

CROSS-CULTURAL ADAPTATION AND PSYCHOMETRIC EVALUATION OF THE RELATIONAL MENTORING INDEX – ARABIC VERSION IN SAUDI NURSING INTERNS

Tariq Noman M. Alanazi (1)

Sami A. Alhamidi (2)

Abdulaziz M. Alotaibi (2)

Rene P. Carsula (2)

Nawaf M. Alharbi (2)

Mohammad S. Alrashedy (3)

Niel Brian G. Villarazo (4)

Regie B. Tumala (2)

(1) University of Melbourne, Melbourne, Australia

(2) College of Nursing, King Saud University, Riyadh, Kingdom of Saudi Arabia

(3) Uyoun Aljawa General Hospital, Qassim, Kingdom of Saudi Arabia

(4) Higher Colleges of Technology – Fujairah Women's Campus, United Arab Emirates

Corresponding author:

Tariq Noman M. Alanazi, RN, MSN

Master of Advanced Nursing, University of Melbourne, Melbourne, Australia

Contact Number: +61456711445

Email: tnmalanazi@gmail.com

Received: December 2020; Accepted: January 2021; Published: February 1, 2021

Citation: Tariq Noman M. Alanazi et al. Cross-Cultural Adaptation and Psychometric Evaluation of the Relational Mentoring Index – Arabic Version in Saudi Nursing Interns. Middle East Journal of Nursing 2021; 15(1): 3-11.

DOI: 10.5742/MEJN2021.93796

Abstract

Aims: This study aimed to translate the Ragins' Relational Mentoring Index (RMI) into Arabic language and to evaluate the psychometric properties, validity and reliability of the RMI – Saudi Arabic version (RMI-S).

Background: Mentorship is important in creating a positive learning environment conducive in transitioning from newly graduated nurse roles to professional nurse roles in Saudi Arabia. To have a valid and reliable instrument to measure Saudi nursing interns' perceptions of mentoring relationships during their clinical internship program, the RMI was translated to Arabic language.

Methods: This study employed a descriptive design. A convenience sample of 279 nursing interns were recruited to participate in the study from three tertiary training hospitals in Riyadh, Saudi Arabia. The RMI was translated into Arabic language, validated, factor analyzed, and tested for reliability.

Results: The findings confirmed the content validity index of the RMI-S with the Scale-level Index and Item-level Index of 1. The factor analysis yielded three subscales, namely, inspiration and affirmation with $\alpha=.95$, trust and commitment with $\alpha=.94$, reliance on communal norms with $\alpha=.94$, and overall with $\alpha=.97$.

Conclusions: The RMI-S is a valid and reliable instrument that can be utilized as appropriate tool to evaluate high-quality mentoring relationships which can be used by Arabic speaking researchers and participants.

Relevance to clinical practice: During clinical internship training, high-quality mentoring may be a relational source that safeguards mentees from challenges during transition from graduate nurse roles to professional nurse roles, and a valid and reliable instrument can help to evaluate it.

Key words: Relational Mentoring Index, mentoring relationship, internship training, nurse intern, psychometric property, Saudi Arabia

Introduction

A global public health crisis attributed to a nursing shortage has been reported [1, 2]. According to WHO [3], 81-92% of the member states including USA, UK, Australia, New Zealand, other countries, and the Eastern Mediterranean Region particularly Saudi Arabia, have reported substantial nursing shortages. In Saudi Arabia there are 40 nurses for every 10,000 people and this shortage has been attributed to sociocultural factors, work environment and education factors [4].

There are strategies necessary to address the shortage and ensure sufficient nursing workforce. Aside from the Saudization program implemented in 1992, the one year clinical internship program was introduced in the Bachelor of Science in Nursing curriculum [5]. It was in accordance with the National Qualifications Framework for Higher Education published in 1430 H (2009), and in conjunction with the Classification of Qualifications in the Field of Nursing, Article 6 of the Guideline of Professional Classification and Registration for Health Practitioners [5]. Before awarding the Bachelor degree, Saudi nursing students need to complete the internship program designed to extensively train them with the necessary clinical skills to prepare them as newly graduated professional nurses

During the past ten years, creating a positive working environment by integrating mentoring has been advocated by several authors to encourage recruitment, retention of nurses, and reduction of the nursing shortage [6, 7]. However, during the internship training, nursing students face great challenges in transitioning from student to professional nurse. The training makes them feel vulnerable, and stressed with inherent problems in the transition from an idealistic student nurse to a realistic professional nurse [8-11]. During the transitioning phase, the mentor plays a significant role in facilitating the development of nursing students in becoming professional nurses [12], and helps them achieve a successful transition through creating a high-quality relationship.

The literature apparently shows that there has been lack of clarity about understanding the qualities, characteristics, and outcomes of the average mentoring relationship. Until a decade ago, Ragins and Kram [13] examined the high-quality end of the continuum of the relationship where mentoring exemplifies a life-altering relationship that inspires and focuses on positive relationship at work for individuals, groups, and organizations [14, 15]. High-quality formal relationships can be more effective than low-quality informal relationships [15]. Those with mentors, whether in formal or informal mentoring relationships, generally have more positive work and career attitudes than those without mentors [15-17]. In this study, formal mentoring was instituted in the internship program where the training hospitals initiated efforts to match mentors and mentees.

In nursing, mentorship is established when mentors help students and novice nurses to acquire self-confidence, networking, career opportunities, socialization, skills

and competencies [9]. In addition, building competence, professional foundations and confidence will guide the students to a successful transition from student to nurse role [18]. Ragins and Cotton [19] defined mentors as individuals with advanced knowledge and experience who are committed in providing mobility and support to their mentees.

Although much has been written on the mentoring relationship in nursing, there is an apparent scarcity of Arabic instruments that evaluate the nurse—nurse intern (mentor—mentee) relationships in the region. Ragins [15] suggested that a mentoring relationship instrument needs to be validated and assessed in its ability to predict outcomes of high-quality relationships. In order to enhance the understanding of the nature of mentoring relationship among mentors and Saudi nursing interns, there is a need to establish the validity and reliability of the Ragins' Relational Mentoring Index – Saudi Arabic version (RMI-S). This study therefore aimed to establish the validity and reliability of the RMI-S.

Method

Research design

This descriptive study utilized translation of the original English version of the RMI [15], into Arabic language. Validation, exploratory factor analysis, and reliability tests were performed. In lieu of creating a new scale for Saudi Arabia or other Arab countries, research literature recommended to use a version of an already tested measure in different cultures [20, 21]. However, this measure needs to be developed in accordance to a strict methodology to ensure the semantic and technical equivalence and the construct, content, and criterion validity. Thus, such instrument must be validated in the new cultural context [20-23].

Sample and settings

A panel of translators was comprised of five Saudi PhD degree holders in Nursing. Four of the five experts were tenured faculty of the College of Nursing at King Saud University and have been handling Saudi nursing students for at least five years both in the clinical and theoretical courses. The fifth expert was the director of nursing education in one of the training hospitals. Another panel of five bilingual Saudi PhD holders conducted the validation of the final Arabic version of the RMI using the Content Validity Index and Scale-level Validity Index. Thirty Saudi pre-interns (15 males and 15 females) were recruited for the pretest of the RMI-S. The pretest participants were asked to provide comments on items which seemed difficult to understand. After completing the survey, the respondents were instructed to seal the questionnaire inside the envelope before submitting to the researchers. Apparently, there were no major concerns that were raised by the pretest participants and they accomplished the 21-item questionnaire within 4-7 minutes.

A total of 279 Saudi nursing interns participated in the study. The response rate was 80% of the registered

interns for the Academic Year 2017-2018, and who were currently undergoing clinical training in three tertiary training hospitals in Riyadh, Saudi Arabia. The participants included Saudi nursing interns who were officially registered in the Academic Year 2017-2018, undertaking their training in the three training hospitals, available during the conduct of the study, and voluntarily and willingly participated. Excluded in the study were non-Saudis, nursing students undergoing their undergraduate clinical training in any of the three training hospitals, and those unavailable and unwilling to participate during data collection. Data were collected between December 2017 and February 2018.

Instrument

The questionnaire utilized to collect data from the Saudi nursing interns has two parts. The first part was comprised of demographic profile including, gender, age, months in internship program, internship hospital, and pre-internship nursing school. The second part comprised the RMI with 21-items [15], which assessed the characteristics, behaviors, and attributes found in high-quality mentoring relationships. The relational functions included six subcategories: personal learning and growth, inspiration, affirmation of selves, reliance on communal norms, shared influence and mutual respect, and relationship trust and commitment. The scale used a 7- point Likert Scale with 1 as strongly agree, 3 as neutral, and 7 as strongly disagree. According to Ragins [15], there was no discussion of validity for this scale. In addition, upcoming directions of the instrument included but were not limited to future research that needs to validate and assess its ability to predict high-quality relationship outcomes, and use of dyadic approach to assess its psychometric properties for both mentors and mentees, which led to the conduct of this study.

Data Analyses

Cross-cultural Adaptation of RMI

The cross-cultural adaptation of the RMI was based on the guidelines by Beaton et al. [24]. The production of the Saudi Arabic version followed five stepwise phases including (1) translation, (2) synthesis, (3) back translation, (4) experts' review, and (5) pretesting.

Translation of RMI from English to Arabic Version

The translation of RMI followed the repeated forward-backward translation technique [25]. The translation involved seven stages performed by bilingual participants from Saudi Arabia. The evaluators or translators included bilingual Saudi professors in the nursing college, and linguistic experts in English and Arabic translation.

There were 2 translators involved in Stage 1. The translators included Assistant Professors in the College of Nursing who obtained doctorate degree in an English-speaking country with experiences in English-Arabic translation. Both independently translated the English version of the RMI to Arabic. In Stage 2, a Saudi faculty

member with PhD degree obtained in USA synthesized and consolidated the two Arabic versions into a single translated Arabic Version 1.

In stage 3, the Arabic Version 1 was presented to two bilingual doctorate degree holder faculty members in one of the nursing colleges in Saudi Arabia. Both used English and Arabic language in their education-related activities with Saudi students. The translators evaluated Arabic Version 1 and compared it with the original English version. Both focused on the coherence and meaning of the items and possible responses. The evaluators identified minor inconsistencies and they were modified which resulted in the production of Arabic Version 2.

In Stage 4, two bilingual female Saudi PhD tenured faculty members back-translated the Arabic Version 2 to English. These two translators were not involved in stages 1, 2 and 3.

In Stage 5, two linguistic experts compared the 2 back translated versions with the English version. Both determined the meaning and differences between the original and back-translated versions.

In stage 6, Arabic terms that caused discrepancy in meaning were replaced. The process from the identification of discrepancies up to changing the suitable Arabic terms were repeated until consensus agreement of the final Arabic version was obtained.

Stage 7 involved the pretesting of the final RMI-S. Pretest was done to 30 participants who were not included in the main study to ascertain ease in reading, understanding, and responding to the items. The participants in the pretest accomplished the questionnaire without major concerns.

Validity of RMI-S

Content validity was determined by computing the item-level content validity index (I-CVI) and scale-level content validity index (S-CVI). An I-CVI of 1 for a panel of five experts and S-CVI of .90 or higher was acceptable [26].

Reliability of RMI-S

Data processing and analyses for the exploratory factor analysis were completed using IBM SPSS for Windows version 21.0 (Armonk, NY; IBM Corp.). Before proceeding with the analysis, data screening was conducted. There were 279 surveys that were processed. The 1:10 ratio of variable to samples was made as the basis for sample size requirement. Since there were 21 variables in the Relational Mentoring Index, the minimum sample size should at least be 210. There were 279 surveys retrieved indicating that the sample size was more than adequate to conduct principal component analysis. Further examination of the P-P plots of each item showed linearity and the histograms showed apparently normal distribution. Multicollinearity and singularity were absent. Inspection of the correlation matrix indicated that most of the correlations were more than 0.30, thereby qualifying for further analysis.

Principal component analysis with Varimax rotation was performed to determine the factor loadings. The reliability of the RMI-S was determined using Cronbach's alpha for internal consistency and reliability. Cronbach's alpha of more than or equal to 0.70 was acceptable [27, 28]. The item-total correlation coefficients (ITCs) were determined to support the internal consistency of the scale and an ITC >.30 was considered acceptable [29].

Ethical considerations

Ethical approval from the Institutional Review Board of the College of Medicine at King Saud University was obtained before conducting the study. Permission was obtained from the administrators of the facilities to conduct the study on the Saudi Nursing interns. Participants were informed of the objectives of the study, confirmed their voluntary participation, assured confidentiality of identities and responses, and informed consent was obtained from each of them before they were included in the study. Voluntary participation was obtained when the participants filled out the questionnaires and sent them back to the researchers.

Results

Demographic profile

Among the 279 participants (Table 1), most of them were females (n=196; 70.3%); 23 years old and older (n=178; 63.8%); between 1-4 months in the internship program (n=146; 52.3%); having internship at Hospital 3 (n=148; 53.05%); and had their pre-internship program from public schools of nursing (n=258; 92.5%).

Validity of the RMI-S

The item-level and scale-level content validity for the instrument were calculated. The computed I-CVIs were 1, as shown in Table 2. The panel of experts reached a consensus on the final RMI-S with the computed S-CVI/Ave of 1, as shown in Table 3.

Exploratory Factor Analysis of the RMI-S

A principal component analysis was conducted on the Saudi Arabic version of the 21-item scale using Varimax rotation method with Kaiser Normalization. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy yielded .925 which is considered superb [30]. The KMO values for the individual items ranged between .615 and .870 which were all above the acceptable limit of .5 [30]. Bartlett's Test of Sphericity $X^2 (210) = 7674.42$, $p < 0.001$, showed that the correlations between items were sufficiently large for principal component analysis. Analysis was run to obtain Eigenvalues for the components in the data. Three components had Eigenvalues more than Kaiser's criterion of 1 that combined in explaining 79.95% of the variances. Table 4 shows the factor loadings after rotation. In component 1, nine items were clustered and represented inspiration and affirmation with factor loadings ranging between 0.545 and 0.872; component 2 represented trust and commitment with eight items and factor loadings

ranging between 0.633 and 0.762; and component 3 represented reliance on communal norms with four items and factor loadings ranging between 0.742 and 0.848.

Reliability of the RMI-S

Reliability analysis was done using Cronbach's α . Inspiration and affirmation with $\alpha = .95$, trust and commitment with $\alpha = .94$, and reliance on communal norms with $\alpha = .94$, had high reliabilities. Examination of the corrected item-total correlations yielded values between .703 and .892 suggesting that each of the items correlated very well with the corresponding subscale and with overall scale. Examination of the α s if item is deleted yielded values that did not significantly add to the reliability of the subscales. When taken on a whole, The Relational Mentoring Index Saudi version (RMI-S) had an overall Cronbach's $\alpha = .97$ suggesting that RMI-S has very good reliability (Table 4).

Discussion

The validity and reliability of instrument to measure high-quality mentoring relationships between mentors and Saudi nursing interns is important in the clinical internship program in Saudi Arabia. Thus, the RMI was translated into Arabic language. This study endeavored to translate the RMI and assessed the psychometric properties of RMI-S in Saudi nursing interns. Results of this study presented evidence that strongly supports the sound content validity and reliability, which are significant indicators of quality measurement. The use of a valid and reliable tool is critical for ensuring accurate measurement of the constructs being studied and facilitates the reduction of errors in the measurement process. The reliability of the instrument was established by assessing the internal consistency of the measurement. Validity, on the other hand, ensured that the instrument measures what was intended to be measured [31, 32]. The outcomes showed an acceptable item-level and scale-level content validity as evaluated by the panel of five experts. Assessing the content validity of the scale is important in establishing its quality. It has also been recommended that the content validation of scale should be clearly reported in scale development studies; hence, both item-level and scale-level content validity should be reported [26].

In this study, all 21 items of RMI-S were rated 3 (quite relevant) and 4 (highly relevant) by the five experts. This yielded an I-CVI of 1 for all of the items, which met the standard criteria set for an acceptable I-CVI [33]. For the scale-level validity, the study utilized validity using the S-CVI/Ave method as recommended by Polit & Beck [26], who have stated that universal agreement is very difficult to achieve if there are many members of the panel with varying viewpoints. Thus, to conclude that a scale had excellent content validity, it should have an I-CVI of 1 for 3 to 5 panel members and a minimum of 0.78 for 6—10 members. In addition, the scale should have an S-CVI/Ave of 0.90 or higher [26, 33]. These criteria were met in this study and thus supported the acceptable content validity of RMI-S.

Table 1. Characteristics of Participants (N=279)

Characteristics	f	%
Gender		
Male	83	29.7
Female	196	70.3
Age group		
22 years old and below	101	36.2
23 years old and older	178	63.8
Mean =22.78		
SD =1.19		
Months in internship program		
1-4 months	146	52.3
5-8 months	77	27.6
9-12 months	56	20.1
Internship setting		
Hospital 1	32	11.47
Hospital 2	99	35.48
Hospital 3	148	53.05
Pre-internship nursing school		
Public	258	92.5
Private	21	7.5

Table 2. I-CVI of the Relational Mentoring Index (RMI) Saudi Arabic Version (21-Item Scale) by Five Experts: Items Rated 3 or 4 on a 4-Point Relevance Scale

Item No.	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Total Number or Relevant Items	Item-level Index
1	4	3	4	4	3		5
2	4	4	4	4	4		5
3	4	4	4	4	4		5
4	4	4	4	4	4		5
5	4	4	3	4	4		5
6	4	4	4	4	4		5
7	4	4	4	4	4		5
8	4	3	4	4	3		5
9	4	3	4	4	3		5
10	4	4	3	4	4		5
11	4	4	4	4	4		5
12	4	4	4	4	4		5
13	4	4	4	4	4		5
14	4	4	4	4	4		5
15	4	4	4	4	4		5
16	4	4	4	4	4		5
17	4	4	4	4	4		5
18	4	4	4	4	4		5
19	4	4	4	4	4		5
20	4	4	4	4	4		5
21	4	4	4	4	4		5

Note: The I-CVI should be 1.00 if there are 5 or fewer experts (Lynn, 1986)

Table 3. S-CVI Ratings of the RMI Saudi Arabic Version by Five Experts: Items Rated 3 or 4 on a 4-Point Relevance

	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Total and Mean I-CVI
Total	21	21	21	21	21	21.00
Proportion Relevant	1.00	1.00	1.00	1.00	1.00	1.00
Mean Expert PR	1.00					

Note: Since the S-CVI is > 0.90 therefore the overall scale is valid (Polit & Beck, 2006).

Table 4. Summary of exploratory factor analysis results for the Arabic Translation of Relational Mentoring Index (Adapted from Ragins, 2012) (N=279)

Items	Rotated Factor Loadings			CITC+ ; % if item deleted
	1*	2**	3***	
4. My partner has inspired or been a source of inspiration for me. لقد قام شريكي بالهامي او كان مصدر الهاما لي	.872			.831; .95
6. I am often inspired by my partner. في الغالب شريكي هو من يمنحني الالهام	.866			.831; .95
2. My partner helps me learn about my personal strengths and weaknesses. يساعدني شريكي على أن اتعرف على مواطن الضعف والقوة الشخصية لاي	.801			.886; .95
3. My partner helps me learn more about myself. يساعدني شريكي في أن اعرف الكثير عن نفسي	.799			.838; .95
7. My partner is helping me become the person I aspire to be. يساعدني شريكي أن أكون الشخص الذي اطمح اليه	.749			.877; .95
5. My partner gives me a fresh perspective that helps me think "outside the box." يمنحني شريكي نظرة واقعية تساعدني على "التفكير خارج الصندوق-التفكير غير المعتاد عليه"	.740			.795; .95
1. My partner is helping me learn and grow as a person. يساعدني شريكي في أن اتعلم واكبر كشخص	.725			.852; .95
8. My partner sees me not only I am now, but also for who I aspire to be. يساعدني شريكي أن أكون الشخص الذي اطمح اليه	.697			.805; .95
12. I can be myself with my partner. يمكنني ان أكون على حريتي وطبيعتي مع شريكي	.545			.746; .95
19. Our relationship is founded on mutual trust and commitment. علاقتنا مبنية على الثقة والالتزام المتبادل		.762		.892; .92
20. My partner and I trust each other, and we are committed to the relationship. نحن نثق في بعضنا البعض وملتزمون بعلاقتنا		.741		.857; .93
9. My partner always sees the best in me. دائما ما يرى شريكي ما هو افضل لاي		.685		.759; .93
17. We respect each other, and we value what each person has to say. نحن نحترم بعضنا ونقدر ما يقوله كل منا بلحزام		.685		.811; .93
10. My partner seems to bring out the best in me. يساعدني شريكي في أن اخرج افضل ما لاي		.665		.784; .93
11. My partner accepts me for who I am. يقبلني شريكي كما انا		.649		.785; .93
21. Trust and commitment are central to our relationship. الثقة والالتزام هما اساس علاقتنا		.633		.703; .94
18. There is mutual respect and influence in our relationship. يوجد بيننا احترام متبادل وتأثير متبادل في علاقتنا		.633		.815; .93
15. We give each other without expecting repayment. نحن نساعد بعضنا في علاقتنا بدون توقع مقابل			.848	.875; .92
16. My partner and I respect and influence each other. أنا وشريكي نحترم بعضنا ونؤثر ايجابيا في بعض			.809	.842; .93
13. In our relationship, we help each other without expecting repayment. نحن نساعد بعضنا في علاقتنا بدون توقع مقابل			.809	.885; .92
14. We never keep score of who gives and who gets in our relationship. نحن لا نعامل أبدا بمبدأ المقارنة بمن يعطي ومن يأخذ			.742	.858; .92
Eigenvalues	13.37	2.21	1.20	
% of Variance	63.69	10.53	5.73	
Cronbach's Alpha (α) (overall = .971)	.958	.943	.944	

Regarding reliability, desirable internal consistency was observed – it is described as the ability to find correlation (homogeneity) between the items of a scale-fashioned instrument; that is, to find whether they measure the same theoretical construct they are proposed to. The findings also supported the excellent reliability of the scale. The computed overall Cronbach's alpha value ($\alpha=0.971$) was greater than the accepted value of 0.70. This suggested an excellent internal consistency of the scale. The achievement of internal consistency of a scale implies that the items in the scale are interrelated [34]. The measure of internal consistency obtained by Cronbach's alpha is important and desirable when working with an instrument aiming to measure a single construct through multiple items. The most commonly used measure of internal consistency is the computation of Cronbach's alpha. A higher value of the Cronbach's alpha indicates a higher level of reliability, thus it represents a higher precision of measurement by the tool [31, 32].

Five validators were consulted on the results of the factor loadings for their expert opinion regarding the realignment of factor loadings of the subscales of the instrument. The panel reached the consensus of endorsing three component factors from six of the original RMI to be used in the final Arabic version. The current study pursued modification of the factor structures using an EFA due to language distinctions. The results of this study exposed new directions for future research because of the use of EFA to modify the factor structures. The results indicated differences in many aspects between the Arabic and English versions. The adaption of all items of the English version in the Arabic version experienced major challenge which led to modification of subscale structures. However, all items were retained in the Arabic version of the factor structures which means that the scale yielded the finest fit when it consisted of all items (collective) rather than by each subcategory. The factor analysis showed three groups of items as follows. Factor 1 – inspiration and affirmation includes items 1-8 and 12 which reflect the capacity to inspire leading to positive outcomes for the individual and work relationships. Factor 2 – trust and commitment includes items 9-11 and 17-21 which reflect perceiving partners as being committed to the relationship and that they give on the basis of need rather than self-interest. Lastly, factor 3 – reliance on communal norms includes items 13-16 which reflect relationships focused on partner's well-being and benefits without expecting repayment.

The findings of this study are similar to another psychometric assessment study as a result of cultural and health system differences [35]. In addition, this contributes to the existing literature on Saudi Arabian nursing culture and is vital for understanding the nature of the mentoring relationship observed among mentors and Saudi nursing interns. The Saudi Arabian culture is considered to be a collectivist society in contrast to American individualist society. In this study, Saudi nursing interns identified themselves as being part of a group; family as the center of their culture [36], where results reflected strong

(mentor-mentee group) mentor relations in high-quality relationships specifically on inspiration and affirmation, trust and commitment, and reliance on communal norms. The findings of this study on the modified factor structures are similar to a qualitative work by Jackson et al. [10] that personal and relational characteristics such as mutual respect and trust, and fostering passion and creating inspiration comprise effective mentorship between mentor-mentee dyad. Furthermore, relational-cultural approach to mentoring emphasizes collective and collaborative success which postulated that mentor-mentee relationship and the organization may undergo positive transformation [37].

The institution of the psychometric properties of RMI-S has significant implications for nursing education and practice. The scale had sound reliability, which was calculated through internal consistency, and was found to perform well in the tests for I-CVI and S-CVI. Furthermore, it reported promising results. However, further studies are required with a higher number of participants who are more heterogeneous and less contained samples. Investigations with samples of nursing interns undergoing internship in different hospitals (private and public) from other regions in the kingdom are recommended to evaluate regional differences or similarities. The regionalism and the large territorial extension of the Kingdom of Saudi Arabia, as well as the social, economic, religious and cultural characteristics that are peculiar to health care institutions must be considered. Although the methods employed in the study to establish validity of the RMI-S were adequate, other methods, like confirmatory factor analysis, convergent and divergent validity tests, and concurrent validity tests should also be attempted to strengthen the current findings. Having presented such limitations, the findings of this study confirmed the RMI-S can be adapted and can be used for evaluating high-quality mentoring relationships in Saudi nursing interns in Saudi Arabia and other Arabic-speaking countries.

Conclusion

The study reported the results of the cross-cultural adaptation, validity and reliability of the RMI-S. Based on the content validity confirmed by the experts of the translation into Arabic, the excellent construct validity, and excellent results of the psychometric analysis, and reliability test, we concluded that the RMI-S is valid and reliable to assess high-quality mentoring relationships of Saudi nursing interns with their mentors in the clinical internship program in Saudi Arabia.

References

1. International Council of Nurses. The Global Shortage of Registered Nurses: An Overview of Issue and Actions. Geneva, Switzerland: International Council of Nurses.
2. World Health Organization (WHO). Wanted: 2.4 million nurses and that's just India. Bulletin of the World health Organization. 2010;88(5):321-400.
3. World Health Organization (WHO). (2010b). A Global Survey Monitoring Progress in Nursing and

- Midwifery [Internet]. 2010. Available from: http://apps.who.int/iris/bitstream/10665/70371/1/WHO_HRH_HPN_10.4_eng.pdf.
4. Aboshaiqah A. Strategies to address the nursing shortage in Saudi Arabia. *International Nursing Review*. 2016;63:499–506.
 5. Saudi Commission For Health Specialties (SCFHS). Guideline of Professional Classification and registration For Health Practitioners: Sixth Edition [Internet]. 2014. Available from: <http://www.scfhs.org.sa/en/registration/ClassAndRegister/Reregister/Documents/Professional%20Classification%20manual%20for%20Health%20Practitioners.pdf>.
 6. Rohatinsky NK. Mentoring Perceptions of Registered Nurses. A Thesis Submitted to the College of Graduate Studies and Research in the College of Nursing, University of Saskatchewan. 2008.
 7. Rush KL, Adamack M, Gordon J, Lilly M, Janke R. Best practices of formal new graduate nurse transition programs: An integrative review. *International Journal of Nursing Studies*. 2013;50:345–356.
 8. Hill LA, Sawatzky JV. Transitioning into the nurse practitioner role through mentorship. *Journal of Professional Nursing*. 2011;27(3):161–167.
 9. Huybrecht S, Loeckx W, et al. Mentoring in nursing education: Perceived characteristics of mentors and the consequences of mentorship. *Nurse Education Today*. 2011;31:274–278.
 10. Jackson D, Peters K, Andrew S, Daly J, Gray J, Halcomb E. Walking alongside: a qualitative study of the experiences and perceptions of academic nurse mentors supporting early career nurse academics. *Contemporary Nurse*. 2015;51(1):69–82.
 11. Tabloski PA. Setting the stage for success: Mentoring and leadership development. *Journal of Professional Nursing*. 2016;32(5S):S54–S58.
 12. Hilli Y, Salmu M, Jonsen E. Perspectives on good preceptorship: A matter of ethics. *Nursing Ethics*. 2014;21(5):565–575.
 13. Ragins BR, Kram KE. The roots and meaning of mentoring. In B. R. Ragins & K. E. Kram (Eds.), *The handbook of mentoring at work: Theory, research and practice* (3–15). 2007. Thousand Oaks, CA: Sage.
 14. Castro SL, Scandura TA, Williams EA. Validity of Scandura and Ragins' (1993) Multidimensional Mentoring Measure: An Evaluation and Refinement. *Management Faculty Articles and Papers*. Paper 7 [Internet]. 2004. Available from: http://scholarlyrepository.miami.edu/management_articles/7.
 15. Ragins BR. Relational Mentoring: A Positive Approach to Mentoring at Work. In K. Cameron and G. Spreitzer, *The Oxford Handbook of Positive Organizational Scholarship*. New York: Oxford University Press. 2012;519–536.
 16. Allen TD, Eby LT, Poteet ML, Lentz E, Lima L. Career benefits associated with mentoring for protégés: A meta-analysis. *Journal of Applied Psychology*. 2004;89:127–136.
 17. Underhill CM. The effectiveness of mentoring programs in corporate settings: A meta-analytical review of the literature. *Journal of Vocational Behavior*. 2006;68:292–307.
 18. Harrison T, Stewart S, Ball K, Batt M. Clinical focus program: Enhancing the transition of senior nursing students to independent practice. *The Journal of Nursing Administration*. 2007;37(6):311–317.
 19. Ragins BR, Cotton JL. Mentor functions and outcomes: A comparison of men and women in formal and informal mentoring relationships. *Journal of Applied Psychology*. 1999;84(4):529–550.
 20. Duarte C, Bordin I. Instrumentos de avaliação. *Revista Brasileira de Psiquiatria*. 2000;22(II):55–58.
 21. Lopes RCC, Azeredo ZDS, Rodrigues RMC. Interpersonal communication assessment scale: Psychometric study of the Portuguese version. *Journal of Professional Nursing*. 2013;29(1):59–64.
 22. Polit D, Beck C, Hungler B. *Pesquisa em enfermagem: Métodos, avaliação e utilização*. (5th ed.). Artmed: Porto Alegre. 2004.
 23. Rocha A, Pires A, Leandro A, Afonso M, Seabra Santos M, Simões M, et al. *Directrizes internacionais para a utilização de testes—Versão Original International Test Commission (ITC)—Versão Portuguesa*. CEGOC-TEA. 2003.
 24. Beaton D, Bombardier C, Guillemin F, Ferraz MB. *Recommendations for the Cross-Cultural Adaptation of the DASH & QuickDASH Outcome Measures*. Canada: Institute for Work & Health. 2007;1–45.
 25. Almadi T, Cathers I, Chow CM. An Arabic version of the Effort-Reward Imbalance Questionnaire: Translation and validation study. *Psychological Report: Measures & Statistics*. 2013;113(1):275–290.
 26. Polit DF, Beck CT. The content validity index: are you sure you know what's being reported? Critique and recommendations. *Research in Nursing & Health*. 2006;29:489–497.
 27. Nunnally JC, Bernstein IH. *Psychometric theory* (3rd ed.). New York: McGraw-Hill. 1994.
 28. Vincent WJ. *Statistics in kinesiology*. Champaign, IL: Human Kinetic. 1999.
 29. DeVellis RF. *Scale development theory and applications* (2nd ed.). Thousand Oaks: Sage Publications. 2003.
 30. Field A. *Discovering Statistics Using SPSS (and sex and drugs and rock 'n' roll)*. (3rd ed.) London: SAGE Publications Ltd. 2009.
 31. Cruz JP, Colet PC, Al-otaibi JH, et al. Validity and reliability of the compliance with standard precautions scale Arabic version in Saudi nursing students. *Journal of Infection and Public Health*. 2016;9:645–653.
 32. Kimberlin CL, Winterstein AG. Validity and reliability of measurement instruments used in research. *American Journal of Health System Pharmacy*. 2008;5:2276–2284.
 33. Lynn MR. Determination and quantification of content validity. *Nursing Research*. 1986;35:382–386.
 34. Clark LA, Watson D. Constructing validity: Basic issues in objective scale development. *Psychological Assessment*. 1985;7:309–319.
 35. Sucu Dağ G, Dicle A, Firat MZ. Psychometric properties of the critical care family needs inventory – emergency department. *Applied Nursing Research*. 2017;33:113–120.
 36. Bell C, Davis M, Excobar A, Philbrick A, Stokes E. *Saudi Arabian Culture: A Training for Peer Mentors*. Intercultural Training Workshop, Monterey Institute of International Studies, Texas, USA. 2013. Available from: <http://sites.miiis.edu/emilystokes/files/2013/11/Saudi-Arabia-Cultural-training-Write-up.pdf>.
 37. Lewis C, Olshansky E. Relational-cultural Theory as a Framework for Mentoring in Academia: Toward Diversity and Growth-fostering Collaborative Scholarly Relationships. *Mentoring & Tutoring: partnership in Learning*. 2016;24(5):383–398.