The Cross-Cultural Big Two: Assessment of a Culturally De-Centered Inventory in 27 Nations

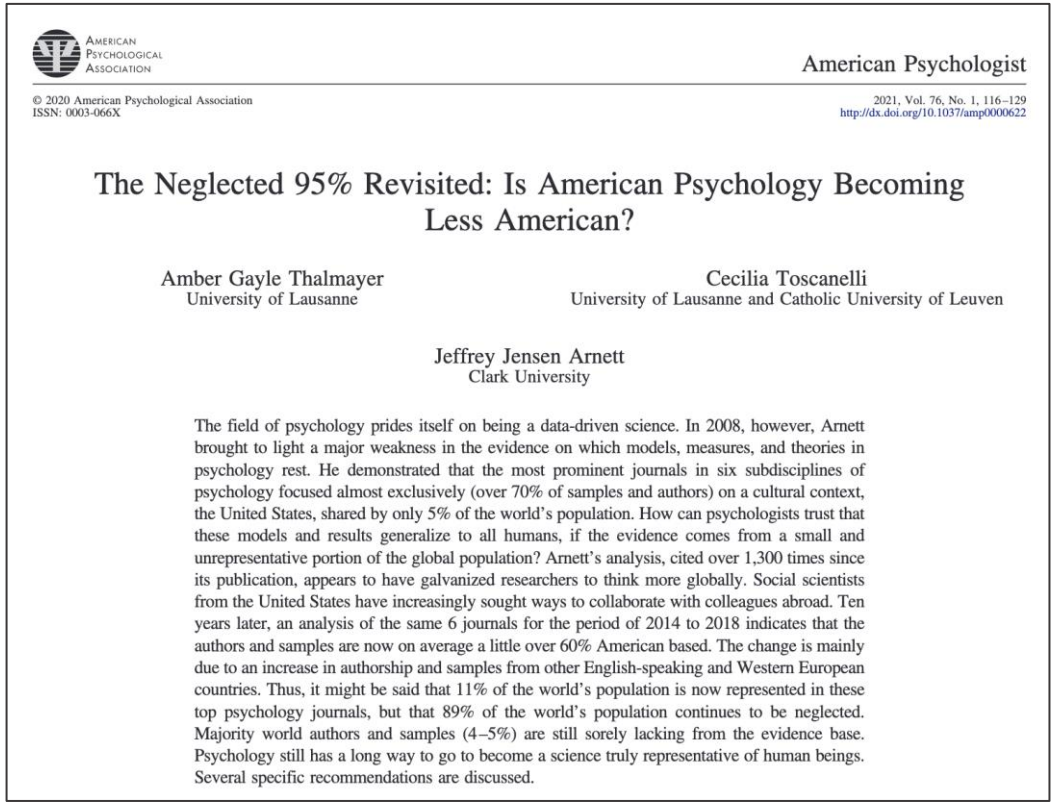
Kendall Mather[1], David Condon[1], Julia Rotzinger[2], Gerard Saucier[1], & Amber Gayle Thalmayer[2]

[1]University of Oregon

[2]University of Zurich

Cultural representation in psychology research

A recent assessment of representation in psychology research by Thalmayer et al. (2020) ….



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http://dx.doi.org/10.1037/amp0000622

The Neglected 95% Revisited: Is American Psychology Becoming Less American?

Amber Gayle Thalmayer
University of Lausanne

Cecilia Toscanelli
University of Lausanne and Catholic University of Leuven

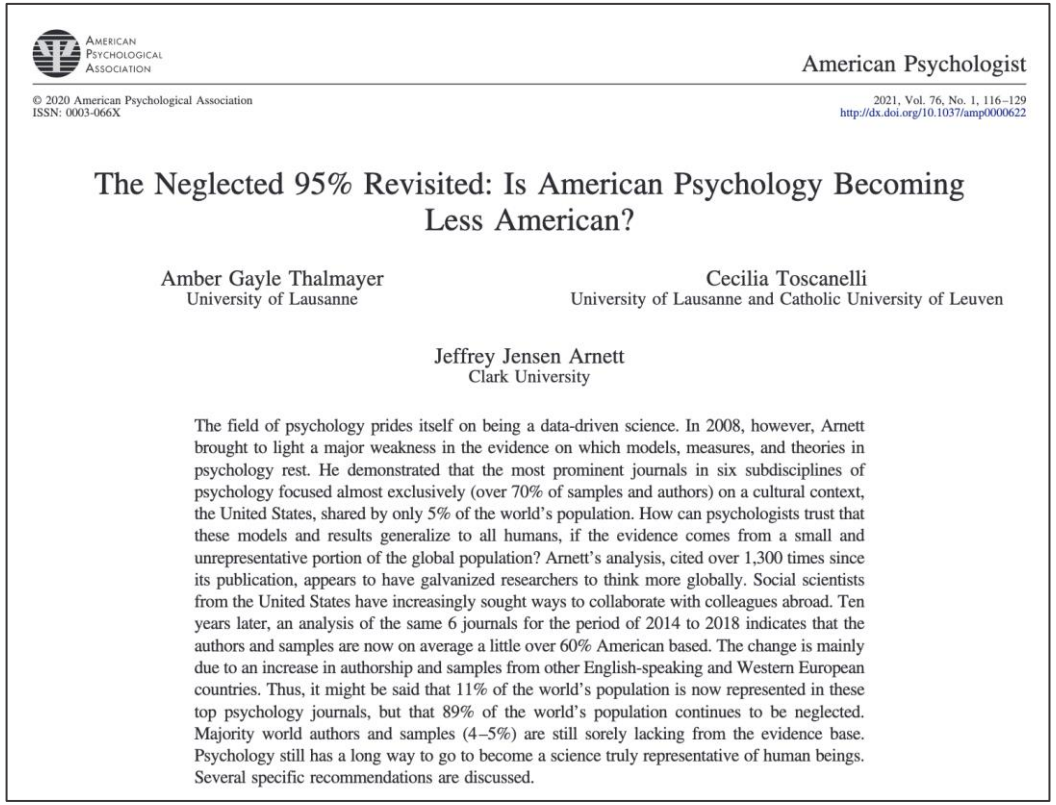
Jeffrey Jensen Arnett
Clark University

The field of psychology prides itself on being a data-driven science. In 2008, however, Arnett brought to light a major weakness in the evidence on which models, measures, and theories in psychology rest. He demonstrated that the most prominent journals in six subdisciplines of psychology focused almost exclusively (over 70% of samples and authors) on a cultural context, the United States, shared by only 5% of the world's population. How can psychologists trust that these models and results generalize to all humans, if the evidence comes from a small and unrepresentative portion of the global population? Arnett's analysis, cited over 1,300 times since its publication, appears to have galvanized researchers to think more globally. Social scientists from the United States have increasingly sought ways to collaborate with colleagues abroad. Ten years later, an analysis of the same 6 journals for the period of 2014 to 2018 indicates that the authors and samples are now on average a little over 60% American based. The change is mainly due to an increase in authorship and samples from other English-speaking and Western European countries. Thus, it might be said that 11% of the world's population is now represented in these top psychology journals, but that 89% of the world's population continues to be neglected. Majority world authors and samples (4–5%) are still sorely lacking from the evidence base. Psychology still has a long way to go to become a science truly representative of human beings. Several specific recommendations are discussed.

- Some improvement in representation since 2008

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"Majority world authors and samples are still sorely lacking from the evidence base"

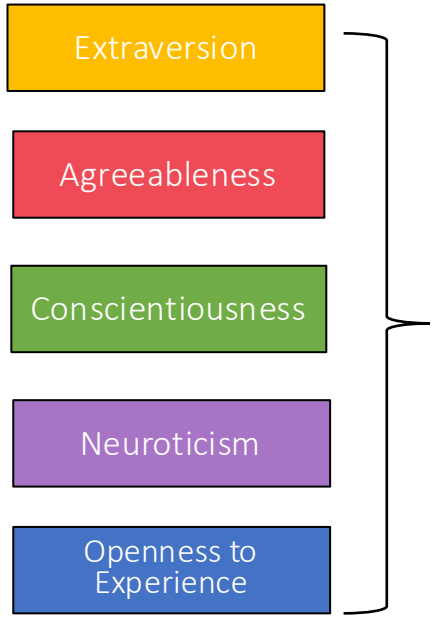
About 89% of population is still neglected in psychology research

- Mostly from societies in Asia, Africa, Latin America, and the Caribbean

Cultural representation in “universal” personality assessment models

Cultural representation in “universal” personality assessment models

Big Five/Five Factor Model



- Suggested to be universal (Costa & McCrae, 1992) but derived using western samples
- Structure not spontaneously found in many lexical studies

Cultural representation in “universal” personality assessment models

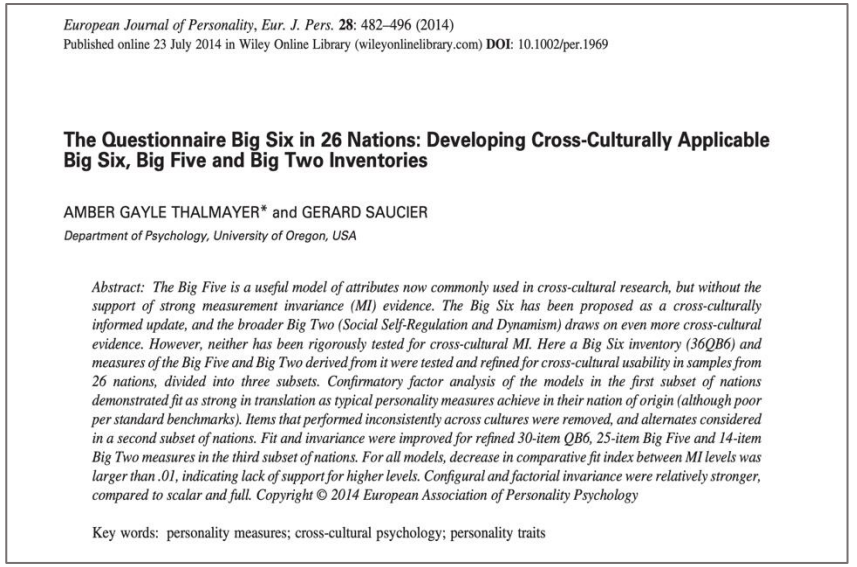
Big Five/Five Factor Model

- Extraversion
- Agreeableness
- Conscientiousness
- Neuroticism
- Openness to Experience

- Suggested to be universal (Costa & McCrae, 1992) but derived using western samples
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Big Six/HEXACO

- Honesty/humility
- Emotional Stability
- Extraversion
- Agreeableness
- Conscientiousness
- Openness to Experience



European Journal of Personality, Eur. J. Pers. **28**: 482–496 (2014)
Published online 23 July 2014 in Wiley Online Library (wileyonlinelibrary.com) **DOI**: 10.1002/per.1969

The Questionnaire Big Six in 26 Nations: Developing Cross-Culturally Applicable Big Six, Big Five and Big Two Inventories

AMBER GAYLE THALMAYER* and GERARD SAUCIER

Department of Psychology, University of Oregon, USA

Abstract: The Big Five is a useful model of attributes now commonly used in cross-cultural research, but without the support of strong measurement invariance (MI) evidence. The Big Six has been proposed as a cross-culturally informed update, and the broader Big Two (Social Self-Regulation and Dynamism) draws on even more cross-cultural evidence. However, neither has been rigorously tested for cross-cultural MI. Here a Big Six inventory (36QB6) and measures of the Big Five and Big Two derived from it were tested and refined for cross-cultural usability in samples from 26 nations, divided into three subsets. Confirmatory factor analysis of the models in the first subset of nations demonstrated fit as strong in translation as typical personality measures achieve in their nation of origin (although poor per standard benchmarks). Items that performed inconsistently across cultures were removed, and alternates considered in a second subset of nations. Fit and invariance were improved for refined 30-item QB6, 25-item Big Five and 14-item Big Two measures in the third subset of nations. For all models, decrease in comparative fit index between MI levels was larger than .01, indicating lack of support for higher levels. Configural and factorial invariance were relatively stronger, compared to scalar and full. Copyright © 2014 European Association of Personality Psychology

Key words: personality measures; cross-cultural psychology; personality traits

- More support for universality of the big six structure found in lexical studies
- Some dimensions still lack relevance in many contexts

Cultural representation in “universal” personality assessment models

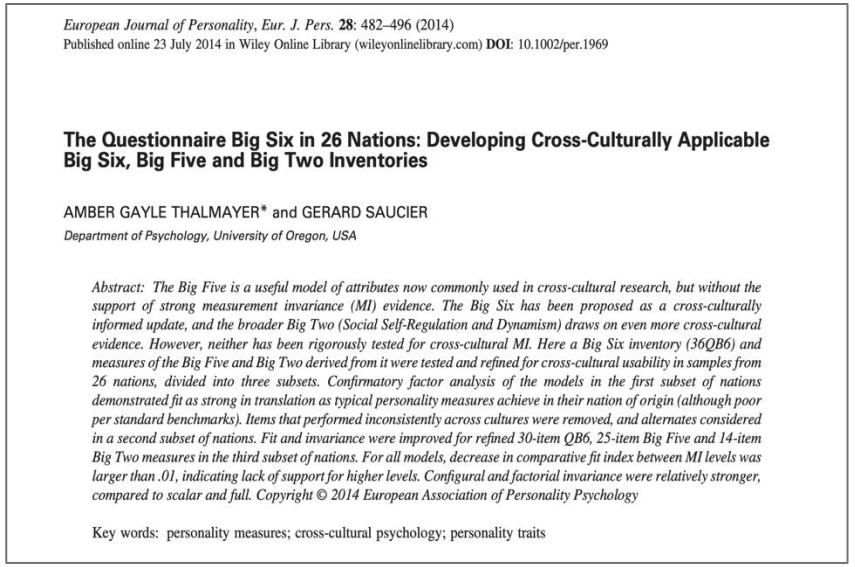
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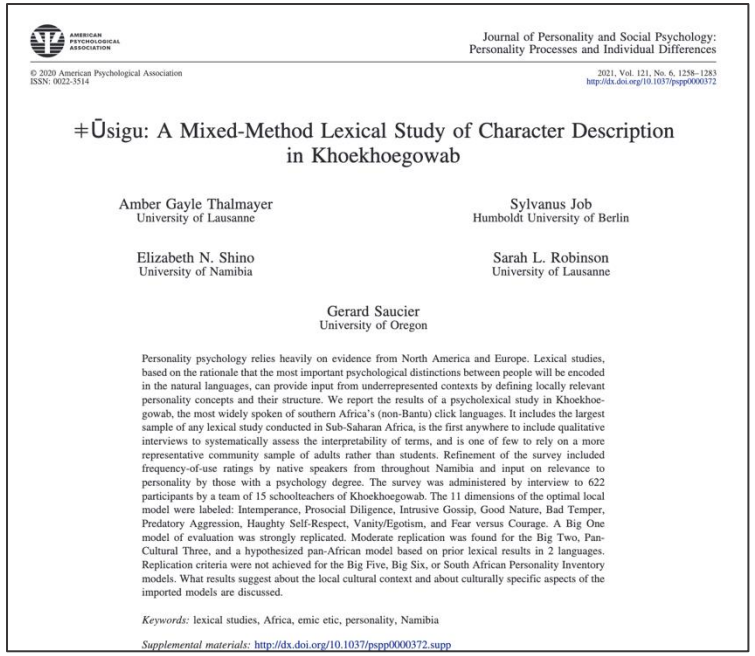
- More support for universality of the big six structure found in lexical studies
- Some dimensions still lack relevance in many contexts

A lack of scalar-level measurement invariance evidence for popular measures prohibits comparison of trait-scores across cultures (Thalmayer & Saucier, 2014)

Local personality structures found in lexical studies

- Structure of personality defined based on the most locally meaningful personality concepts
- Number and nature of traits vary widely across contexts

Culture specific (emic) models:



Journal of Personality and Social Psychology: Personality Processes and Individual Differences

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2021, Vol. 121, No. 6, 1258–1283
http://dx.doi.org/10.1037/pspp0000372

ǂUsigu: A Mixed-Method Lexical Study of Character Description in Khoekhoegowab

Amber Gayle Thalmayer
University of Lausanne

Sylvanus Job
Humboldt University of Berlin

Elizabeth N. Shino
University of Namibia

Sarah L. Robinson
University of Lausanne

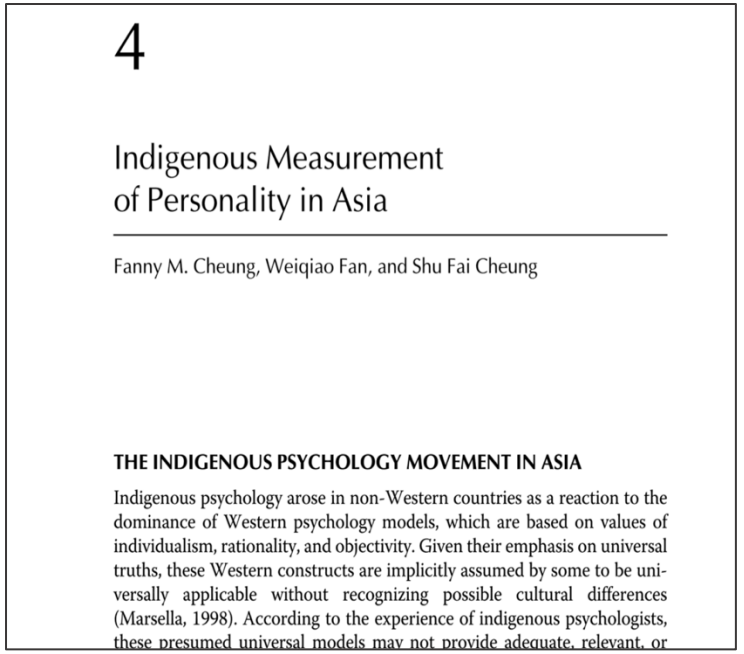
Gerard Saucier
University of Oregon

Personality psychology relies heavily on evidence from North America and Europe. Lexical studies, based on the rationale that the most important psychological distinctions between people will be encoded in the natural languages, can provide input from underrepresented contexts by defining locally relevant personality concepts and their structure. We report the results of a psycholexical study in Khoekhoegowab, the most widely spoken of southern Africa's (non-Bantu) click languages. It includes the largest sample of any lexical study conducted in Sub-Saharan Africa, is the first anywhere to include qualitative interviews to systematically assess the interpretability of terms, and is one of few to rely on a more representative community sample of adults rather than students. Refinement of the survey included frequency-of-use ratings by native speakers from throughout Namibia and input on relevance to personality by those with a psychology degree. The survey was administered by interview to 622 participants by a team of 15 schoolteachers of Khoekhoegowab. The 11 dimensions of the optimal local model were labeled: Intemperance, Prosocial Diligence, Intrusive Gossip, Good Nature, Bad Temper, Predatory Aggression, Haughty Self-Respect, Vanity/Egotism, and Fear versus Courage. A Big One model of evaluation was strongly replicated. Moderate replication was found for the Big Two, Pan-Cultural Three, and a hypothesized pan-African model based on prior lexical results in 2 languages. Replication criteria were not achieved for the Big Five, Big Six, or South African Personality Inventory models. What results suggest about the local cultural context and about culturally specific aspects of the imported models are discussed.

Keywords: lexical studies, Africa, emic etic, personality, Namibia

Supplemental materials: http://dx.doi.org/10.1037/pspp0000372.supp

Thalmayer et al. (2021)



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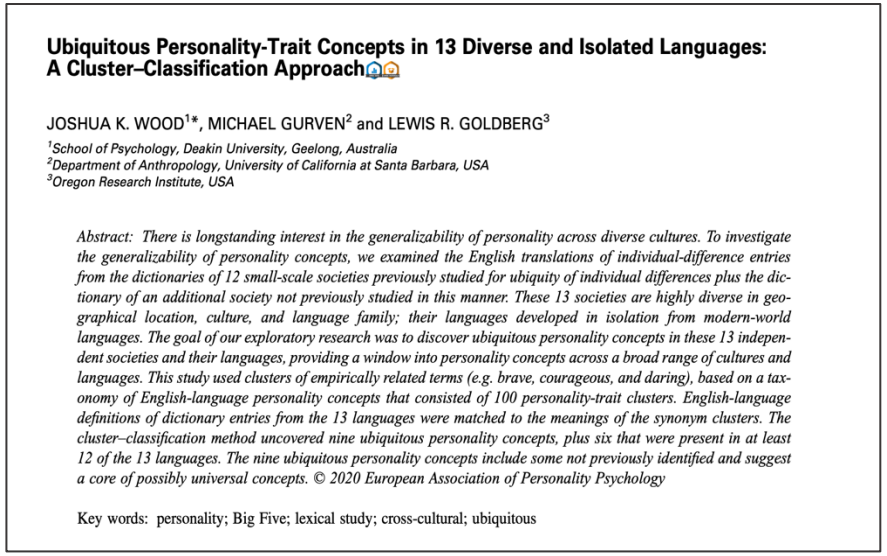
Indigenous Measurement of Personality in Asia

Fanny M. Cheung, Weiqiao Fan, and Shu Fai Cheung

THE INDIGENOUS PSYCHOLOGY MOVEMENT IN ASIA

Indigenous psychology arose in non-Western countries as a reaction to the dominance of Western psychology models, which are based on values of individualism, rationality, and objectivity. Given their emphasis on universal truths, these Western constructs are implicitly assumed by some to be universally applicable without recognizing possible cultural differences (Marsella, 1998). According to the experience of indigenous psychologists, these presumed universal models may not provide adequate, relevant, or

Cheung et al. (2017)



Ubiquitous Personality-Trait Concepts in 13 Diverse and Isolated Languages: A Cluster–Classification Approach

JOSHUA K. WOOD[1]*, MICHAEL GURVEN[2] and LEWIS R. GOLDBERG[3]

[1]*School of Psychology, Deakin University, Geelong, Australia*
[2]*Department of Anthropology, University of California at Santa Barbara, USA*
[3]*Oregon Research Institute, USA*

Abstract: There is longstanding interest in the generalizability of personality across diverse cultures. To investigate the generalizability of personality concepts, we examined the English translations of individual-difference entries from the dictionaries of 12 small-scale societies previously studied for ubiquity of individual differences plus the dictionary of an additional society not previously studied in this manner. These 13 societies are highly diverse in geographical location, culture, and language family; their languages developed in isolation from modern-world languages. The goal of our exploratory research was to discover ubiquitous personality concepts in these 13 independent societies and their languages, providing a window into personality concepts across a broad range of cultures and languages. This study used clusters of empirically related terms (e.g. brave, courageous, and daring), based on a taxonomy of English-language personality concepts that consisted of 100 personality-trait clusters. English-language definitions of dictionary entries from the 13 languages were matched to the meanings of the synonym clusters. The cluster–classification method uncovered nine ubiquitous personality concepts, plus six that were present in at least 12 of the 13 languages. The nine ubiquitous personality concepts include some not previously identified and suggest a core of possibly universal concepts. © 2020 European Association of Personality Psychology

Key words: personality; Big Five; lexical study; cross-cultural; ubiquitous

Wood et al. (2020)

Comparison of personality across cultures

“Universal”, culturally agnostic models

- Prioritize parsimony, generalizability
- Less accurate in any specific context

Culture specific models

- Prioritize accuracy in one context
- Less generalizable to outside contexts

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Universal models align more closely with the goals of research involving cross-cultural comparison of personality on the same attributes and measures.

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Universal models align more closely with the goals of research involving cross-cultural comparison of personality on the same attributes and measures.

We aim to develop a culturally de-centered starting point for cross-cultural personality assessment

A candidate model: the big two

Social Self-regulation

Propriety, Socialization, Community

Dynamism

Activity, Potency, Ascendency

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Dimensions map onto constructs from other theories…

Stability	Agreeableness	Communion	Getting along
Plasticity	Extraversion	Agency	Getting ahead
DeYoung (2006)	**FFM/Big five**	**Bakan (1961)**	**Hogan (1983)**

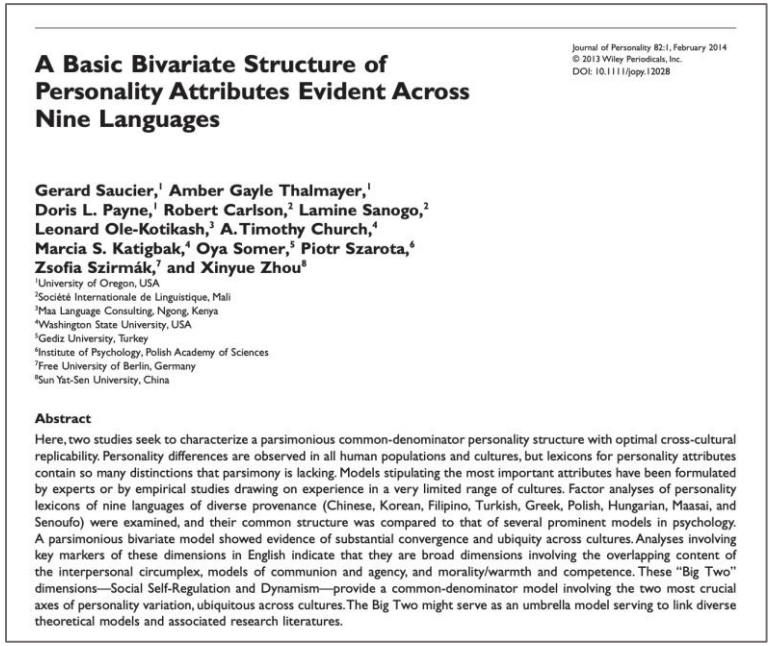
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A Basic Bivariate Structure of Personality Attributes Evident Across Nine Languages

Journal of Personality 82:1, February 2014
© 2013 Wiley Periodicals, Inc.
DOI: 10.1111/jopy.12028

Gerard Saucier,[1] Amber Gayle Thalmayer,[1] Doris L. Payne,[1] Robert Carlson,[2] Lamine Sanogo,[2] Leonard Ole-Kotikash,[3] A. Timothy Church,[4] Marcia S. Katigbak,[4] Oya Somer,[5] Piotr Szarota,[6] Zsofia Szirmák,[7] and Xinyue Zhou[8]

[1]University of Oregon, USA
[2]Société Internationale de Linguistique, Mali
[3]Maa Language Consulting, Ngong, Kenya
[4]Washington State University, USA
[5]Gediz University, Turkey
[6]Institute of Psychology, Polish Academy of Sciences
[7]Free University of Berlin, Germany
[8]Sun Yat-Sen University, China

Abstract

Here, two studies seek to characterize a parsimonious common-denominator personality structure with optimal cross-cultural replicability. Personality differences are observed in all human populations and cultures, but lexicons for personality attributes contain so many distinctions that parsimony is lacking. Models stipulating the most important attributes have been formulated by experts or by empirical studies drawing on experience in a very limited range of cultures. Factor analyses of personality lexicons of nine languages of diverse provenance (Chinese, Korean, Filipino, Turkish, Greek, Polish, Hungarian, Maasai, and Senoufo) were examined, and their common structure was compared to that of several prominent models in psychology. A parsimonious bivariate model showed evidence of substantial convergence and ubiquity across cultures. Analyses involving key markers of these dimensions in English indicate that they are broad dimensions involving the overlapping content of the interpersonal circumplex, models of communion and agency, and morality/warmth and competence. These "Big Two" dimensions—Social Self-Regulation and Dynamism—provide a common-denominator model involving the two most crucial axes of personality variation, ubiquitous across cultures. The Big Two might serve as an umbrella model serving to link diverse theoretical models and associated research literatures.

Dimensions map onto constructs from other theories…

Stability	Agreeableness	Communion	Getting along
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DeYoung (2006)	**FFM/Big five**	**Bakan (1961)**	**Hogan (1983)**

Support for the big two

- First two factors derived in lexical studies across several diverse contexts (Saucier et al., 2014)
- Dimensions emerge across diverse variable selection procedures (Saucier, 1997)

A candidate model: the big two

Social Self-regulation

Propriety, Socialization, Community

Dynamism

Activity, Potency, Ascendency

Language Group	Language	Variable Selection	Rater
Korean	Korean	Restricted	Self
Finno-Ugric	Hungarian	Restricted	Self
Indo-European	Polish	Restricted	Peer
	Greek	Broad	Self
Altaic	Turkish	Broad	Self
Sino-Tibetan	Chinese	Broad	Peer
Austronesian	Filipino	Broad	Self
	Malay	Broad	Self
Nilotic	Maasai	Very Broad	Peer
Niger-Congo	Supyire-Senufo	Very Broad	Peer
Khoi-san	KKG	Broad	Peer

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The present work: develop a measure from an initial pool of 55 items

- These 55 items were identified based on several past (Saucier et al., 2014) and forthcoming lexical studies.

30 Social Self-Regulation items:			
Tend to be…..	"disobedient" (-),	"hot-tempered" (-),	"obedient",
"aggressive" (-)	"faithful",	"hotheaded" (-),	"peaceful",
"arrogant" (-)	"friendly",	"humane",	"polite",
"bad" (-)	"generous"	"industrious",	"respectful"
"benevolent",	"gentle",	"inhumane" (-),	
"calm",	"good-natured",	"kind",	
"compassionate",	"gossipy" (-),	"kindhearted",	
"courteous"	"hardworking",	"modest",	
"diligent"	"honest",	"naïve",	

25 Dynamism items:		
Tend to be…..	"courageous",	"quiet" (-),
"a loner" (-),	"cowardly" (-),	"sad" (-),
"active",	"daring",	"self-confident",
"bashful" (-),	"determined",	"shy" (-),
"bold",	"dynamic",	"silent" (-),
"brave",	"energetic",	"timid" (-),
"cheerful",	"happy",	"unhappy" (-),
"clever",	"lively",	"weak" (-)
"confident",	"Pessimistic" (-)	

Dataset and participants

The SAPA Project

- Online data collection tool that uses a planned missingness design (~90% missingness)
- Participants are administered a random subset of items



Participants receive information about their personalities in exchange for participation

Participants:

Initial sample: N = 1,377,047

Exclusions:

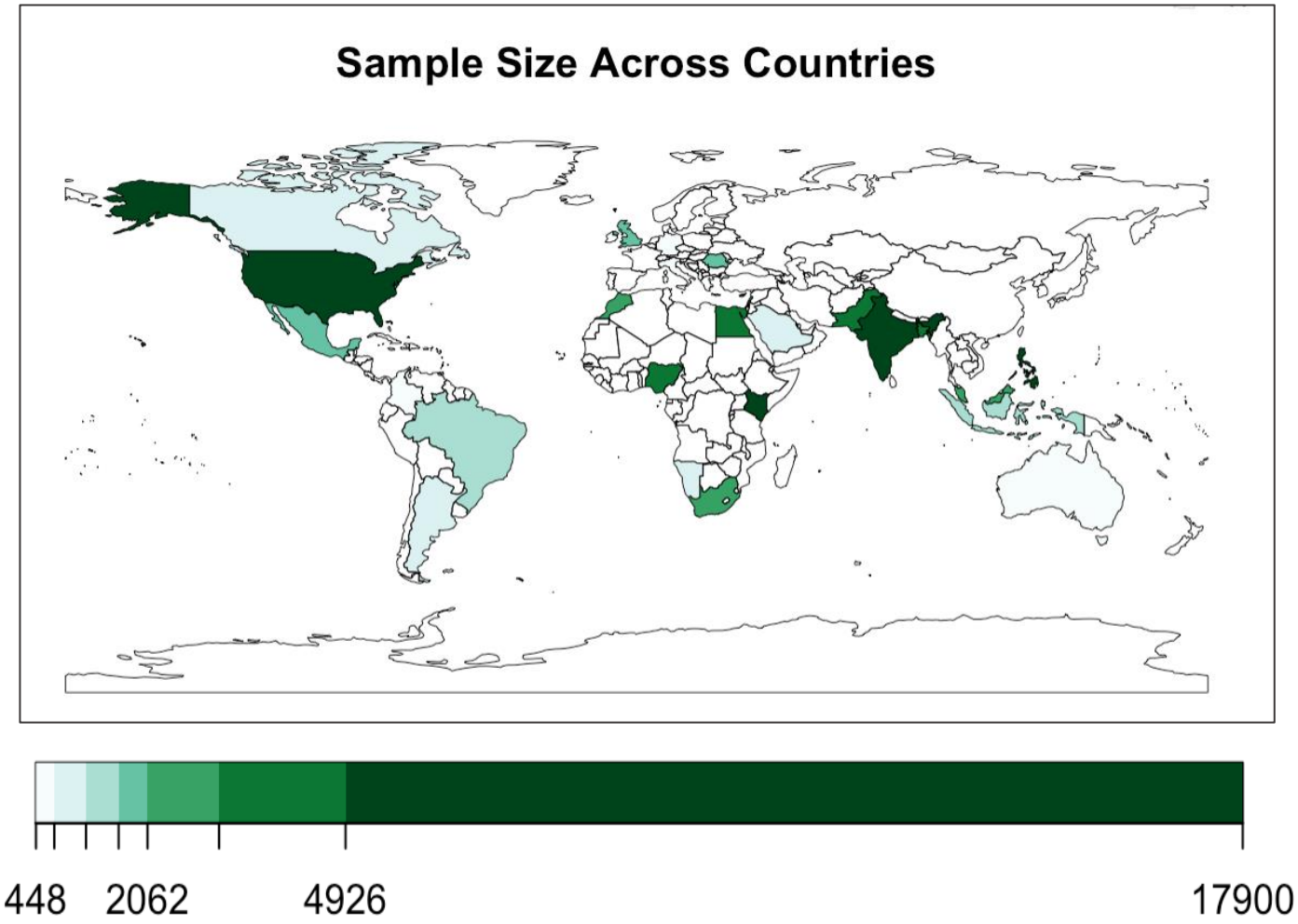
- Under 14 or over 90 years of age — N = 277,879
- Did not report country — N = 143,678
- Reported low English fluency — N = 73,813

Final sample: N = 103,575 (71% female)

Dataset and participants

27 countries across 6 continents

- **Africa**
  Morocco, Kenya, Lebanon, Namibia, Egypt, Nigeria, South Africa
- **Asia**
  India, Philippines, Indonesia, Bangladesh, Malaysia, Pakistan, Saudi Arabia
- **Europe**
  Romania, United Kingdom, Italy, Germany
- **North America**
  Canada, United States Mexico, Jamaica
- **South America**
  Argentina, Columbia Brazil, Trinidad and Tobago
- **Oceania**
  Australia



(Minimum pairwise administration rate of 200 required for each country)

Analytic plan

Factor analyses

Examine factor structure

- Compare 2, 3, and 4 factor solutions
  - ipsatized data to account for differences in response styles across contexts
  - Oblimin rotations

Identify interstitial items

- For the 2-factor solution, examine the ratio of primary:secondary construct loading for each item

Item level analyses

Examine differences in item means and variances across countries:

- Generate a global weighted mean and variance for each item
- Compare these global norms to individual country means (using t-tests) and variances (using f-tests)

Within-session test-retest reliability

- Each question is randomly administered twice during the same session (about 15 minutes apart)

Results:

1. Factor analyses	2. Item level analyses	3. Items to consider dropping

Results: factor analyses

1. Factor analyses	**2. Item level analyses**	**3. Items to consider dropping**

Fit indices

- Ipsatized data, oblimin rotations

	RMSR	**TLI**	**RMSEA**	**BIC**
Two factors	.07	.281	.144	2933961
Three factors	.05	.308	.141	2716522
Four factors	.04	.315	.140	2584020

- Only a small improvement in fit indices when extracting 3 or 4 factors instead of 2

Results: factor analyses

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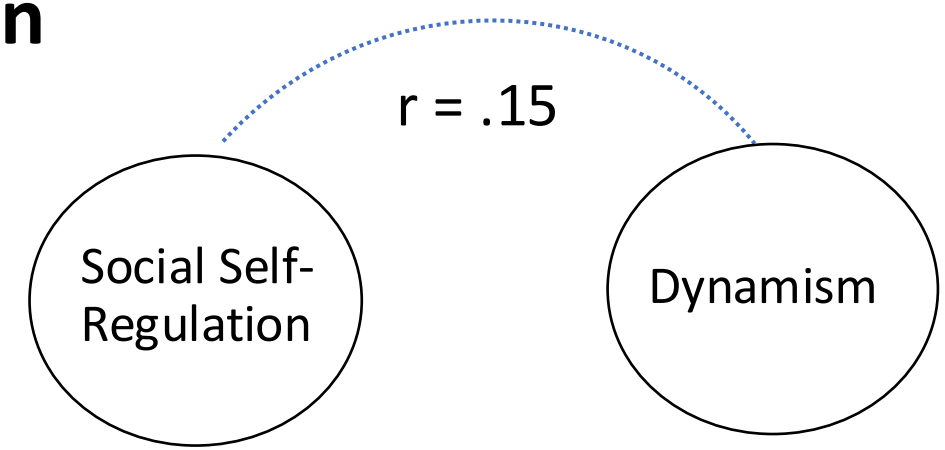
2 factor solution

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"kind" "hotheaded"
"bad" (-) "gentle"
"kindhearted" "polite"

"confident" "timid" (-)
"self-confident" "weak" (-)
"shy" (-) "brave"
"courageous" "energetic"

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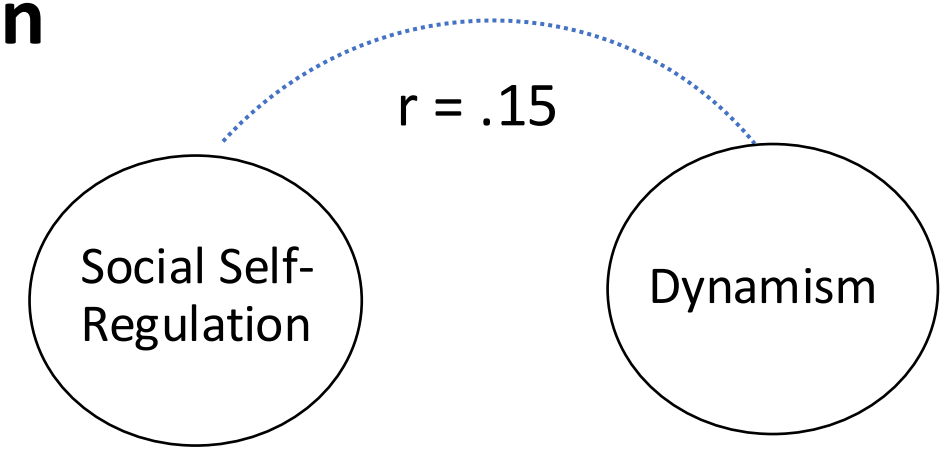
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"naïve", "hardworking", "industrious" had primary loadings onto dynamism instead of social self-regulation

Results: factor analyses

1. Factor analyses	2. Item level analyses	3. Items to consider dropping

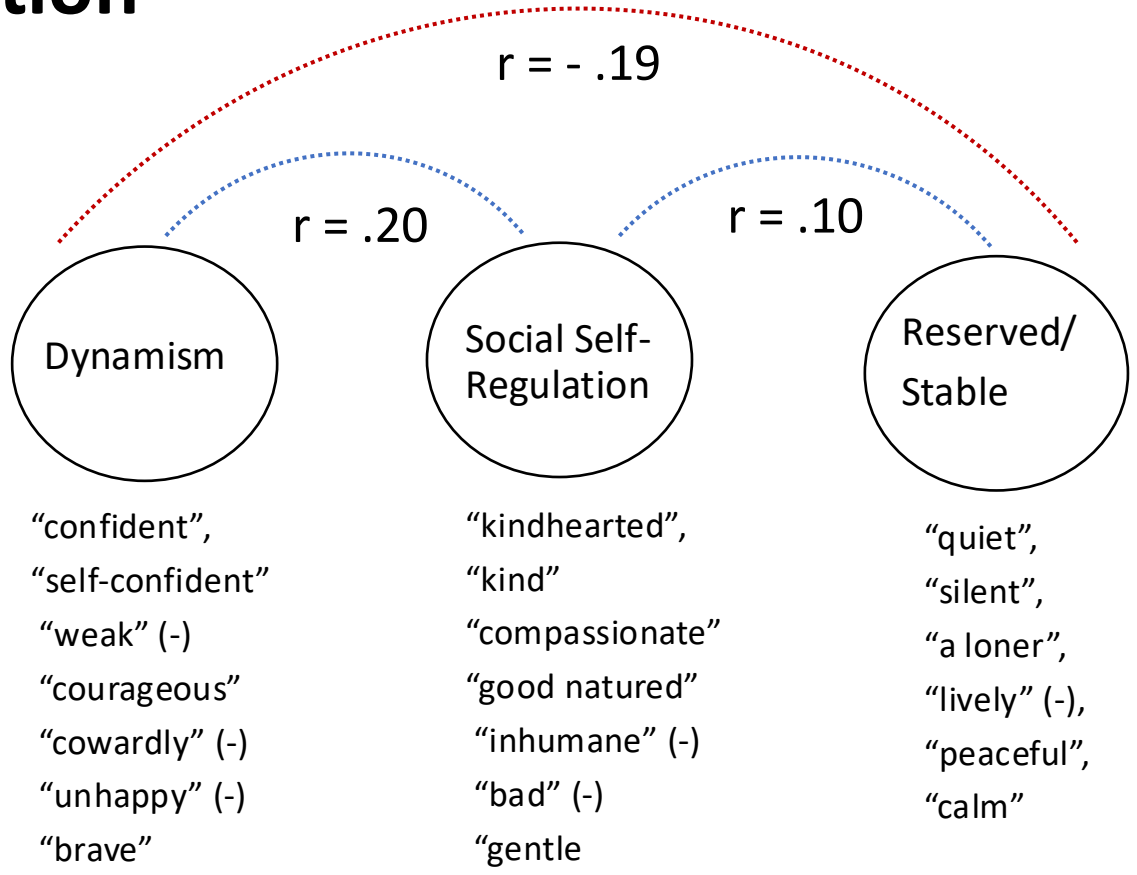
3 factor solution

Fit indices

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Three factors	.05	.308	.141	2716522
Four factors	.04	.315	.140	2584020

- Only a small improvement in fit indices when extracting 3 or 4 factors instead of 2



Results: factor analyses

1. Factor analyses	2. Item level analyses	3. Items to consider dropping

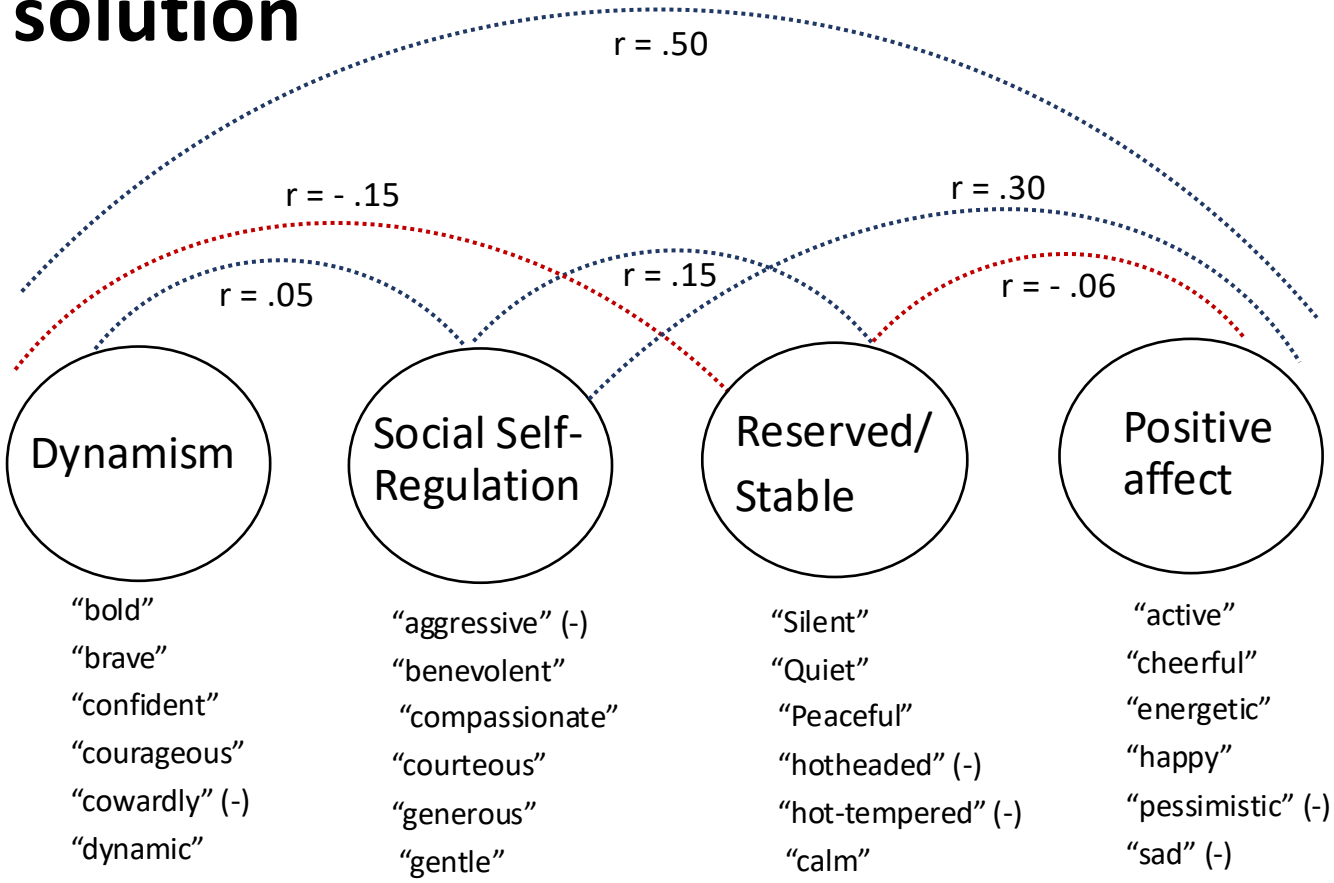
4 factor solution

Fit indices

- Ipsatized data, oblimin rotations

	RMSR	TLI	RMSEA	BIC
Two factors	.07	.281	.144	2933961
Three factors	.05	.308	.141	2716522
Four factors	.04	.315	.140	2584020

- Only a small improvement in fit indices when extracting 3 or 4 factors instead of 2



Results: factor analyses (loading ratios)

1. Factor analyses	2. Item level analyses	3. Items to consider dropping

Loading ratios for 2-factor solution

- Ipsatized data, oblimin rotations

  - The strongest items for each construct will have higher primary:secondary loading ratios.

Results: factor analyses (loading ratios)

1. Factor analyses	**2. Item level analyses**	**3. Items to consider dropping**

Loading ratios for 2-factor solution

- Ipsatized data, oblimin rotations

	Strongest items (highest ratios)	**Interstitial items (lowest ratios)**
Social self-regulation	Tend to be…	Tend to be…
Dynamism	Tend to be…	Tend to be…

Results: factor analyses (loading ratios)

1. Factor analyses	2. Item level analyses	3. Items to consider dropping

Loading ratios for 2-factor solution

- Ipsatized data, oblimin rotations

	Strongest items (highest ratios)	Interstitial items (lowest ratios)
Social self-regulation	Tend to be… “arrogant”, “disobedient”, “compassionate”, “benevolent”, “humane”, “aggressive” “courteous”, “peaceful”, “calm”, “faithful”	Tend to be…
Dynamism	Tend to be… “energetic”, “timid”, “active”, “silent”, “lively”, “dynamic”, “clever”, “self-confident”, “shy”, “confident”	Tend to be…

Results: factor analyses (loading ratios)

1. Factor analyses	2. Item level analyses	3. Items to consider dropping

Loading ratios for 2-factor solution

- Ipsatized data, oblimin rotations

	Strongest items (highest ratios)	Interstitial items (lowest ratios)
Social self-regulation	Tend to be… “arrogant”, “disobedient”, “compassionate”, “benevolent”, “humane”, “aggressive” “courteous”, “peaceful”, “calm”, “faithful”	Tend to be… “diligent”, “modest”, “friendly”, “obedient”, “honest”, “gossipy”, “gentle”, “bad”, “polite”, “hot-tempered”
Dynamism	Tend to be… “energetic”, “timid”, “active”, “silent”, “lively”, “dynamic”, “clever”, “self-confident”, “shy”, “confident”	Tend to be… “hardworking”, “industrious”, “naïve”, “daring”, “pessimistic”, “unhappy” “bold”, “happy”, “cheerful”, “sad”

Results: factor analyses (loading ratios)

1. Factor analyses	2. Item level analyses	3. Items to consider dropping

Loading ratios for 2-factor solution

- Ipsatized data, oblimin rotations

	Strongest items (highest ratios)	Interstitial items (lowest ratios)
Social self-regulation	Tend to be… “arrogant”, “disobedient”, “compassionate”, “benevolent”, “humane”, “aggressive” “courteous”, “peaceful”, “calm”, “faithful”	Tend to be… “diligent”, “modest”, “friendly”, “obedient”, “honest”, “gossipy”, “gentle”, “bad”, “polite”, “hot-tempered”
Dynamism	Tend to be… “energetic”, “timid”, “active”, “silent”, “lively”, “dynamic”, “clever”, “self-confident”, “shy”, “confident”	Tend to be… “hardworking”, “industrious”, “naïve”, “daring”, “pessimistic”, “unhappy” “bold”, “happy”, “cheerful”, “sad”

Results: factor analyses (loading ratios)

1. Factor analyses	2. Item level analyses	3. Items to consider dropping

Loading ratios for 2-factor solution

- Ipsatized data, oblimin rotations

	Strongest items (highest ratios)	Interstitial items (lowest ratios)
Social self-regulation	Tend to be… "arrogant", "disobedient", "compassionate", "benevolent", "humane", "aggressive" "courteous", "peaceful", "calm", "faithful"	Tend to be… "diligent", "modest", "friendly", "obedient", "honest", "gossipy", "gentle", "bad", "polite", "hot-tempered"
Dynamism	Tend to be… "energetic", "timid", "active", "silent", "lively", "dynamic", "clever", "self-confident", "shy", "confident"	Tend to be… "hardworking", "industrious", "naïve", "daring", "pessimistic", "unhappy" "bold", "happy", "cheerful", "sad"

Results: item level analyses

1. Factor analyses	2. Item level analyses	3. Items to consider dropping

Results: item level analyses (differences in means)

1. Factor analyses	2. Item level analyses	3. Items to consider dropping

T-tests for assessing differences in item means across countries:

Population weighted global mean Vs. Individual country mean

Total number of t tests:

55 (# items) x 27 (# countries) = **1,485 t-tests**

Results: item level analyses (differences in means)

1. Factor analyses	2. Item level analyses	3. Items to consider dropping

T-tests for assessing differences in item means across countries:

Population weighted global mean Vs. Individual country mean

Total number of t tests:

55 (# items) x 27 (# countries) = **1,485 t-tests**

6.5% of t-tests were significant

(without correcting for multiple comparisons)

Items with the highest number of significant tests

---

5 significant t-tests

- *Tend to be…* "aggressive", "obedient"

4 significant t-tests

- *Tend to be*… "clever", "hot-tempered", "sad", "silent"

3 significant t-tests

- *Tend to be*… "a loner", "bad", "compassionate", "cowardly", "determined", "hotheaded", "naïve", "peaceful", "unhappy", "weak"

Results: item level analyses (differences in variances)

1. Factor analyses	**2. Item level analyses**	**3. Items to consider dropping**

F tests for assessing differences in variances:

Results: item level analyses (differences in variances)

1. Factor analyses	2. Item level analyses	3. Items to consider dropping

F tests for assessing differences in variances:

Population weighted global variance Vs. Individual country variance

Total number of tests:

55 (# items) x 27 (# countries) = **1,485 f-tests**

36.36% of f-tests were significant

(without correcting for multiple comparisons)

Results: item level analyses (differences in variances)

1. Factor analyses	2. Item level analyses	3. Items to consider dropping

F tests for assessing differences in variances:

highest number of significant tests

lowest number of significant tests



Results: item level analyses (differences in variances)

1. Factor analyses	2. Item level analyses	3. Items to consider dropping

F tests for assessing differences in variances:

highest number of significant tests

lowest number of significant tests

24 significant tests:



"Tend to be clever"

Results: item level analyses (differences in variances)

1. Factor analyses	2. Item level analyses	3. Items to consider dropping

F tests for assessing differences in variances:

highest number of significant tests → **lowest number of significant tests**

24 significant tests:

"Tend to be clever"

16-18 significant tests:

"Tend to be aggressive",
"Tend to be peaceful"
"Tend to be polite",
"Tend to be hot-tempered"

13-15 significant tests:

"Tend to be hotheaded",
"Tend to be respectful",
"Tend to be determined",
"Tend to be obedient",
"Tend to be unhappy",
"Tend to be bad",
"Tend to be friendly",
"Tend to be weak"

(Most items had between 5 and 13 significant tests)

Results: item level analyses (differences in variances)

1. Factor analyses	2. Item level analyses	3. Items to consider dropping

F tests for assessing differences in variances:

highest number of significant tests → **lowest number of significant tests**

24 significant tests:	*16-18 significant tests:*	*13-15 significant tests:*		*5 or fewer significant tests:*
"Tend to be clever"	"Tend to be aggressive",	"Tend to be hotheaded",	(Most items had between 5 and 13 significant tests)	"Tend to be timid",
	"Tend to be peaceful"	"Tend to be respectful",		"Tend to be faithful"
	"Tend to be polite",	"Tend to be determined",		"Tend to be courageous",
	"Tend to be hot-tempered"	"Tend to be obedient",		"Tend to be active"
		"Tend to be unhappy",		"Tend to be kindhearted",
		"Tend to be bad",		"Tend to be confident"
		"Tend to be friendly",		"Tend to be compassionate"
		"Tend to be weak"		

Results: item level analyses (differences in variances)

1. Factor analyses	2. Item level analyses	3. Items to consider dropping

Possible explanations:

- Adjectives might have ambiguous meanings, or different meanings across cultures

"Clever" differs regarding how much of a positive quality it is across contexts.

highest number of significant tests

lowest number of significant tests

24 significant tests:

"Tend to be clever"

16-18 significant tests:

"Tend to be aggressive",

"Tend to be peaceful"

"Tend to be polite",

"Tend to be hot-tempered"

13-15 significant tests:

"Tend to be hotheaded",

"Tend to be respectful",

"Tend to be determined",

"Tend to be obedient",

"Tend to be unhappy",

"Tend to be bad",

"Tend to be friendly",

"Tend to be weak"

(Most items had between 5 and 13 significant tests)

5 or fewer significant tests:

"Tend to be timid",

"Tend to be faithful"

"Tend to be courageous",

"Tend to be active"

"Tend to be kindhearted",

"Tend to be confident"

"Tend to be compassionate"

Results: item level analyses (differences in variances)

1. Factor analyses	2. Item level analyses	3. Items to consider dropping

Possible explanations:

- Adjectives might have ambiguous meanings, or different meanings across cultures

"Clever" differs regarding how much of a positive quality it is across contexts.

- Cultural differences such as tightness vs. looseness

highest number of significant tests

lowest number of significant tests

24 significant tests:

"Tend to be clever"

16-18 significant tests:

"Tend to be aggressive",

"Tend to be peaceful"

"Tend to be polite",

"Tend to be hot-tempered"

13-15 significant tests:

"Tend to be hotheaded",

"Tend to be respectful",

"Tend to be determined",

"Tend to be obedient",

"Tend to be unhappy",

"Tend to be bad",

"Tend to be friendly",

"Tend to be weak"

(Most items had between 5 and 13 significant tests)

5 or fewer significant tests:

"Tend to be timid",

"Tend to be faithful"

"Tend to be courageous",

"Tend to be active"

"Tend to be kindhearted",

"Tend to be confident"

"Tend to be compassionate"

Results: item level analyses (differences in variances)

1. Factor analyses	2. Item level analyses	3. Items to consider dropping

Possible explanations:

- Adjectives might have ambiguous meanings, or different meanings across cultures

"Clever" differs regarding how much of a positive quality it is across contexts.

- Cultural differences such as tightness vs. looseness

Traits that could be socially disruptive have more significant tests

highest number of significant tests

lowest number of significant tests

24 significant tests:

"Tend to be clever"

16-18 significant tests:

"Tend to be aggressive",

"Tend to be peaceful"

"Tend to be polite",

"Tend to be hot-tempered"

13-15 significant tests:

"Tend to be hotheaded",

"Tend to be respectful",

"Tend to be determined",

"Tend to be obedient",

"Tend to be unhappy",

"Tend to be bad",

"Tend to be friendly",

"Tend to be weak"

(Most items had between 5 and 13 significant tests)

5 or fewer significant tests:

"Tend to be timid",

"Tend to be faithful"

"Tend to be courageous",

"Tend to be active"

"Tend to be kindhearted",

"Tend to be confident"

"Tend to be compassionate"

Results: item level analyses (test retest)

1. Factor analyses	2. Item level analyses	3. Items to consider dropping

Results: item level analyses (test retest)

1. Factor analyses	2. Item level analyses	3. Items to consider dropping

Items with the highest stability:

Tend to be…

“gossipy” (r = .79)

“quiet” (r = .79)

“sad” (r = .78)

“a loner” (r = .78)

“aggressive” (r = .78)

“hot-tempered” (r = .76)

Items with the lowest stability:

Tend to be…

“courteous” (r = .50)

“humane” (r = .54)

“respectful” (r = .55)

“kind” (r = .56)

“faithful” (r = .56)

“polite” (r = .56)

- High and low item stability both appear to be related to social desirability

Results: items to consider dropping

1. Factor analyses	2. Item level analyses	3. Items to consider dropping

Interstitial items (factor analyses):

T-tests:

F-tests:

Test-retest:

Results: items to consider dropping

1. Factor analyses	2. Item level analyses	3. Items to consider dropping

Interstitial items (factor analyses):

Tend to be… "diligent", "modest", "friendly", "obedient", "honest", "gossipy", "gentle", "bad", "polite", "hot-tempered", "hardworking", "industrious", "naïve", "daring", "pessimistic", "unhappy", "bold", "happy", "cheerful", "sad"

T-tests:

Tend to be… "aggressive", "obedient", "clever", "hot-tempered", "sad", " silent", "a loner", "bad", "compassionate", "cowardly", "determined", "hotheaded", "naïve", "peaceful", "unhappy", "weak"

F-tests:

Tend to be… "aggressive", "peaceful", "polite", "hot-tempered", …"clever" (24 tests)

Test-retest:

Tend to be… "courteous", "humane", "respectful", "kind", "faithful", "polite", "good-natured", "benevolent"

Results: items to consider dropping

1. Factor analyses	2. Item level analyses	3. Items to consider dropping

Interstitial items (factor analyses):

Tend to be… "diligent", "modest", "friendly", "obedient", "honest", "gossipy", "gentle", "bad", "polite", "hot-tempered", "hardworking", "industrious", "naïve", "daring", "pessimistic", "unhappy", "bold", "happy", "cheerful", "sad"

Factor analysis Interstital items

(low primary:secondary loading ratios in factor analysis)

T-tests:

Tend to be… "aggressive", "obedient", "clever", "hot-tempered", "sad", " silent", "a loner", "bad", "compassionate", "cowardly", "determined", "hotheaded", "naïve", "peaceful", "unhappy", "weak"

F-tests:

Tend to be… "aggressive", "peaceful", "polite", "hot-tempered", …"clever" (24 tests)

Test-retest:

Tend to be… "courteous", "humane", "respectful", "kind", "faithful", "polite", "good-natured", "benevolent"

Results: items to consider dropping

1. Factor analyses	2. Item level analyses	3. Items to consider dropping

Interstitial items (factor analyses):

Tend to be… "diligent", "modest", "friendly", "obedient", "honest", "gossipy", "gentle", "bad", "polite", "hot-tempered", "hardworking", "industrious", "naïve", "daring", "pessimistic", "unhappy", "bold", "happy", "cheerful", "sad"

T-tests:

Tend to be… "aggressive", "obedient", "clever", "hot-tempered", "sad", " silent", "a loner", "bad", "compassionate", "cowardly", "determined", "hotheaded", "naïve", "peaceful", "unhappy", "weak"

F-tests:

Tend to be… "aggressive", "peaceful", "polite", "hot-tempered", …"clever" (24 tests)

Test-retest:

Tend to be… "courteous", "humane", "respectful", "kind", "faithful", "polite", "good-natured", "benevolent"

Factor analysis Interstital items

(low primary:secondary loading ratios in factor analysis)

- Social self-regulation items related to conscientiousness

Results: items to consider dropping

1. Factor analyses	2. Item level analyses	3. Items to consider dropping

Interstitial items (factor analyses):

Tend to be… "diligent", "modest", "friendly", "obedient", "honest", "gossipy", "gentle", "bad", "polite", "hot-tempered", "hardworking", "industrious", "naïve", "daring", "pessimistic", "unhappy", "bold", "happy", "cheerful", "sad"

T-tests:

Tend to be… "aggressive", "obedient", "clever", "hot-tempered", "sad", " silent", "a loner", "bad", "compassionate", "cowardly", "determined", "hotheaded", "naïve", "peaceful", "unhappy", "weak"

F-tests:

Tend to be… "aggressive", "peaceful", "polite", "hot-tempered", …"clever" (24 tests)

Test-retest:

Tend to be… "courteous", "humane", "respectful", "kind", "faithful", "polite", "good-natured", "benevolent"

Factor analysis Interstital items

(low primary:secondary loading ratios in factor analysis)

- Social self-regulation items related to conscientiousness
- Items related to positive and negative affect

Results: items to consider dropping

1. Factor analyses	2. Item level analyses	3. Items to consider dropping

Interstitial items (factor analyses):

Tend to be… "diligent", "modest", "friendly", "obedient", "honest", "gossipy", "gentle", "bad", "polite", "hot-tempered", "hardworking", "industrious", "naïve", "daring", "pessimistic", "unhappy", "bold", "happy", "cheerful", "sad"

T-tests:

Tend to be… "aggressive", "obedient", "clever", "hot-tempered", "sad", " silent", "a loner", "bad", "compassionate", "cowardly", "determined", "hotheaded", "naïve", "peaceful", "unhappy", "weak"

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Factor analysis Interstital items

(low primary:secondary loading ratios in factor analysis)

- Social self-regulation items related to conscientiousness
- Items related to positive and negative affect

Item level analyses

Results: items to consider dropping

1. Factor analyses	2. Item level analyses	3. Items to consider dropping

Interstitial items (factor analyses):

Tend to be… "diligent", "modest", "friendly", "obedient", "honest", "gossipy", "gentle", "bad", "polite", "hot-tempered", "hardworking", "industrious", "naïve", "daring", "pessimistic", "unhappy", "bold", "happy", "cheerful", "sad"

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Factor analysis Interstital items

(low primary:secondary loading ratios in factor analysis)

- Social self-regulation items related to conscientiousness
- Items related to positive and negative affect

Item level analyses

- Items with ambiguous meaning

Results: items to consider dropping

1. Factor analyses	2. Item level analyses	3. Items to consider dropping

Interstitial items (factor analyses):

Tend to be… "diligent", "modest", "friendly", "obedient", "honest", "gossipy", "gentle", "bad", "polite", "hot-tempered", "hardworking", "industrious", "naïve", "daring", "pessimistic", "unhappy", "bold", "happy", "cheerful", "sad"

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Tend to be… "aggressive", "peaceful", "polite", "hot-tempered", …"clever" (24 tests)

Test-retest:

Tend to be… "courteous", "humane", "respectful", "kind", "faithful", "polite", "good-natured", "benevolent"

Factor analysis Interstital items

(low primary:secondary loading ratios in factor analysis)

- Social self-regulation items related to conscientiousness
- Items related to positive and negative affect

Item level analyses

- Items with ambiguous meaning

….Qualitative work reveals that some adjectives lack familiarity across contexts (e.g., "bashful")

Takeaways and future directions

- Gained clarity regarding….
  - The strongest items for each construct:

Social Self-Regulation	“compassionate”, “benevolent”, “humane”, “courteous”, “peaceful”, “calm”, “faithful”
Dynamism	“energetic”, “timid”, “active”, “silent”, “lively”, “dynamic”, “self-confident”, “shy”, “confident”

  - Items to examine more closely and consider dropping

Takeaways and future directions

- Gained clarity regarding….
  - The strongest items for each construct:

Social Self-Regulation	“compassionate”, “benevolent”, “humane”, “courteous”, “peaceful”, “calm”, “faithful”
Dynamism	“energetic”, “timid”, “active”, “silent”, “lively”, “dynamic”, “self-confident”, “shy”, “confident”

  - Items to examine more closely and consider dropping

Future directions

- Qualitative work to explore familiarity of adjectives and examine reasons for differences in item means and variances
- Assess the adequacy of these items in a broader set of east Asian countries