

the Readiness Estimate and Deployability Index(READI) to Measure Nurse Preparedness for Disasters and Conflicts

A. EUN GOUNG 1 2,* , T. MAEDA 3,* , N. MATSUDA 4,* , C. A. (REINECK) HUEBNER 5 6 7,*

1 Armed Forces Nursing Academy, 2 Med-Surg Nursing, Armed Forces Seoul Hospital, Seoul, Republic Of Korea

3 Doctoral Program of Graduate School of Health Sciences, Kobe University, Kobe, Japan,

4 Graduate School of Health Sciences, Kobe University, Kobe, Japan,

5 Health Restoration & Care Systems Management, University of Texas Health Science Center, San Antonio TX,

6 American Organization of Nurse Executives, Washington, D.C., 7 American Nurses Association, Washington DC, United State

READI Instrument Development Background

○Assesses readiness to perform nursing care in austere environments.

○Measures 6 conceptual dimensions of readiness

○Developed and field tested in the USA 1998-2007

○Gained international exposure 2004-2015 in Canada, Republic of Korea(ROK), and Japan

2008: Translated into Korean; Assess ROK Armed Forces Nursing Academy(AFNA) cadets' readiness upon graduation

2009: ROK Army Nurse Corps' readiness

2014: Translated into Japanese; Assess Japanese nurses who had been dispatched for the Great East Japan Earthquake relief activities in 2011.

○Versions and articles available at [tps://nursing.uthscsa.edu/ONRS/Resources/READI/index.aspx](https://nursing.uthscsa.edu/ONRS/Resources/READI/index.aspx)

○USA Funding: Tri-Service Nursing Research Program & H.M. Jackson Foundation

Results of Individual Studies (Blue:U.S.A., Red: R.O.K., Green:Japan)

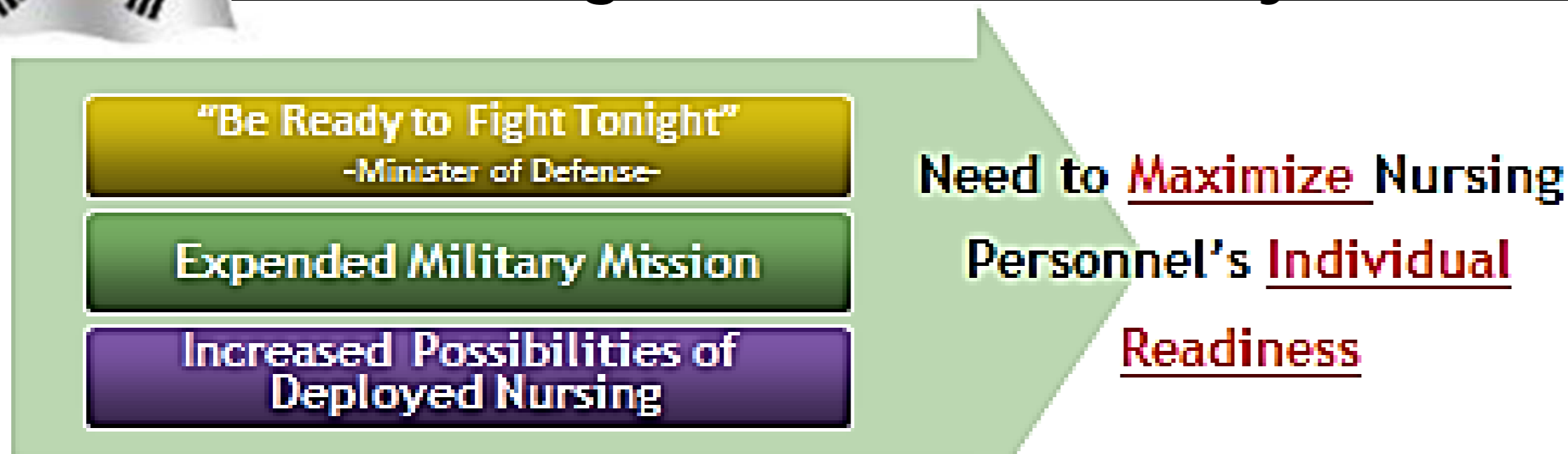
	Wilmoth, M. et al. (2007)	Stevenson, M. et al. (2007)	Rivers, F. et al. (2006)	Dremsa, T. et al. (2004)	Ann, E. et al. (2009)	Ann, E (2008)	T. Maeda, N. Matsuda (2014)
Sample Size	N=92	N=63	N=131	N=181	N=565	N=93	N=742
Response Rate	26%	60%	39%	52%	88%	100%	61.6%
Clinical Competency	2.93 – 3.85	4.38	1.00 – 3.68	2.0 – 4.4	3.5	3.4	3.30
Operational Competency	3.09 – 3.67	3.73	1.03 – 4.20	2.7 – 4.1	3.6	3.4	3.94
Survival Skills	3.66 – 4.05	3.93	2.25 – 4.58	2.7 – 3.6	3.2	3.5	1.94
Personal, Psych, Physical	Not reported	4.62	1.0 – 5.0	3.5 – 4.8	2.7	3.6	3.43
Leadership & Admin	Not reported	3.78	1.4 – 5.0	4.5 – 4.8	2.9	3.4	3.94
Group Integration	Not reported	4.01	2.6 – 4.6	3.2 – 4.7	3.8	3.9	4.12
Cronbach's alpha	.27-.97	Not reported	Not reported	.80 - .96	.78-.93	.80-.93	.45-.96
Test-retest Pearson's r	Not reported	Not reported	.24 – 1.0	Not reported	Not reported	Not reported	Not reported



Introducing READI to ROK Army Nurse Corps



Comparison of Reliability before and after factor analysis

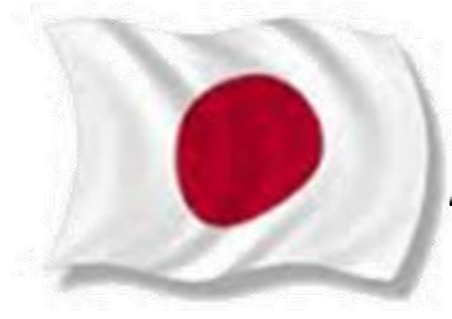


Modeling	Six Items	Cronbach's alpha
Mastery	① Clinical Competency (CC)	0.96
	② Operational Competency (OC)	0.77
	③ Survival Skills (CC)	0.83
*Attachment	④ Personal, Psych, Physical (PPP)	0.74
	⑤ Leadership & Admin (L&A)	0.62
	⑥ Group Integration (GI)	0.45

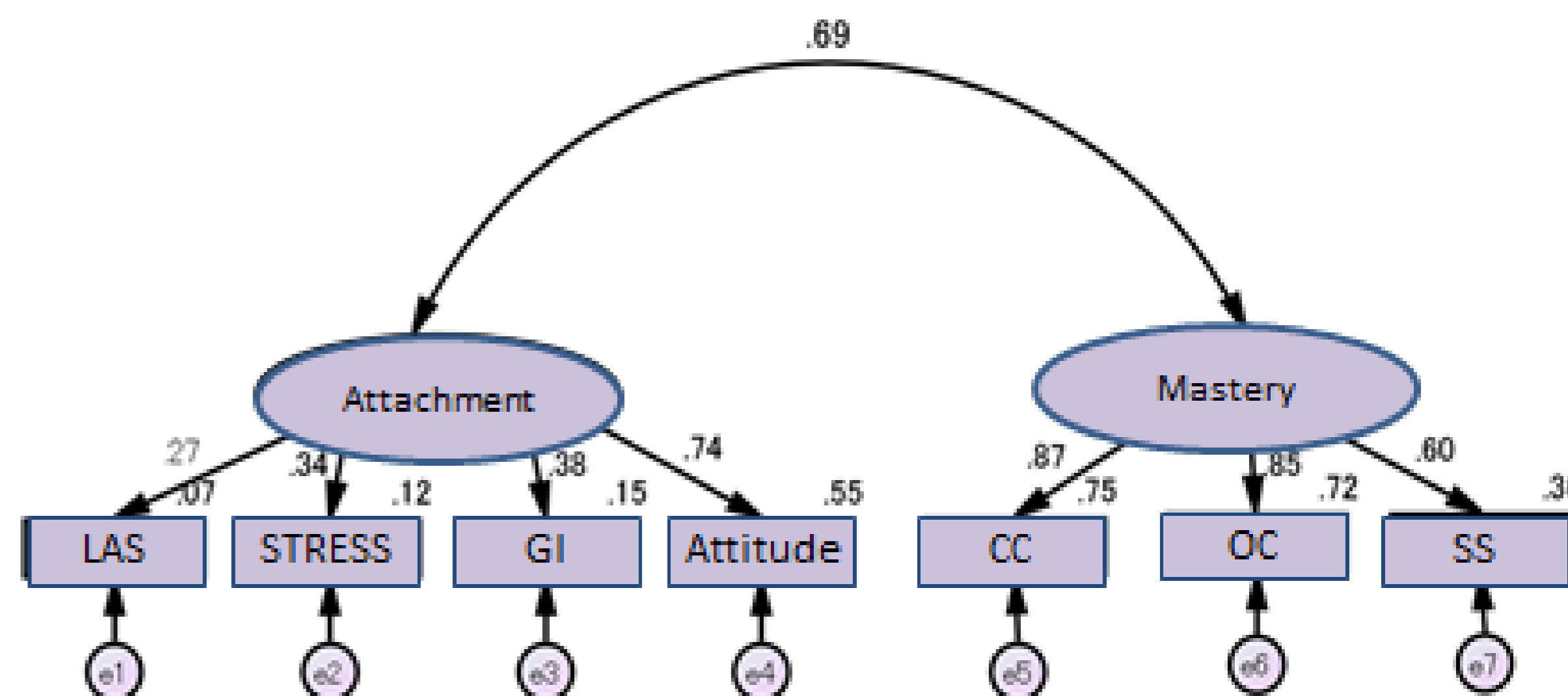
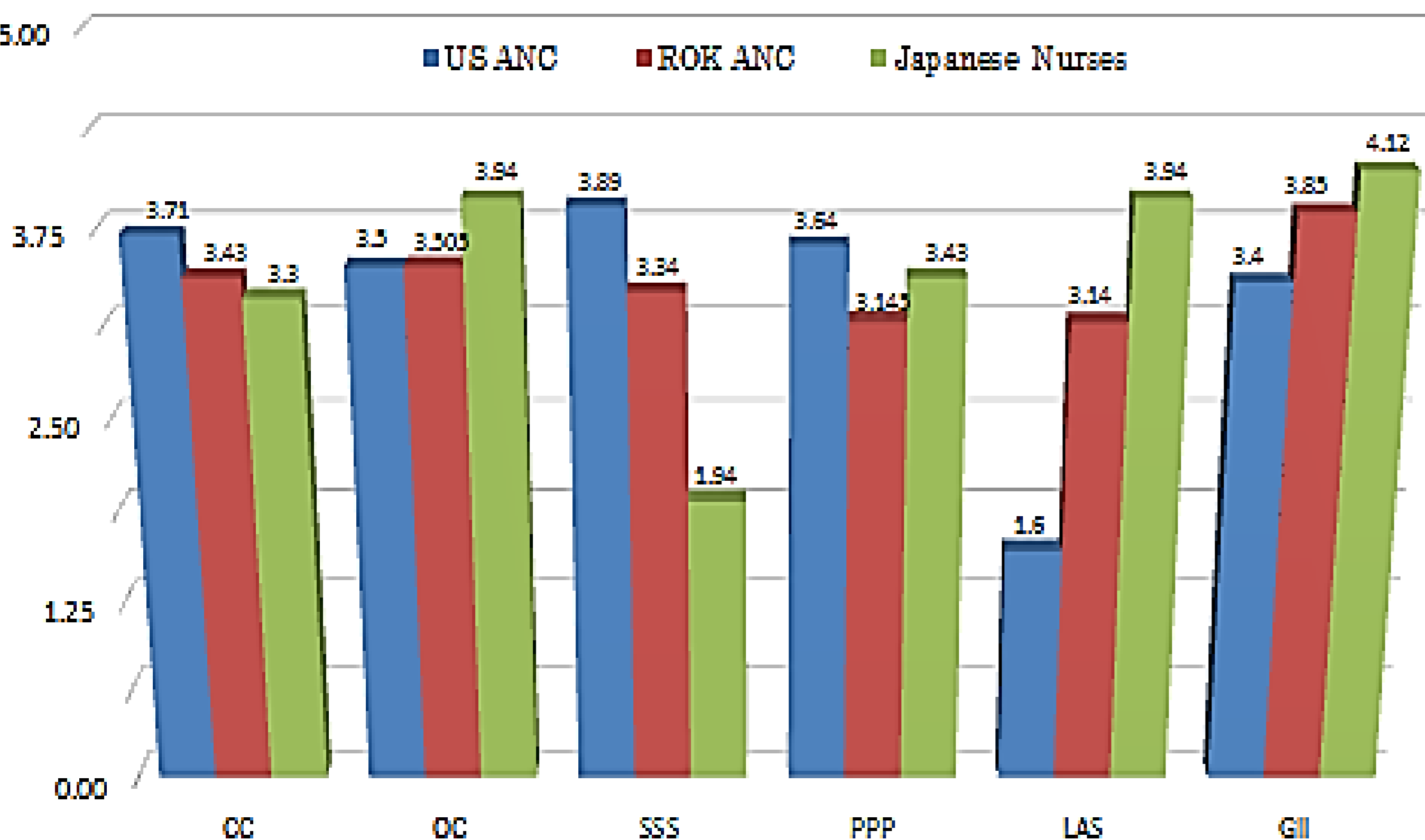
Modeling	Seven Items	Cronbach's alpha
Mastery	① Clinical Competency (CC)	0.96
	② Operational Competency (OC)	0.77
	③ Survival Skills (CC)	0.83
*Attachment	④ Stress Coping	0.70
	⑤ Attitude of Mind	0.84
	⑥ Leadership & Admin(L&A)	0.70
	⑦ Group Integration (GI)	0.87

- Translating(forward only with testing) and Developing READI-K version(2007)
 - Validating translation : 3 Korean nursing professors who completed their graduate programs in U.S.A and 1 English-major Korean PhD student verified the translation.
 - Content Validity Index(CVI) was done with 9 Army Nurse professionals
 - Pilot study with 49 army nurse officers showed stable psychometric property of READI-K (Chronbach's alpha : .82 - .94)
- Field Apply of READI-K
 - In 2008, the Korean Armed Forces Nursing Academy Cadets' Readiness was assessed.
 - In 2009, the ROK army nurse officers' total force readiness was assessed.

Comparison of Each Nation's Study Results



Results of the confirmatory factor analysis for seven domains



Chi-square Value=21.351
P Value=0.006
GFI(Goodness of Fit Index)=0.986
CFI(Comparative Fit Index)=0.988
AGFI(Adjusted Goodness of Fit Index)=0.969
RMSEA(Root Mean Square Error of Approximation)=0.039

Conclusion & Recommendation



- READI introduces you what kind of competencies are required for nurses in austere environment.
- READI can assess you & your organizations' nursing readiness to respond disaster situation.
- READI is also available for Civilian nurses.
- So far, READI is available in 3 languages. Recommend to expand this tool to your own language.

References

Dremsa T, Resnick B, Braun R, Derogatis L, McEntee M, Turner M, Reineck C: Pilot Testing the READI Revised for Air Force Nurses. *Military Medicine* 2004; 169: 11-15.

Eun Goung A, Choi JA, Ko UJ, Reineck CA: A Study of Republic of Korea Army Nurse Officers' Perceived Level of Readiness. *Journal of Military Nursing Research* 2009; 27:5-26.

Eun Goung A: A study of AFNA Cadets' Perceived Readiness before graduation. *Journal of Military Nursing Research* 2008; 26(2):23-45.

Maneesriwongul W, Dixon J: Instrument Translation Process: A Methods Review. *Journal of Advanced Nursing* 2004; 48: 175-186.

Myoung Ran Y, Sun Ok H, Yun Jung, C: A study for the development of integrated nursing curriculum in armed forces nursing academy: *Journal of Military Nursing Research* 2008; 26(1):1-14.

Rivers F, Wertenberger D, Lindgren K: U.S. Army PROFIS Nursing Personnel: Do they possess competency needed for Deployment? *Military Medicine* 2006; 171: 142-149.

Stevenson M, Scholes R, Dremsa T, Austin P: Readiness Estimate & Deployability Index for Air Force Nurse Anesthetists. *Military Medicine* 2007; 172: 36-39.

Wilmoth M, DeScisciollo S, Gilchrest L, Dmochowski J: *Military Medicine* 2007; 172: 800-805



Department of Emergency and Critical Care Medicine, Wakayama Medical University