

**Self-Esteem of Future Leaders of DPRK:
Empirical Evidence based on
the First Self-Administered Survey in Pyongyang**

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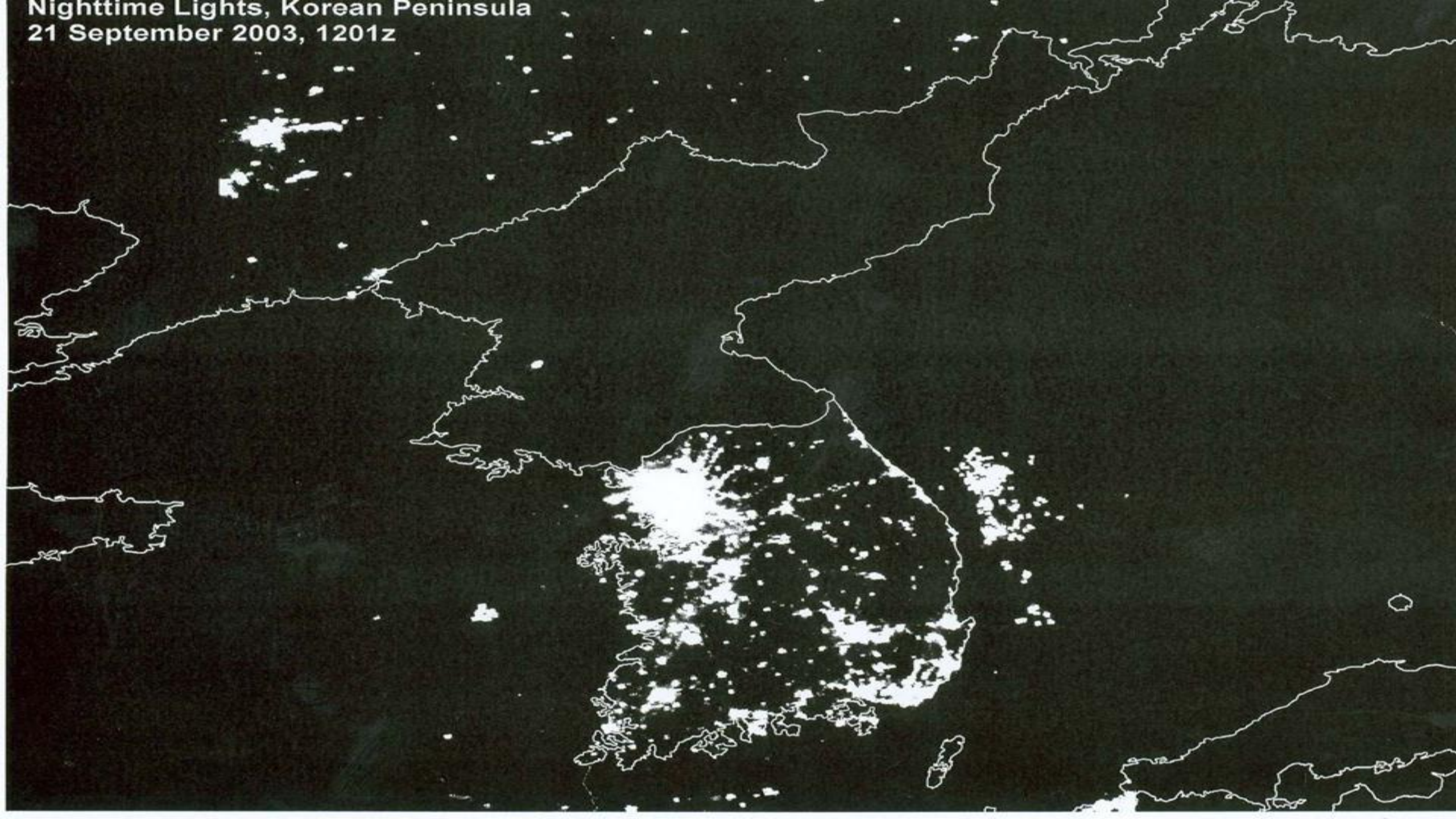
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Nighttime Lights, Korean Peninsula
21 September 2003, 1201z



Outline

- Motivation and Literature
- Research Questions
- Methodology, Challenges and Opportunities
- DPRK Survey Findings and Data Visualization in Comparison to 53 Countries
- Conclusion

Motivation for Survey Research in DPRK

- Why self-esteem of future leaders of DPRK (aka, North Korea)?
- Evidence-based Research to Inform Public Policy in DPRK
- Science Diplomacy (Neureiter, 2001)- PSI Summer Institute for Survey Statistics, Data Science and Interdisciplinary Research trains future leaders in DPRK
- Test the Rosenberg Self-Esteem Scale (RSES) with a sample of future leaders of DPRK

PSI Faculty - Joining Forces across the Atlantic to Teach in DPRK via Science Diplomacy



PSI Faculty Justin Fisher



North Korean students
in their classroom and
eating at the meal hall



- Extremely eager to learn
- Requesting more difficult work
- Friendly and engaging at mealtimes



- Students in DPRK enjoying sports activities and traditional dancing
- Students love sports activities



- Before lunch is time for traditional music and dance
- Balance of academics and physical activity

Key Literature

- 2008 Population Census in DPRK
- DPRK Nutrition Surveys, 1998, 2000, 2002, 2004, 2009, 2012
- Self-Esteem Literature Leveraging Survey Methodology and Statistics
 - Rosenberg (1969), a leading study of global self-esteem
 - Tafarodi & Walters (1999) studied trade-off between self-liking and self-competence sub-scales of the RSES in individualist and collectivist nation
 - Farruggia (2004) used RSES in US, Czech, China, and South Korea
 - Schmitt & Allik (2005) administered RSES to university students in 53 nations

Research Questions

- Assess feasibility and reliability/validity of the Rosenberg Self-Esteem scale with people in DPRK
- Identify factors that account for self-esteem of future leaders of DPRK
- Assess self-esteem of North Koreans with those of other countries

Methodology:

Why Rosenberg Self-Esteem Scale?

- Definition
 - Self-esteem as overall positive or negative evaluation of one's worth
- Rosenberg Self-Esteem Scale: the most widely used measure of self-esteem in social science research
 - Largely proofed and highly reliable
 - Easy to administer and score
 - Reliable across languages and countries

Rosenberg Self-Esteem Scale

	1 = Strongly Agree	2 = Agree	3 = Disagree	4 = Strongly Disagree
1. On the whole, I am satisfied with myself.	SA	A	D	SD
2. At times I think I am no good at all.	SA	A	D	SD
3. I feel that I have a number of good qualities.	SA	A	D	SD
4. I am able to do things as well as most other people.	SA	A	D	SD
5. I feel I do not have much to be proud of.	SA	A	D	SD
6. I certainly feel useless at times.	SA	A	D	SD
7. I feel that I'm a person of worth.	SA	A	D	SD
8. I wish I could have more respect for myself.	SA	A	D	SD
9. All in all, I am inclined to think that I am a failure.	SA	A	D	SD
10. I take a positive attitude toward myself.	SA	A	D	SD

Survey Questionnaire Used in DPRK

The 2012 Student Survey - Pyongyang Summer Institute in Survey Science and Quantitative Methodology

Please answer the questions below. There is no right or wrong answer.

Course: _____

1. What is your major? Electronic Engineering & Computer Science
Agriculture and Life Science

Undecided

International Finance and Management

2. In what year were you born? _____

3. How many brothers or sisters do you have?

_____ Brothers

_____ Sisters

4. What is your favorite sport? _____

5. What is your favorite color? _____

6. How many hours did you sleep last night? _____

7. Please list all mathematics and statistics courses you have taken in the past two years. _____

8. What university have you attended prior to being admitted to PUST? _____

9. How many years of education have you completed since Kindergarten? _____

What is the highest level of education your parents have completed? Circle the answer that best applies to them.

10. Mother: Less than high school--High school graduate---Some college--College graduate---Master's degree---Doctoral degree

11. Father: Less than high school--High school graduate---Some college--College graduate---Master's degree---Doctoral degree

Survey Questionnaire Used in DPRK

12. Compared to other students your age, would you say you are not at all proficient in English, not very proficient, somewhat proficient, or very proficient?

13. Compared to other people your age, would you say you are not at all healthy, not very healthy, somewhat healthy, or very healthy?

14. Similarly, compared to other people your age, would you say you are not at all happy, not very happy, somewhat happy, or very happy?

For questions 15 – 24, please indicate whether you Strongly Disagree (SD), Disagree (D), Agree (A), or Strongly Agree (SA) with each statement. Circle the single answer that best applies to you.

15. I feel that I'm a person of worth, at least on an equal plane with others. SD D A SA

16. I feel that I have a number of good qualities. SD D A SA

17. All in all, I am inclined to feel that I am a failure. SD D A SA

18. I am able to do things as well as most other people. SD D A SA

19. I feel I do not have much to be proud of. SD D A SA

20. I take a positive attitude toward myself. SD D A SA

21. On the whole, I am satisfied with myself. SD D A SA

22. I wish I could have more respect for myself. SD D A SA

23. I certainly feel useless at times. SD D A SA

24. At times I think I am no good at all. SD D A SA

DPRK Students Filling Out a Survey



Limitations and Challenges

- The DPRK survey sample consists only of male elite students
- The survey questionnaire had to be short and could not include any political and religious questions
- Findings may not be generalizable to all future leaders in DPRK

Opportunities of Science Diplomacy in DPRK

- North Koreans are eager to learn
- DPRK government and education institutions are willing to support higher education training that involves internationals in order to advance education and research capacity building
- Science diplomacy promotes scholar-to-scholar contact, student-to-student contact, and people-to-people contact

Survey Findings

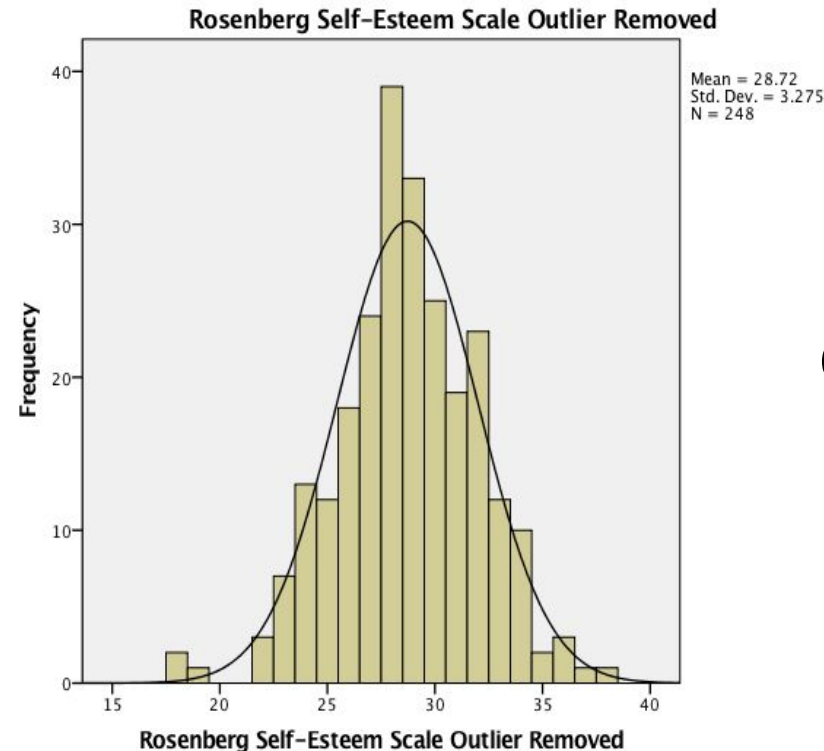
- **Descriptive Analysis**
- **Multivariate Analysis**
- **Data Visualization**

Analysis of Self-Esteem

	N	Minimum	Maximum	Mean	SD
RSES	249	13	38	28.66	3.417

The mean score of DPRK is above the theoretical midpoint of the scale.

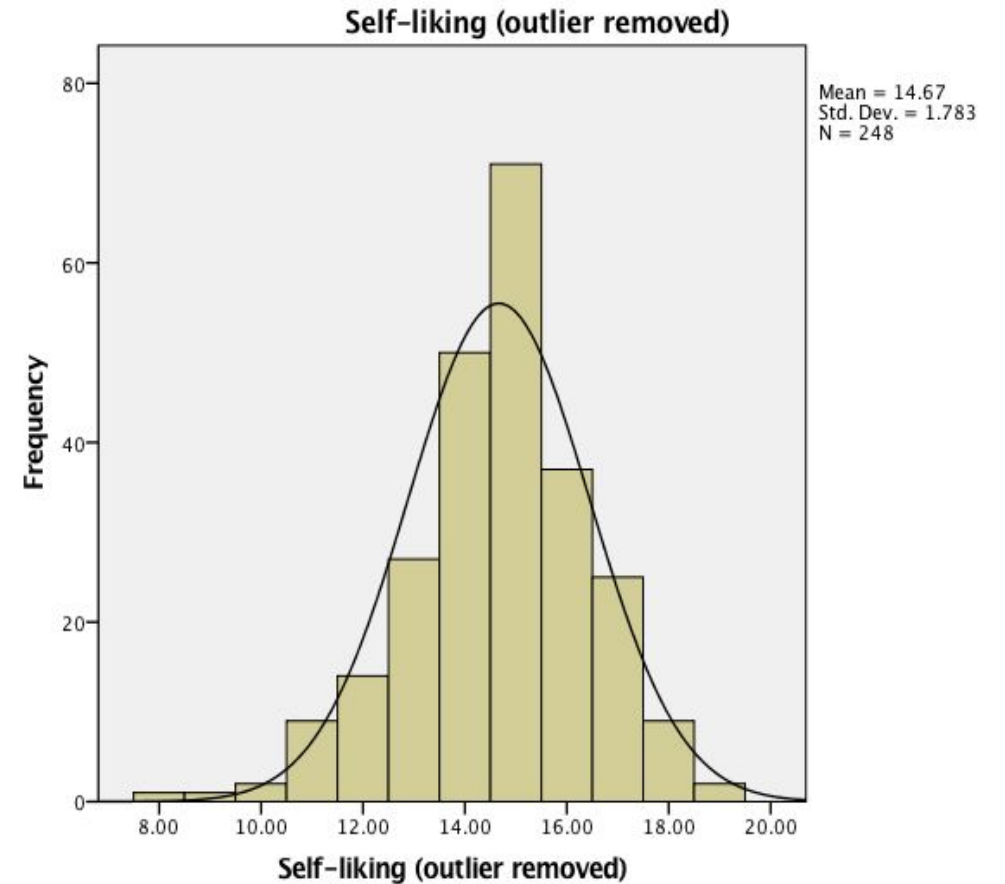
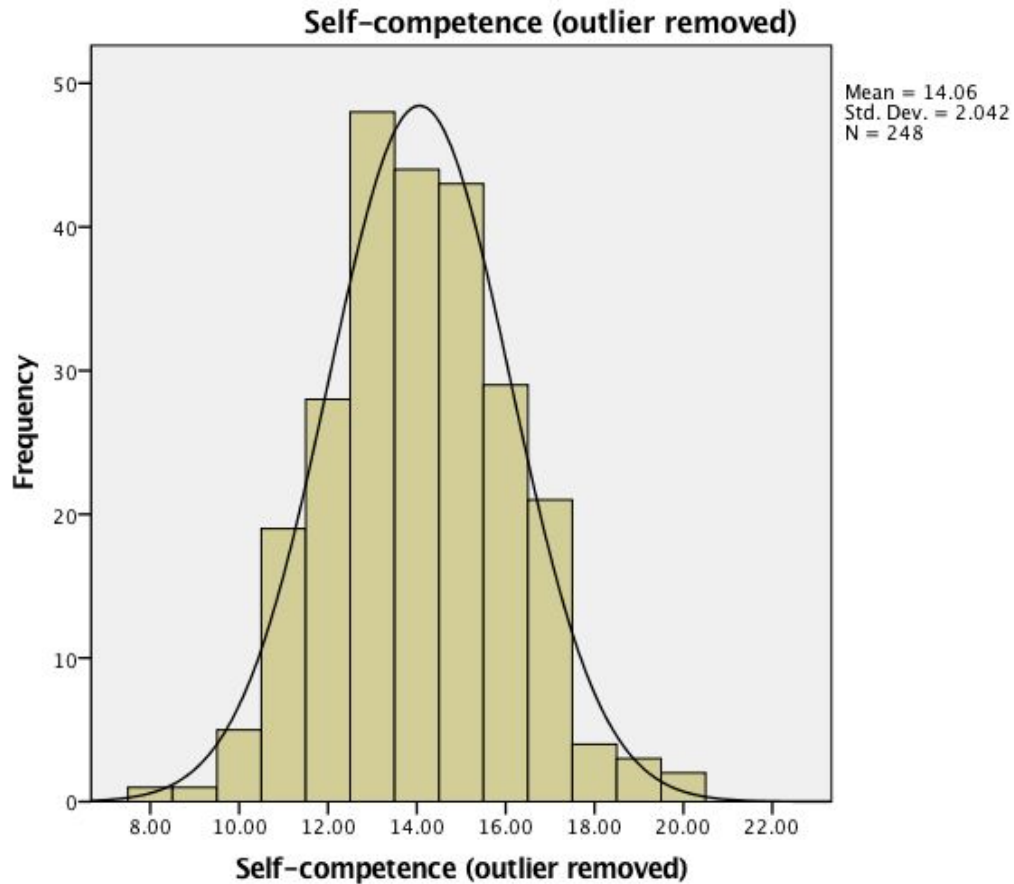
A score between 15 and 25 is considered to be average



Internal reliability -
Cronbach's Alpha of .68

Response distribution of Rosenberg Self-Esteem Scale (RSES)

Self-Competence vs. Self-Liking



A 2-tailed T-test indicates a statistically significant difference (p -value $\ll 0.05$) between the mean responses in “self-competence” and “self-liking”.

Factor Analysis

	Component
	1
Feeling Useless at Times	.599
Feeling of Self Worth	.591
Taking Positive Attitude Toward Self	.590
Think You Are No Good at Times	.587
Feeling Lack of Pride	.575
Feeling of Possessing Good Qualities	.535
Feeling of Being a Failure	.451
Feeling Satisfied with Self	.430
Feeling of Doing Things as Well as Others	.332

The one dimensional structure of RSES seems suitable to measuring self-esteem of future leaders of DPRK.

Correlation Analysis

Potential Correlates of North Korean Self-Esteem

Education Measurement

Major at university

Prior university attended

Relative English proficiency

Parental education

Physical Health Conditions

Self-Reported Health

Social Support

Number of siblings

Favorite sports

Favorite colors

Psychological variables

Self-Reported Happiness

Common correlates of self-esteem in literature

- Education
- Psychological Wellbeing
- Social support
- Socio-economic status

Significant Correlates of North Korean Self-Esteem

(Based on ANOVA; $P = 0.05$)

- Education
 - Major at University
 - English proficiency
 - Taking courses on statistics
- Self-Reported Health in Comparison to Others
- Perceived Happiness in Comparison to Others

Correlates of North Korean Self-Esteem

Education - Major at University

Students who majored in International Finance/Management obtained significantly higher RSES scores than those majoring in other subjects.

Major	N	Mean RSES	Standard Deviation
Electrical Engineering and Computer Science	55	27.8	4.3
International Finance and Management	41	29.8	3.3
Agriculture and Life Science	40	29.0	3.5
Undecided	90	28.6	2.7
Total	226	28.7	3.4

Correlates of North Korean Self-Esteem

Education - English proficiency

Students who were more proficient in English obtained significantly higher RSES scores.

English Proficiency	N	Mean RSES	Standard Deviation
Not at all proficient	0	N/A	N/A
Not very proficient	72	27.6	3.8
Somewhat proficient	160	28.9	3.0
Very proficient	15	31.3	3.5
Total	247	28.7	3.4

Correlates of North Korean Self-Esteem

Physical Health Condition (Self-Reported Health)

Students who reported more healthy in comparison to others obtained significantly higher RSES scores.

Level of Health	N	Mean RSES	Standard Deviation
Not at all healthy	0	N/A	N/A
Not very healthy	42	27.6	4.0
Somewhat healthy	133	28.4	3.4
Very healthy	71	29.7	2.6
Total	246	28.7	3.4

Correlates of North Korean Self-Esteem

Psychological Well-being (Self-Reported Happiness)

Students who reported happier in comparison to others obtained significantly higher RSES scores.

Level of Happiness	N	Mean	Standard Deviation
Not at all happy	0	N/A	N/A
Not very happy	14	27.9	4.2
Somewhat happy	124	28.2	3.3
Very happy	105	29.3	3.4
Total	243	28.7	3.4

Multivariate Analysis of North Korean Self-Esteem

Research Question

**What factors may account for
North Korean Self-Esteem?**

Findings: Simple Model 1 (Regression Analysis)

RSES ~ Health

Variable	Coefficient (unstandardized)	Coefficient (standardized)
Intercept	26**	0.00**
Health level	1.5**	0.23**

R-squared = 0.043

Note: * significant at $p = .10$; ** significant at $p = .05$.

Findings: Simple Model 2

RSES ~ Health + Major

Variable	Coefficient (unstandardized)	Coefficient (standardized)
Intercept	26**	0.00**
Health level	1.5**	0.21**
Major	1.0*	0.12*

R-squared = 0.065

Note: * significant at $p = .10$; ** significant at $p = .05$.

Findings - Intermediate Model 1

RSES ~ Health + Major + Happiness

Variable	Coefficient (unstandardized)	Coefficient (standardized)
Intercept	26**	0.00**
Health level	1.2**	0.17**
Major	0.90 (almost *)	0.11 (almost *)
Happiness level	0.52	0.080

R-squared = 0.064

Note: * significant at $p = .10$; ** significant at $p = .05$.

Findings - Intermediate Model 2

RSES ~ Health + Major + Happiness + English proficiency

Variable	Coefficient (unstandardized)	Coefficient (standardized)
Intercept	25**	0.00**
Health level	1.1**	0.15**
Major	0.92 (almost *)	0.11 (almost *)
Happiness level	0.51	0.077
English proficiency	1.0**	0.14**

R-squared = 0.083

Note: * significant at $p = .10$; ** significant at $p = .05$.

Findings: Full Model

RSES ~ Health + Major + Happiness + English proficiency + Control Vars (Age, University, Siblings)

Variable	Coefficient (unstandardized)	Coefficient (standardized)
Intercept	25**	0.00**
Health level	1.1**	0.16**
Major	0.97*	0.12*
Happiness level	0.55	0.084
English proficiency	0.71	0.098
Age	-0.0068	-0.0034
Previous university	0.41	0.050
Siblings	0.059	0.0077

R-squared = 0.085

Note: * significant at $p = .10$; ** significant at $p = .05$.

Findings - Regression Analysis

Self-competence as the dependent variable

- Health level not significant in any of the models
- Major and English proficiency significant in all models

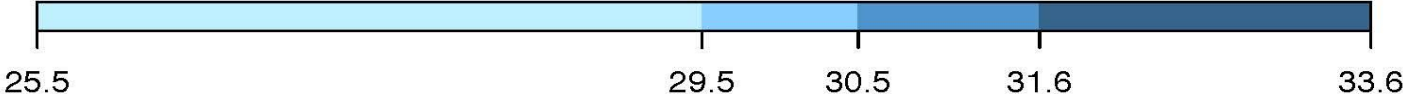
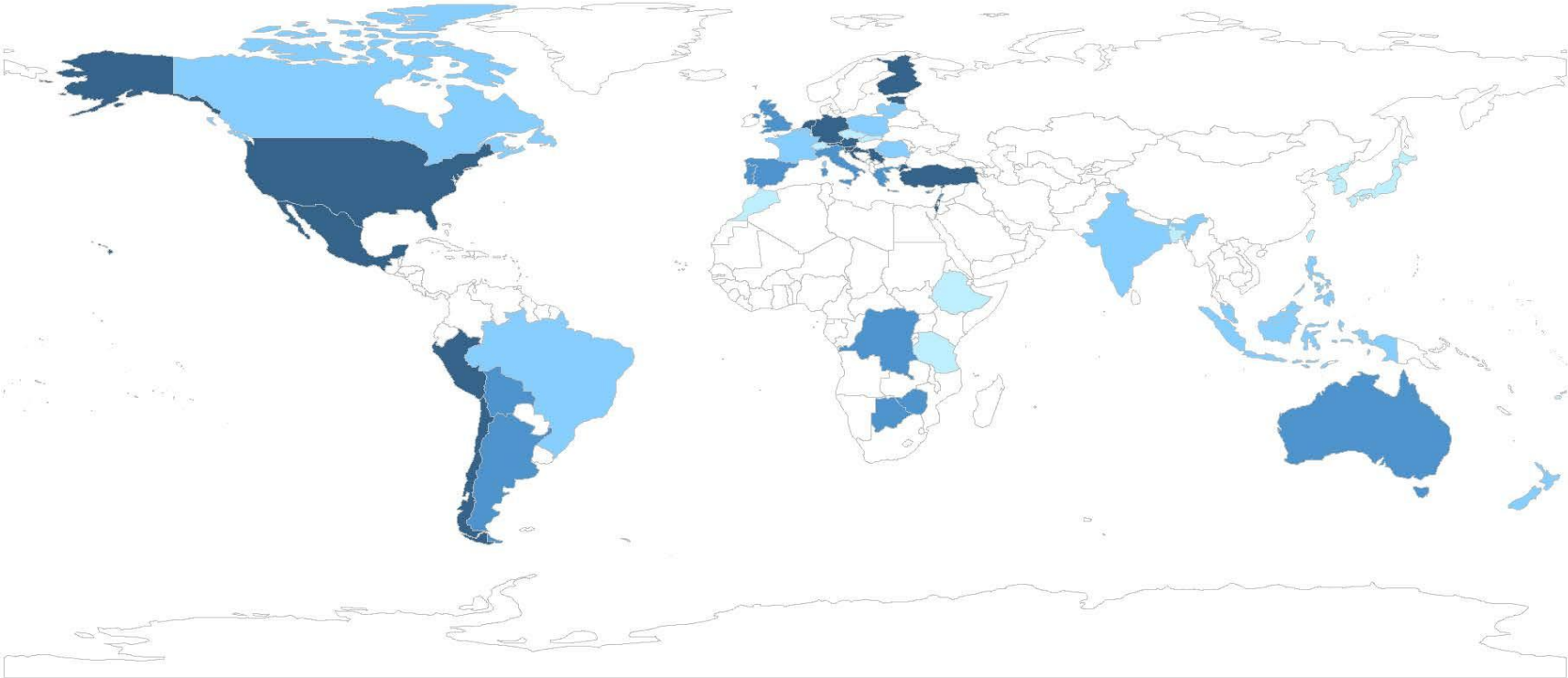
Self-liking as the dependent variable

- Health level significant for models 1 & 2 only
- No significant explanatory variables in models 3,4, and 5
- Happiness level was just shy of significance at $p=0.1$ in all the models in which it was included

Data Visualization of North Korean Self-Esteem Compared to Peers in 53 Nations

- Comparison of DPRK Self-Esteem with 53 Countries in the West and the East
- Comparison of Coefficient of Variation of DPRK Self-Esteem with those of 53 Countries
- Comparison of Self-Liking and Self-Competence of DPRK with those of 53 countries

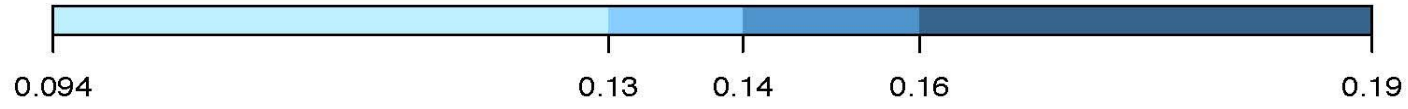
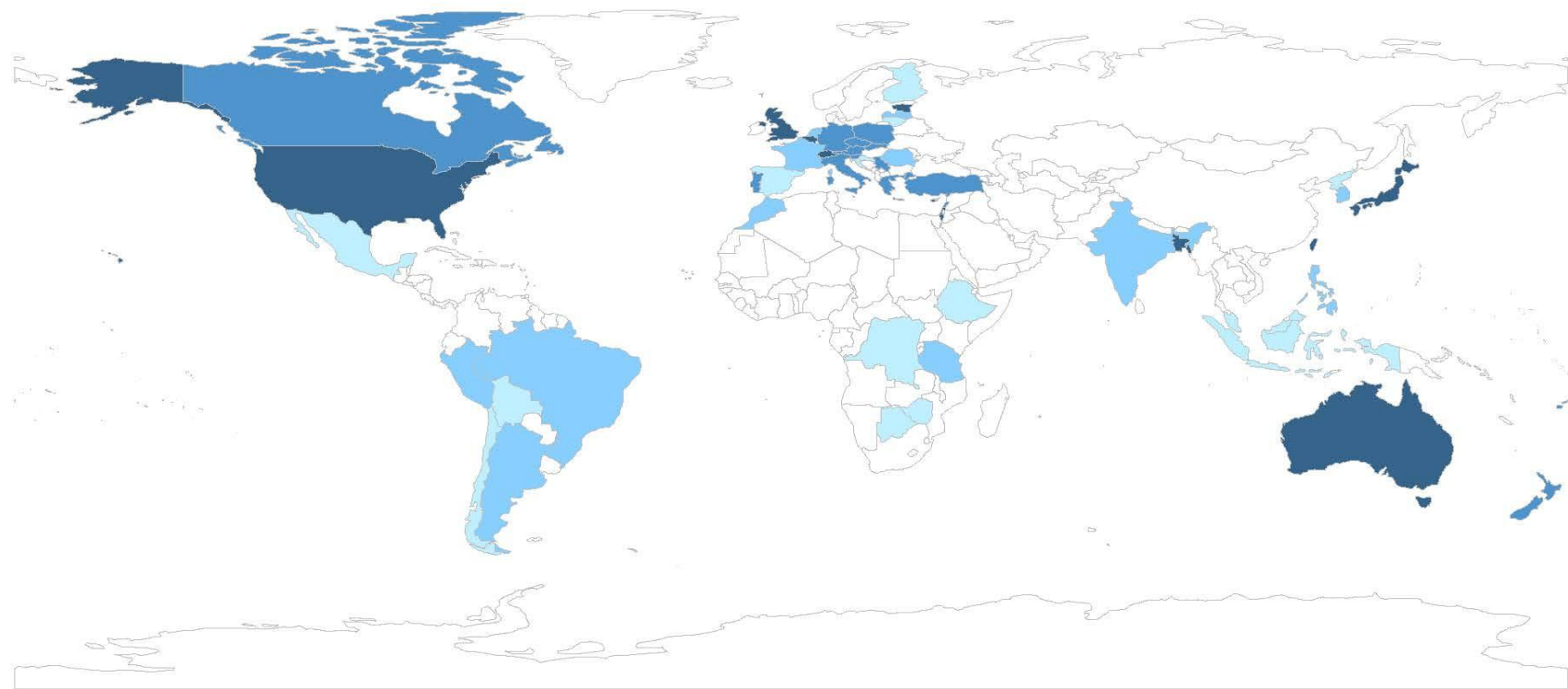
Mean Levels of RSES in 54 Nations



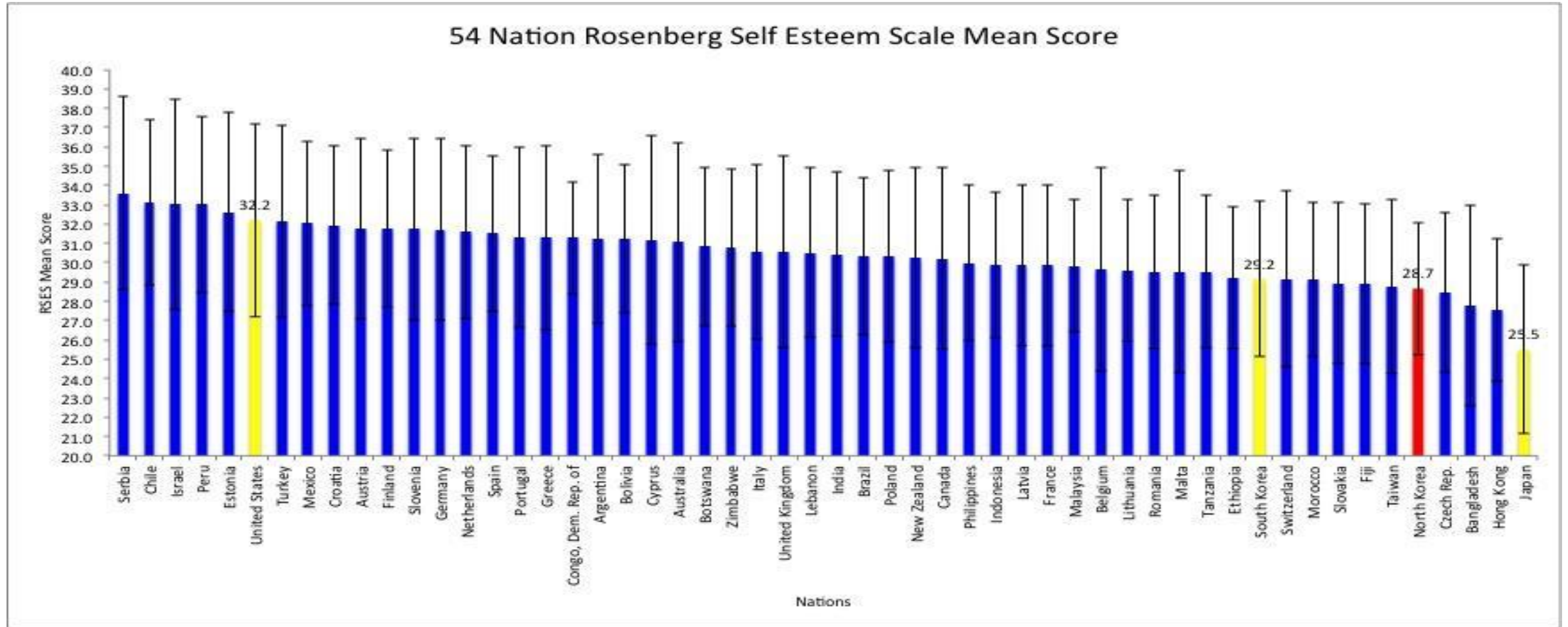
RSES Scores in 54 Nations

Schmitt & Allik (2005)

Coefficient of Variation Values of RSES in 54 Nations



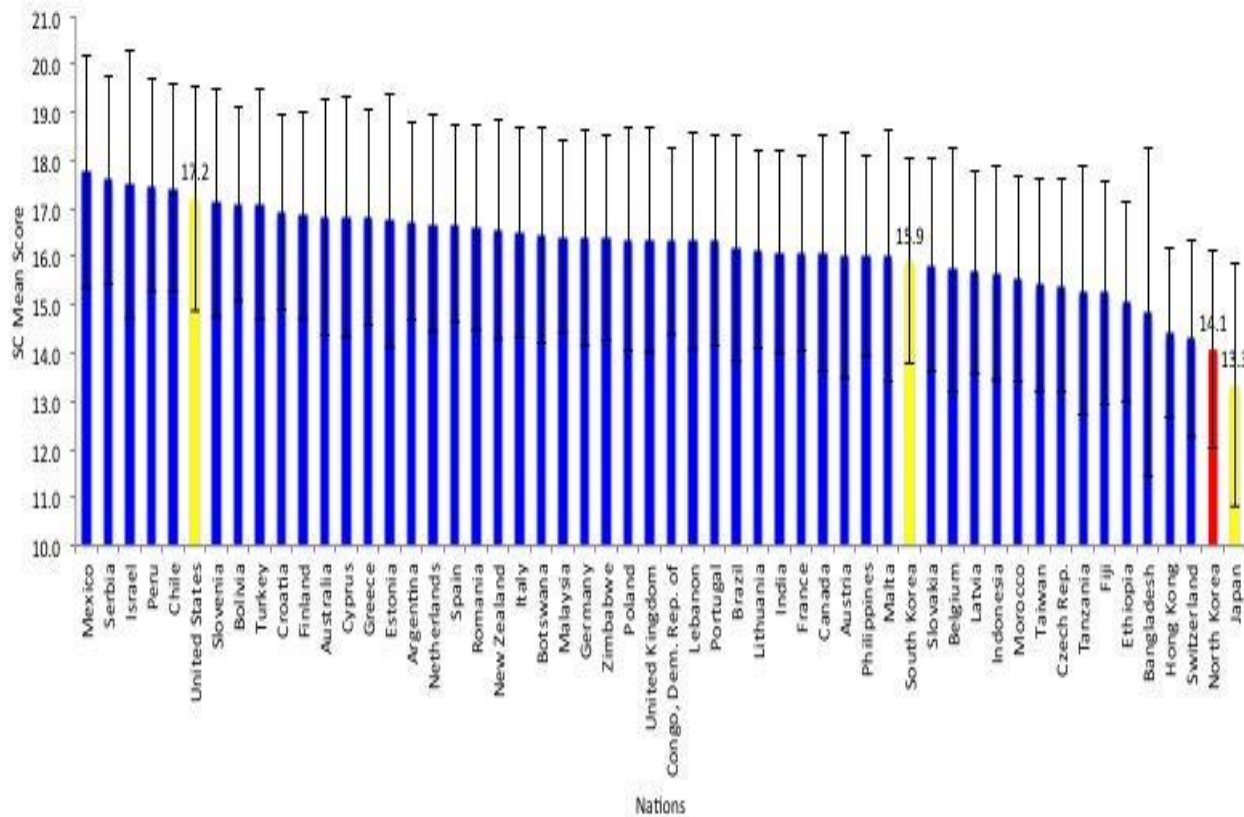
Self-Esteem of DPRK in Comparison to 53 Other Countries



RSES Mean Score in 54 Nations

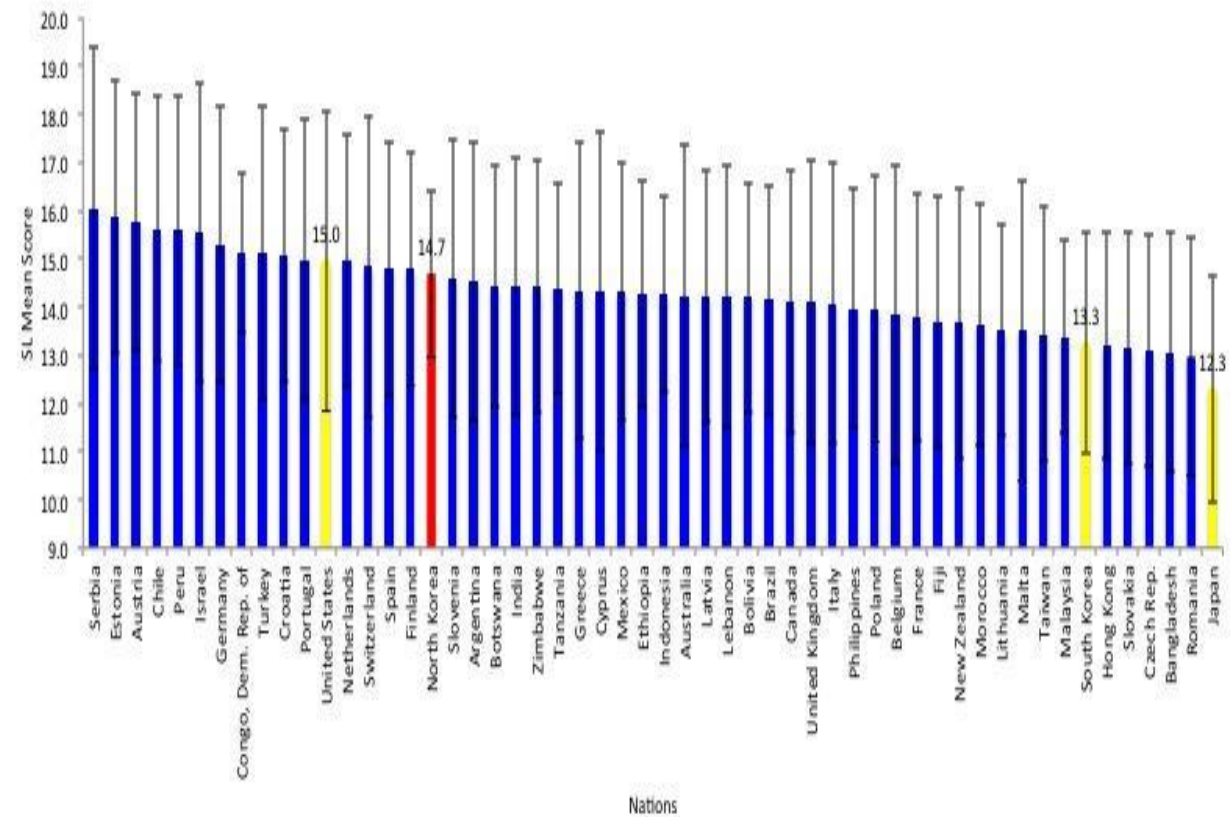
Self-Competence and Self-Liking of DPRK in Comparison to 53 Countries

Self-Competence Mean Score of DPRK and 53 Countries



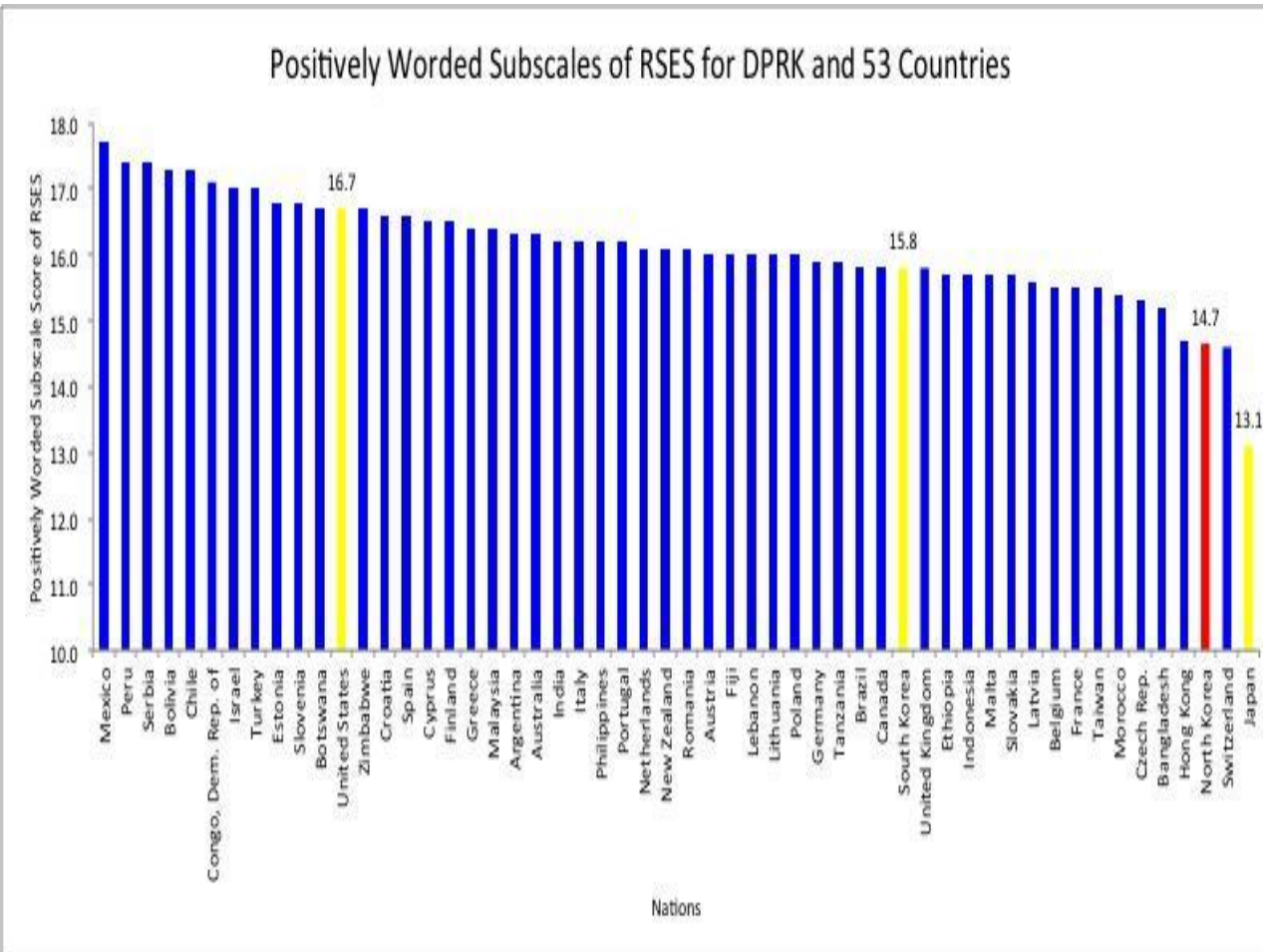
RSES Self-Competence Mean Score in 54 Nations

Self-Liking Mean Score of DPRK and 53 Countries

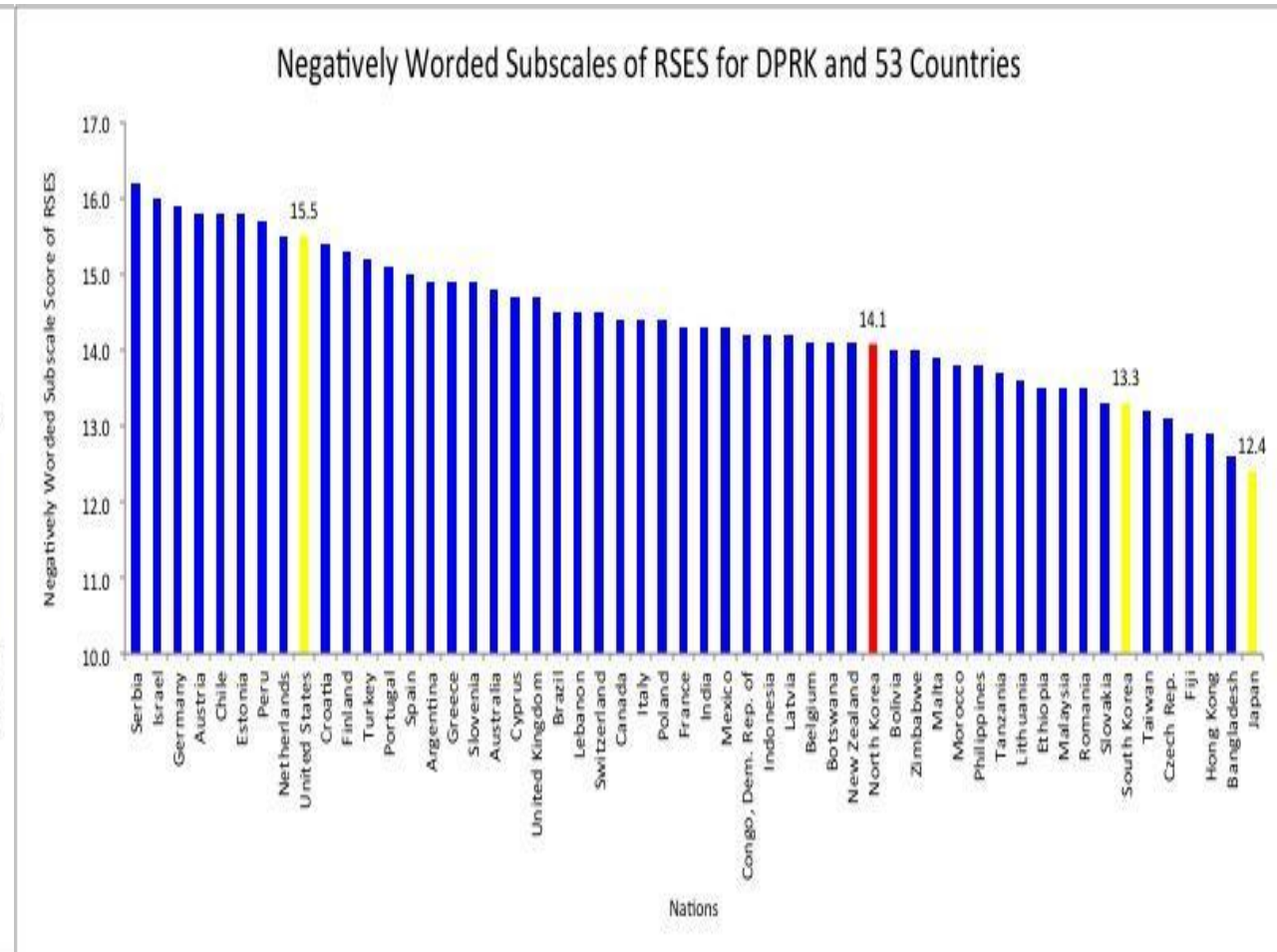


RSES Self-Liking Mean Score in 54 Nations

Positively and Negatively Worded Items of RSES Responded by DPRK People and 53 Countries



RSES Positively Worded Items in 54 Nations



RSES Negatively Worded Items in 54 Nations

Science Diplomacy in DPRK toward Sustainable Engagement



- Classroom building and overview of the campus
- Paying respect to the leader
- Modern buildings



PSI Faculty Dr. Rene Paulson with DPRK Students





Indoor walkways connect most of the buildings on campus

Dormitories where the faculty stayed have a modern design.

All the landscaping seems to be done by hand by the students.





PSI Director & DPRK Students



Conclusion

- A survey research is feasible in DPRK to provide evidence to inform the process of public policy in DPRK
- RSES is a valid measure of self-esteem of North Korean people
- Future Leaders in DPRK show survey response behavior as close as those expressed by young adults in collectivist countries.
- Future leaders in DPRK have higher self-liking than self-competence.
- Health and academic major are the most critical drivers of one's self-esteem among future leaders in DPRK

Questions for Discussion

- What are the ramifications of findings in a self-esteem study of future leaders of North Korea in relation to foreign policies by Seoul, Washington and Beijing toward Pyongyang?
- What survey research may be viable to advance evidence-based policy making in DPRK?
- What would be best practices of science diplomacy by President Moon's ROK administration with DPRK?

Thank You

Contact Asaph Young Chun if you have questions.

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<http://www.isr2020.org/>

The PSI survey data of future leaders of DPRK will be soon available to encourage studies of evidence-based policy making.

Optional Additional Slides

Power of Science Diplomacy in Strategic Context of Trump's Policy toward DPRK

Overview of Recent History

- Clinton – 1994 Agreed Framework
- Bush
 - Benign Neglect
 - Nuclear test (2006); Banco Delta Asia in Macau; NK-Syria nuclear program
 - Followed by 6 Party Talks
- Obama
 - Strategic Patience (in consultation with 6 party allies)
 - Nuclear test and long-range missile tests (2009)
 - Three rounds of direct talks (July 2011 - February 2012)
 - Three-stage rocket test (Dec, 2012)
 - Additional nuclear tests (2013 - 2016)

Why Going for Nuclear Program?

- Military First is the primary policy of DPRK since 1945
- Nuclear is the only deterrence of DPRK
(the use of the power to hurt as bargaining power)
 - More leverage after going nuclear
 - Security guarantee
 - Regime survival
- Nuclear First

Washington's Responses

- Maximum Pressure and Engagement by Trump administration
- All options are on the table, including military attacks
- Sticks and Carrots
 - Manage a variety of threats and brinkmanship of DPRK
 - Implement full sanctions yet avoid full-scale war
 - Peace treaty; establish diplomatic relationship; economic support
 - Encourage science diplomacy (e.g., Kennedy's engagement with Japan after World War II, Nixon's breakthrough with Beijing in 1970's)

China Factor

- Nostalgia about Korean liberation war
- Presence of a buffer state
- Fear of instability of refugees flowing into Chinese border

If Failed

- Contain danger on the Korean peninsula
- If Yonpeng incident repeats, be ready to mount a proportionate and localized response
- Allow ROK and Japan to go nuclear
- Other consequences

Scenarios for US-ROK Policy Coordination toward North Korea

- Soft power scenario: carrots and sticks; leverage China
- Hard power scenario: military attacks, nuclear deterrence
- Smart power
 - Sunshine 3.0 (No Moonshine)
 - Multilateral talks to engage DPRK by leveraging Beijing and Washington, including peace treaty
 - Economic collaboration in exchange for nuclear-free
 - Military readiness and nuclear deterrence

Vehicles to Assist Sunshine 3.0

- Deal with Pyongyang as it is, not as we wish it might be (William Perry, 1999)
- Leverage science diplomacy (Neureiter, 2001)
- Understand political psychology of North Korean leaders as they are (A Case Study by Chun et al, 2017)