 0.645 (IM5) to 0.825 (IM4), indicating strong relationships between individual items and the overall subscale.

Integrated Regulation (INTEG) subscale showed very strong internal consistency, with item-rest correlations ranging from 0.765 (INTEG4) to 0.841 (INTEG3). The scale's integrity remains robust with the removal of any single item, maintaining a Cronbach's alpha of approximately 0.976.

All items in Identified regulation (IDEN) subscale correlated highly with the rest of the scale, particularly IDEN4, which had the highest item-rest correlation of 0.881. The subscale would

maintain strong internal consistency with alpha values around 0.976 even if any single item were dropped.

The items in the INTRO subscale exhibited high correlations with the rest of the scale, with item-rest correlations ranging from 0.696 (INTRO4) to 0.871 (INTRO1). Removing any single item would not significantly disrupt the subscale's internal consistency, with alpha values consistently near 0.976.

Both External Regulation subscales displayed good internal consistency and moderate to high item-rest correlations. The EXT-S items had correlations ranging from 0.729 (EXT-S3) to 0.831 (EXT-S2), and EXT-E items ranged from 0.581 (EXT-E3) to 0.713 (EXT-E1).

The healthcare workers' motivation scale showed excellent internal consistency across various dimensions of motivation. The scale's reliability is confirmed by high Cronbach's alpha values, which suggests that the items within each subscale cohesively measure different aspects of motivation. The results validate the effectiveness of this scale in assessing the motivational drives among healthcare workers in Kazakhstan, providing a robust tool for further research and practical application in motivational assessments and interventions in healthcare settings.

Table 2.

Healthcare workers' motivation scale and items' characteristics.

Subscale	Item	M	SD	Item-rest correlation	Cronbach's α if item dropped	
Intrinsic motivation (IM)	IM1	Because I enjoy doing what I do at work every day	7.44	2.65	0.747	0.977
	IM2	Because I enjoy my work tasks	7.77	2.60	0.807	0.977
	IM3	Because the work that I do is very interesting	7.59	2.67	0.806	0.977
	IM4	Because I very much like doing this job	7.57	2.71	0.825	0.976
	IM5	Because I like the challenges I face in my work	5.98	3.24	0.645	0.978
	IM6	Because I enjoy interacting with many people every day	7.26	2.88	0.788	0.977
Integrated regulation (INTEG)	INTEG1	Because being a health worker is a fundamental part of who I am	7.46	2.82	0.830	0.976
	INTEG2	Because I wouldn't be me if I wasn't there to care for my patients	7.43	2.80	0.840	0.976
	INTEG3	Because my work is more than a job, it's a mission	7.53	2.77	0.841	0.976
	INTEG4	Because I can't see myself as anything else than a health worker	7.43	2.97	0.765	0.977
Identified regulation (IDEN)	IDEN1	Because my work is extremely important for my patients	7.79	2.66	0.832	0.976
	IDEN2	Because I want to make a difference in people's lives	7.36	2.91	0.815	0.976
	IDEN3	Because my job allows me achieve my goals in life	7.21	2.93	0.843	0.976
	IDEN4	Because this job fits my personal values very well	7.51	2.78	0.881	0.976
Introjected regulation (INTRO)	INTRO1	In order to feel good about myself	7.30	2.86	0.871	0.976
	INTRO2	Because my reputation depends on my work	7.26	2.99	0.800	0.977
	INTRO3	Because my work makes me feel proud of myself	7.72	2.74	0.836	0.976
	INTRO4	Because I would feel ashamed otherwise	6.65	3.36	0.696	0.977
	INTRO5	Because it is my duty to care for my patients	7.58	2.86	0.835	0.976
External regulation-social (EXT-S)	EXT-S1	Because of the appreciation I receive from my patients and the community	7.35	2.93	0.814	0.977
	EXT-S2	So I don't let my team down	7.71	2.77	0.831	0.976
	EXT-S3	Because my supervisor recognizes and appreciates me	6.88	3.17	0.729	0.977
	EXT-S4	Because of the benefits that come with my job	6.90	3.08	0.799	0.977
External regulation-economic (EXT-E)	EXT-E1	In order to be able to provide for my family	7.72	2.81	0.713	0.977
	EXT-E2	Because of the financial security my job provides me with	6.95	3.12	0.681	0.977
	EXT-E3	In order to earn money	7.59	2.92	0.581	0.978

The validation of the healthcare workers' motivation scale in Kazakhstan involved assessing the fit of different factorial models to determine the most appropriate structure for

capturing motivational constructs among healthcare workers. The models evaluated ranged from a simple one-factor model to more complex multi-factor configurations (Table 3).

Table 3.

Alternative models fit (Confirmatory Factor Analysis).

Model	χ^2/df	p	CFI	TLI	RMSEA	RMSEA 90% CI
1-factor Model A	28.71	<0.001	0.825	0.810	0.129	0.127-0.132
5-factor Model B	14.12	<0.001	0.920	0.910	0.089	0.087-0.091
5 factor final Model C	19.07	<0.001	0.939	0.920	0.105	0.100-0.109
6-factor Model D	10.44	<0.001	0.944	0.935	0.076	0.073-0.078
Model A: 1-factor External Regulation model without any subscales or dimensions Model B: 5-factor 26-items model initially provided by Lohmann et al. (2017) Model C: 5-factor 15-items model finally provided by Lohmann et al. (2017) Model D: 6-factor 26-items model tailored for Kazakhstani healthcare workers						

The analysis indicated that the 6-factor Model D, specifically recommended for Kazakhstani healthcare workers, provided the best fit for the data. This model effectively captures the nuances of motivation across different dimensions and is most suitable for practical applications in assessing healthcare worker motivation in Kazakhstan. The progression from simpler to more complex models highlights the multifaceted nature of motivation within the healthcare context and underscores the importance of using tailored measurement tools for specific populations.

The validation of the Healthcare Workers' Motivation Scale in Kazakhstan assessed the internal consistency of the scale and its subscales using Cronbach's alpha, a measure of reliability. The intrinsic motivation subscale, which measures motivation derived from personal satisfaction or the pleasure of the activity itself, showed excellent reliability with a Cronbach's alpha of 0.937. Integrated Regulation subscale, which reflects motivation driven by personal goals and values that align with one's self-identity, also demonstrated high reliability, scoring a

Cronbach's alpha of 0.924. Motivation in Identified Regulation subscale is recognized and accepted as important for personal goals. It showed a Cronbach's alpha of 0.929, indicating strong internal consistency. Introjected Regulation subscale measures internal motivations that are not fully integrated into one's identity, such as performing tasks out of obligation. It recorded a Cronbach's alpha of 0.921. External motivations driven by social factors had a Cronbach's alpha of 0.909, suggesting good reliability. Motivation influenced by economic rewards or constraints showed the lowest reliability among the subscales but still adequate, with a Cronbach's alpha of 0.896. Finally, the entire scale

exhibited outstanding reliability, with a Cronbach's alpha of 0.978, indicating that it is an excellent tool for measuring overall motivation among healthcare workers. The high reliability scores across all subscales suggest that the Healthcare Workers' Motivation Scale is a robust instrument for assessing the various dimensions of motivation within healthcare settings in Kazakhstan.

The concurrent validity of the healthcare workers' motivation scale in Kazakhstan was assessed by examining the correlations among the different motivation subscales and with external variables like job satisfaction (JS) and burnout as measured by the Copenhagen Burnout Inventory (CBI), Table 4.

Table 4.

Concurrent validity of the healthcare workers' motivation scale.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) IM	-							
(2) INTEG	0.832	-						
(3) IDEN	0.808	0.889	-					
(4) INTRO	0.765	0.841	0.885	-				
(5) EXT-S	0.748	0.777	0.834	0.865	-			
(6) EXT-E	0.573	0.603	0.638	0.672	0.696	-		
(7) FM	0.876	0.918	0.940	0.936	0.917	0.783	-	
(8) JS	0.490	0.429	0.432	0.428	0.497	0.426	0.503	-
(9) CBI	-0.451	-0.348	-0.360	-0.350	-0.384	-0.234	-0.394	-0.455

All correlations were significant $p < 0.001$; IM – Intrinsic motivation; INTEG – Integrated regulation; IDEN – Identified regulation; INTRO – Introjected regulation; EXT-S – External regulation-social; EXT-E – External regulation-economic; FM – Final Motivation; JS – Job satisfaction; CBI – Copenhagen Burnout Inventory

Intrinsic Motivation (IM) showed strong positive correlations with all other motivational subscales, particularly with Final Motivation (FM; $r = 0.876$) and Identified Regulation (IDEN; $r = 0.808$). Integrated Regulation (INTEG) and Identified Regulation (IDEN) exhibited very high inter-correlations ($r = 0.889$), suggesting a close conceptual relationship between these constructs in the context of healthcare motivation. Introjected Regulation (INTRO), while still positively correlated with other subscales, showed slightly lower correlation coefficients, with the highest being with IDEN ($r = 0.885$).

The motivational subscales demonstrated significant correlations with job satisfaction, with Final Motivation showing the strongest relationship ($r = 0.503$). Negative correlations were observed between all motivational subscales and the Copenhagen Burnout Inventory scores, indicating that higher motivation is associated with lower burnout levels. The strongest negative correlation was between Final Motivation and CBI ($r = -0.394$).

The results indicate strong internal consistency within the motivational constructs and suggest that higher levels of motivation are associated with greater job satisfaction and lower burnout among healthcare workers. These findings underscore the validity of the healthcare workers' motivation scale as an effective tool for assessing motivation in this population, supporting its potential utility in health care settings in Kazakhstan. All reported correlations were statistically significant ($p < 0.001$).

This robust validation of the scale provides a solid foundation for its use in both research and practical applications aimed at enhancing workforce motivation and well-being within the healthcare sector of Kazakhstan.

Healthcare workers' motivation level in Kazakhstan

The study evaluated the motivation levels among 1,654 healthcare workers in Kazakhstan, with data segmented by various demographic and employment-related variables (Table 1). There was a significant difference in motivation levels between genders, with females showing higher motivation compared to males ($p < 0.001$). Nurses reported higher motivation levels than physicians ($p = 0.002$).

Significant differences were found in motivation levels across different employment settings. In-patient workers exhibited the highest motivation. Post-hoc analysis indicated significant differences between each pair of settings ($p < 0.001$ for ambulance vs. out-patient and in-patient; $p = 0.020$ for out-patient vs. in-patient). There was no statistically significant difference in motivation levels between those in managerial positions and those not in managerial roles ($p = 0.056$).

There were significant variations in motivation levels among different family statuses, and married participants had higher motivation. Post-hoc tests showed significant differences between single vs. married, divorced, and widowed statuses. Healthcare workers with children reported higher motivation compared to those without children ($p < 0.001$).

The results reflect a comprehensive overview of motivation levels across various demographics and job-related factors among healthcare workers in Kazakhstan, highlighting areas for targeted motivational strategies and further research.

Discussion

The validation of the Healthcare Workers' Motivation Scale in Kazakhstan has provided significant insights into

the motivational dynamics within the healthcare sector, emphasizing the critical role of motivation in enhancing healthcare delivery and worker satisfaction. The study underscores the utility of Self-Determination Theory (SDT) as an effective framework for understanding and measuring motivation, particularly in settings undergoing healthcare reforms and facing contemporary challenges.

The high reliability and validity scores across the various subscales of the motivation scale confirm its robustness and appropriateness for the Kazakhstani healthcare context. These findings are crucial as they provide a validated tool that can be used to assess motivation, tailor interventions, and ultimately enhance workforce performance and well-being.

The strong correlations between higher motivation levels and lower burnout rates, as well as increased job satisfaction, align with previous research suggesting that well-motivated healthcare workers are more likely to exhibit better job performance and reduced turnover intentions [1]. This relationship is vital for healthcare administrators and policymakers, especially in Kazakhstan, where the healthcare system is experiencing significant transformations.

The application of SDT in this study highlights the importance of supporting autonomy, competence, and relatedness to foster intrinsic motivation among healthcare workers. By using a scale based on SDT, this research not only contributes to the theoretical literature but also provides practical insights for developing motivational strategies that can lead to more effective healthcare outcomes.

The validation of the Healthcare Workers' Motivation Scale in Kazakhstan provides critical insights into how demographic and employment-related variables influence motivation levels among healthcare workers. This discussion explores the implications of these findings and situates them within the broader literature on healthcare worker motivation.

Our findings indicated that female healthcare workers reported higher motivation levels compared to their male counterparts. This aligns with studies suggesting that gender differences in workplace motivation can be influenced by various factors including job satisfaction, work environment, and personal values [12]. Women often report higher intrinsic motivation in caregiving roles, which could explain the higher motivation levels observed in this study [10].

The data revealed that nurses exhibited higher motivation levels than physicians. This may reflect the differing job demands and rewards inherent in these roles. Nurses often have more direct patient interaction, which can enhance intrinsic motivation derived from caregiving [2]. Conversely, physicians might experience lower motivation levels due to higher administrative burdens and regulatory pressures [4].

Significant differences in motivation were also observed across different employment settings, with in-patient workers showing the highest motivation levels. This could be due to the structured environment and team cohesion typically found in in-patient settings, which have been shown to positively impact motivation and job satisfaction [8]. Conversely, ambulance workers, who often face high stress and unpredictable work conditions, reported the lowest motivation levels.

The analysis did not show significant differences in motivation between workers in managerial positions and those who were not, which is an intriguing result. One possible explanation could be that the challenges and responsibilities associated with managerial roles in healthcare might offset the motivational benefits typically associated with leadership positions [7].

Family status significantly influenced motivation, with married and divorced workers reporting higher motivation levels than single ones. This could be attributed to the greater financial and social responsibilities often associated with being married or having dependents, which might increase extrinsic motivation to perform well at work [3]. Additionally, having children was associated with higher motivation, possibly reflecting a drive to provide stability and security for one's family.

Future research could explore longitudinal interventions based on these findings to further validate the impact of motivation-enhancing strategies on healthcare delivery. Additionally, exploring the differential impacts of intrinsic and extrinsic motivators across various healthcare settings could provide deeper insights into how motivation can be optimally enhanced in diverse healthcare environments.

Limitations and Future Directions

While the study provides comprehensive insights, the focus on healthcare workers in Kazakhstan means that the findings may not be directly generalizable to other regions without consideration of cultural and operational differences. Future studies could adapt the Healthcare Workers' Motivation Scale to different cultural contexts to broaden its applicability and utility.

Overall, the validation of the Healthcare Workers' Motivation Scale is a step forward in the systematic study of healthcare worker motivation, offering a valuable tool for both research and practical applications in the healthcare sector of Kazakhstan and potentially beyond.

Conclusion

The validation of the Healthcare Workers' Motivation Scale in Kazakhstan represents a significant advancement in understanding the motivational dynamics within the healthcare sector. The study confirmed the reliability and validity of the scale, making it a valuable tool for both research and practical applications. With its strong theoretical foundation in Self-Determination Theory, the scale not only measures various dimensions of motivation but also offers insights that can lead to more effective workforce policies and practices.

Healthcare administrators and policymakers can utilize the findings to develop targeted interventions that enhance motivation, reduce burnout, and improve job satisfaction among healthcare workers. The scale's adaptation and validation in Kazakhstan also demonstrate its applicability in different cultural contexts, providing a model for other regions seeking similar assessments.

Authors' Contributions: All authors were equally involved in the research and writing of this article.

Conflict of Interest: The authors declare that they have no conflict of interest.

Funding: There is no financial support and sponsorship.

Publication Information: The results of this study have not been previously published in other journals and are not pending review by other publishers.

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Information about the authors:

Aidos Bolatov, MD, PhD student at the Shenzhen University Medical School, Shenzhen University, Shenzhen, China; chief specialist of the Center for the Development of Research activities at the Astana Medical University, Astana, Republic of Kazakhstan, e-mail: bolatovaidos@gmail.com, +7(777) 600 0096

Akhat D. Amanzholov, 2nd year residency student in the educational program "Anesthesiology and resuscitation for adults and children", NCJSC "Semey Medical University", Semey, Republic of Kazakhstan, e-mail: axat.aman@mail.ru, +7(775) 459 9503

Ayazhan E. Mukazhanova, 2nd year residency student in the educational program "Endocrinology for adults and children", NCJSC "Semey Medical University", Semey, Republic of Kazakhstan, e-mail: ayazhan.mukazhanova@bk.ru, +7(747) 428 6551

Dariga S. Smailova, PhD, Head of Science Department, S.D. Asfendiyarov KazNMU, Almaty, Republic of Kazakhstan, e-mail: dari190490@gmail.com, +7(705) 555 8468

Meiramgul D. Zhorokpayeva, candidate of pedagogical sciences, a.p of the Department of General education disciplines, NCJSC "Semey Medical University", Semey, Republic of Kazakhstan, e-mail: miramgul.zhorakpaeva@mail.ru, +7(778) 503 0534

Corresponding author:

Meiramgul D. Zhorokpayeva - candidate of pedagogical sciences, a.p. of the Department of General education disciplines, NCJSC "Semey Medical University", Semey, Republic of Kazakhstan.

Address: Republic of Kazakhstan, Semey, Pervomayskaya street, 37

E-mail: miramgul.zhorakpaeva@mail.ru

Phone: +7(778) 503 0534