

ICAPS Manual

Revised

Intercultural Adaptation Potential Scale

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Preface to Second Edition

This new edition of the ICAPS manual is intended to bring the manual up to date with recent research findings. The first two sections describing creation and scoring of the ICAPS have not been much changed. The section on Reliability reports on the Spanish version of the ICAPS which was not present in the first manual. Two criticisms of the ICAPS were that there was no data showing it predicted adjustment beyond intelligence or standard personality measures. The Validity section includes studies which demonstrate that ICAPS captures variance beyond the variance captured by the big five personality constructs and the California Psychological Inventory. Norms continue to evolve and are used in scoring the ICAPS.

Chapter 1

Introduction

Purpose

The purpose of the Intercultural Adjustment Potential Scale (ICAPS) is to predict the degree of difficulty a person will have in adjusting to a new culture. Secondly the ICAPS seeks to describe the aspects of their mental processes and the interpersonal skills that result from them that lead to ease or difficulty in intercultural adjustment. The ICAPS is intended to help individuals have the option of choosing to remain the same or to alter their patterns of thinking and interacting so that they may adjust more easily to a new culture.

History and Development

The ICAPS arose out of an academic disagreement between the two authors about the aspects of character that led to ease or difficulty in adjustment to new cultures. After prolonged discussion, we agreed to settle our disagreement, as social scientists are obliged to do, through an empirical study of the subject.

We began by talking with Japanese sojourners about their problems in coping with life in the United States first informally and then in a series of structured focus groups. Japanese were selected both because of one author's expertise in Japanese culture and language as well as because a variety of Japanese sojourners are available in the San Francisco Bay Area. In these discussions it was quickly apparent that there were large differences in the experiences of different individuals in adjusting to life in the United States. Several themes emerged in the

problems these sojourners had experienced in coping with life in the United States. Ratings of these themes became the empirical standards against which we then judged items being considered for inclusion in the scale.

An item pool was constructed in which we first attempted to be very inclusive. We wanted our item pool to include every aspect of character which could conceivably be related to our topic. The original ideas of one author were that adjustment was related to emotional regulation, ability to think critically about social interactions and openness. The other author's ideas were that ease of adjustment would be related to empathy, self-concept, extroversion, flexibility and misfit in their original culture which would lead to rebelliousness and low levels of socialization and so less attachment to cultural norms in their country of origin.

We examined various previously constructed tests to see what sort of items measured these variables and constructed items we thought were both similar to previously used items as well as being appropriate in language for persons for whom English was a second language. This involved both borrowing items from these scales and rewriting them in more simple English as well as intuitively constructing items with the help of some Japanese students studying at San Francisco State University. We also included items in the pool to reflect other possible aspects of both personality and the literature on cultural adjustment including items related to each of the big five personality factors, various kinds of psychopathology, interpersonal style, work motivation and individualism versus collectivism. In constructing items we examined the California Psychological Inventory, the NEO Personality Inventory, the Big Five Inventory, the Eysenck Personality Inventory, the Jackson Personality Inventory, the original item pool from which the Minnesota Multiphasic Personality Inventory (MMPI) was drawn, the Beck Depression Inventory, the State-Trait Anxiety Inventory, the California F Scale, the Individualism-Collectivism Scale, the Bem Sex Role Inventory and a variety of unpublished empathy and attitude scales.

This process led to a pool of 193 items. We first winnowed out items by correlating them with language proficiency scores, responses inquiring about particular problems in adjusting to life in the United States and with self, peer and observer judgments of the relative difficulty individuals in the focus groups had in adjusting to life in the United States. This led to a reduction in the item pool to 55 when we discarded items with low correlations with the empirical criteria. The resulting 55 item scale was then cross validated with several samples of Japanese sojourners and found to have adequate reliability and validity.

Factor analysis of the resulting item pool suggested that there were four significant factors in the ICAPS. After examining the items loading highest on these factors we have named them 1. Emotional Regulation, 2. Openness to Experience, 3. Flexibility and 4. Creativity or Autonomy. These factors are thought to be the major characteristics associated with ease of adjustment to new cultures. They account for a relatively small proportion of the total variance and so the total score is the best predictor of adjustment. And so the authors argument, like most arguments in the social sciences, was settled by finding the empirical truth was similar to our expectations while also being both somewhat different and more complicated than we had thought.

We were now confident the ICAPS predicted the ease of adjustment of Japanese individuals coming to the United States but were uncertain whether individuals from other cultures needed the same set of mental characteristics to adjust to living here. And so we began studying individuals from other countries living in the United States and soon found that the ICAPS predicted their ease of adjustment equally well. And so by inference, people from other countries needed the same sets of coping skills as the Japanese we initially studied to in order to deal with living here in the United States.

We next began to wonder if this was just a scale of adjustment to life in the United States or was it true of adjustment to other cultures as well. We began looking at samples of people going out from the United States to other countries and found the ICAPS predicts their ease of adjustment as well. And so it seems to be the case that the ease with which people from the United States adjust to other cultures seems to be predicted by the same sets of mental processes as for those who come here. So we believe that there is a general set of mental skills that underlie intercultural adjustment. And we believe that the ICAPS adequately measures these processes and so predicts the relative potential individuals have in adjusting to new cultures in general. This is not to say there will not be some differences in adjustment to a particular culture by an individual from one culture rather than another culture nor that individual situations within a culture make no difference. Rather we think that the ICAPS measures the general adaptability of a person to new cultures.

We realized the possible utility the results of our study might have for the real human beings who struggle to cope with their new surroundings as they move into a new culture. And so we first decided to provide a testing service for Japanese who were contemplating coming the United States in hopes we could ease their transition. And now we have decided to offer our testing service to anyone contemplating going to another country in hopes that we may help them to take action to reduce the stress, embarrassment and confusion that adjusting to a new culture is likely to cause.

The ICAPS is available in English, Japanese and Spanish. The Japanese and Spanish versions were created by translating and back translating the original, English, version of the ICAPS. The resulting versions have been checked for reliability and correlation with the English version and independently validated. The Spanish version is primarily intended for persons from Latin American cultures. It was originally translated into Spanish independently by persons from Mexico and Nicaragua and then back translated by persons from El Salvador and Mexico. The resulting version was then edited by natives of Guatemala and Argentina resulting in an instrument of general acceptability and utility in Spanish speaking cultures across Latin America.

This manual has been written and organized in a way intended to allow a person who has a good general knowledge of psychological testing but new to the ICAPS to gain sufficient familiarity with the procedures and psychometrics of the ICAPS to allow them to begin to use it. The ICAPS, like all psychological tests, should be administered and interpreted by professionals in compliance with the guidelines for tests and their use published by the American Psychological Association or the national professional psychological association of the country in which the test is being used.

Chapter 2

Administration and Scoring

Administration

The ICAPS is a 55 item paper and pencil self-report measure which contains easily read and understood instructions for the test taker. It requires the equivalent of about a sixth grade education to read in each language. Normal individuals can read, understand and follow the instructions without aid. It can be administered in either individual or group settings. It can also be completed by individuals in their own homes or offices or other locations generally free of large distractions.

Scoring

Scoring is done by the publishers and includes a total ICAPS score and four factor scores. The ICAPS total score is the best overall predictor of inter-cultural adjustment available today. The four factor scores measure the four aspects of individual character which are associated with differences in intercultural adjustment. Each factor also predicts overall adjustment but, obviously, less well than the total score. Each factor points to individual aspects of character which may help or hinder a person in adjusting to a new culture. The scores are computed using item weights derived from factor analyses of the total scale with large groups of subjects.

Also provided are regression predictions of total ease of adjustment and eleven specific areas of possible difficulty in adjusting to a new culture. These predictions are regression projections of the specific areas derived from research on sojourners. The ICAPS does not measure these directly and so these score should be used with caution and only as a guide to frequently encountered problems in entering a new culture - not as direct measures of them. These projections are less dependable than either the ICAPS total or factor scores.

The eleven areas include:

1. depression potential
2. conversational development potential.
3. reading and writing development potential.
4. combined language potential.

5. combined school and social anxiety potential.
6. social anxiety potential.
7. school or work anxiety potential.
8. behavioral anxiety potential.
9. cognitive anxiety and disorientation potential.
10. somatic anxiety potential.
11. total anxiety potential.

These predictors are provided both to help potential sojourners to prepare for their experience in a new culture, to know that their difficulties are shared with others in their situation and to make plans for coping with them. All of these potential difficulties are things for which there are well known remedies.

We view the character patterns described by the ICAPS factors as learned styles of coping with others. As such, we believe they are amenable to alteration in ways more beneficial to the individual. Suggestions for training programs that may help individuals change or cope with the limits of their normal modes of coping were developed through an examination of clinical literature and are provided as part of the scoring package. These training programs are culturally appropriate for the United States and may seem odd or strange to people of other cultures. We believe, however, that they would be beneficial to people from any culture seeking to better adjust to any other culture if presented as education in cultural adjustment.

Chapter 3

Reliability

The reliability of a test is an estimate of the stability of a test score or the portion of a test score not due to random variation. The two usual ways that reliability is estimated are through testing then retesting subjects and comparing scores on the two occasions, and through the internal consistency of responses to different items on the test. For a test such as the ICAPS which was constructed using an empirical method and which has been found to have more than one factor the test-retest method is the more appropriate measure of reliability. Test-retest reliability has been found to be relatively high in several groups and the results are presented below.

Coefficient Alpha has also been calculated and found to be moderate. This is also likely to be the case because 1. there is more than one factor in the ICAPS and 2. the factors within the ICAPS are relatively weak - the four main factors accounting for only a moderate proportion of the total variance.

As we use the factor scores to describe personality factors, we present both internal consistency and test-retest reliability for them in the Table xx below.

There are three versions of the ICAPS; English, Japanese and Spanish. Reliability statistics are presented first for the English version then for the Japanese. The Spanish version is still undergoing reliability and validity study and figures will be available soon.

The Japanese and English versions of the ICAPS correlated with each other at $r=.927$ for a group of Japanese students competent in both languages. As this is higher than the test-retest reliability of either form, these alternate forms can be regarded as essentially identical.

Test-Retest Reliability for Full Scale ICAPS - English Version

<u>Sample</u>	<u>Interval</u>	<u>r</u>	<u>S.E.M.</u>
Japanese College Students n=20	3-6 months	.803	6.50
Japanese College Students studying in U.S. n=26	2-4 weeks	.761	7.16

Test-Retest Reliability Japanese to English Versions

<u>Sample</u>	<u>Interval</u>	<u>r</u>	<u>S.E.M.</u>
Japanese College Students Studying in U.S. n=26	3-6 months	.836	5.93

Internal Consistency for full scale ICAPS - English Version

<u>Sample</u>	<u>Coefficient Alpha</u>
Japanese College Students n=20	.788
Japanese College Students studying in U.S. n=53	.488
U.S. College Students n=1161	.512

Correlation of Japanese and English versions of the ICAPS

<u>Sample</u>	<u>n</u>	<u>r</u>
Japanese College Students	19	.927
Japanese College Students	25	.931

Test-Retest Reliability - Japanese Version

<u>Sample</u>	<u>Interval</u>	<u>r</u>	<u>S.E.M.</u>
Japanese College Students N=20	3-6 months	.813	6.11
Japanese College Students Studying in the U.S. n=53	2 months	.834	5.96
Males (n=14)		.822	7.25
Females (n=39)		.840	6.39

Internal Consistency - Japanese Version

<u>Sample</u>	<u>Coefficient Alpha</u>
Japanese College Students n=20	.788

Correlation of Spanish and English versions of the ICAPS

<u>Sample</u>	<u>n</u>	<u>Total</u>	<u>ER</u>	<u>r</u> <u>Op</u>	<u>Fx</u>	<u>CT</u>
Native Spanish Speakers from Central and South America	261	.867	.898	.888	.841	.891

Chapter 4

Validity

Validity refers to the extent to which a test measures what it is intended to measure. There are a variety of ways of both conceptualizing and measuring validity. The most common ideas of validity include face validity, content validity, construct validity, empirical or criterion-related validity, incremental empirical validity and discriminant validity. Each of these kinds of validity has been addressed with the ICAPS.

Face Validity

Face validity has to do with the resemblance of the content of a test with the domain to be measured. In this case we were intending to measure the personal characteristics leading to ease in intercultural adjustment. Each item in the ICAPS is patterned after items previously found to be related to such characteristics or intuitively associated with them. Content validity is similar to face validity but also the idea that the test should be inclusive of all aspects of that domain. We attempted to give content breadth to the ICAPS by including items related to every characteristic a survey of the literature suggested might be related to intercultural adjustment. We also included items in all five of the big five personality dimensions - which are believed by some researchers to encompass all general dimensions of personality.

Construct Validity

The construct of intercultural adjustment is one which is widely discussed in research literature and another test attempting to measure this construct has been developed and so the concept of a personal characteristic, ease in adjusting to a new culture, appears to be a reasonable one. A

second approach to construct validity has to do with the statistical characteristics of items which predict the characteristic. A unidimensional scale is often taken to be evidence for construct validity. In this case, in which we have prior evidence that the dimension to be measured has more than one dimension, factor analysis can be used to clarify the nature of those multiple dimensions rather than as defining a single construct. And we present evidence below that there are, in fact, four dimensions within the construct of ease of adjusting to a new culture.

The ICAPS was conceived and constructed with an emphasis on empirical validity. The initial item pool was constructed with the intention to cover the entire domain of possibilities and then items were selected that showed strong relationships with the outcomes the test was intended to predict. Each item in the ICAPS has been shown repeatedly to be related to a variety of criteria of adjustment by sojourners in the culture of the United States.

Empirical Validity

Empirical validation of the ICAPS began with the process of item selection in which only items that showed relationship with obvious criteria of adjustment were selected for inclusion in the scale. Further empirical validation of ICAPS scores have been carried out with a variety of groups and a variety of criterion measures. Initial studies of the ICAPS included the self, peer and professional observer ratings of individual adjustment among Japanese student sojourners in the United States. A second study involved standardized measures of anxiety and social adjustment. Correlations between ICAPS score and these measures are listed in the table below. As can be seen the ICAPS predicts the adjustment of Japanese students in the United States from the points of view of the student themselves, their peers, professional observers and their depression and anxiety levels measured with the most widely used tests of these discomforts.

Correlations between ICAPS Scores and Ratings of Adjustment,
Measures of Anxiety, and Scales of Adjustment
for Japanese Students in the United States

<u>Variable</u>	<u>r</u>	<u>N</u>
Self Rating of Adjustment	.68***	34
Peer Rating of Adjustment	.70***	34
Observer Rating of Adjustment	.66***	34
Beck Depression Inventory	-.34***	95
Composite Self Rating of Adjustment	.25**	95
SCBAI Composite Scale	-.36***	95
SCBAI Somatic Scale	-.20*	95
SCBAI Cognitive Scale	-.30**	95
SCBAI Behavioral Scale	-.41***	95
SAS-SR Composite Scale	-.45***	95
SAS-SR School Scale	-.19*	95
SAS-SR Social Scale	-.45***	95

~= $p < .10$, *= $p < .05$, **= $p < .01$, ***= $p < .001$

SCBAI = Somatic, Cognitive, Behavioral Anxiety Inventory

SAS-SR = Social Adjustment Scale - Self Report form

The ICAPS was also correlated with several specific aspects of adjustment for a group of twenty-two Japanese students studying in the United States. The ICAPS correlated significantly with Grade Point Average ($r = .840$, $n = 12$), with self report of enjoying the culture of the United States ($r = .500$, $n = 22$), with having made American friends, ($r = .540$, $n = 22$), and with liking American food ($r = .422$, $n = 22$).

One aspect of cross-cultural adjustment is the capacity to form close and intimate relationships with people from the other culture. In order to study this we gave the ICAPS along with the Life Satisfaction Scale and the Locke-Wallace Marital Satisfaction Scale to a group of Japanese wives married to American men. The ICAPS predicted both how satisfied these people are with their lives together ($r = .235$, $n = 93$) and how well they are able to reach consensus in their marriage ($r = .231$, $n = 78$). The ICAPS did not predict other areas of marital satisfaction.

If the ICAPS is a general measure of adjustment the it should predict adjustment for groups other than Japanese in the United States. A group of 40 non-Japanese foreigners residing in the San Francisco bay area were administered the ICAPS along with a ten item face valid adjustment questionnaire and the More Adjustment Scale, a standardized scale of personal adjustment. The ICAPS correlated significantly with the face valid scale ($r = .742$, $n = 40$) and with the standardized More Adjustment Scale ($r = .496$, $n = 40$). Thus the ICAPS predicts adjustment for non-Japanese sojourners in the united States. A second group of 154 immigrants and sojourners in the San Francisco Bay Area were recruited and administered the ICAPS a Subjective Adjustment Scale (SA, Matsumoto, 2001) and a correlation of $r = .266$ was found.

The table below reports three studies using ICAPS to predict a variety of adjustment measures among diverse samples of people. Study 1 reports data on 76 Japanese immigrants in the San Francisco Bay Area. Study 2 reports on 154 immigrants and sojourners in the San Francisco Bay Area who came from 17 countries spanning five continents. These subjects were administered the Subjective Adjustment scale (SA) and asked to compare their employment and income in the U.S. with their home country if they were working and their GPA if they were students in the U.S. 40 of the subjects were also administered a Satisfaction with Life Scale (SWLS) and a Personal Opinion Questionnaire (POQ) which consisted of 44 items related to the subjects adjustment and attitudes toward life in the United States.

In a third study, a Spanish version of the ICAPS along with the English version were administered to 261 individuals born and raised in Spanish speaking countries in Central and South America along with the SWLS and Sa scale. Results are below. It can be seen that the Spanish and English versions of the ICAPS correlate highly and both predict SWLS and SA scores with approximately the same accuracy.

Product Moment Correlations Between ICAPS Scores and Outcome Variables

Study (n=76)	Outcomes	ICAPS Scales				
		Total	ER	OP	FL	CT
Study 1	SAS – Work	-.298*	-.357*	-.138	-.105	-.142
	SAS – Housework	-.106	-.251*	.038	.086	-.305*
	SAS – Spare time	-.438*	-.560**	-.185	-.034	.098
	SAS – Family	-.658*	-.385*	.253	-.570	.124
	SCBAI – Somatic	-.338**	-.447**	-.099	-.015	-.031
	SCBAI – Behavioral	-.645**	-.666**	.022	.062	.140
	SCBAI – Cognitive	-.428**	-.543**	-.303**	.123	.002
	SCBAI – Total	-.537**	-.627**	-.147	.089	.050
	BDI	-.534**	-.627**	-.396**	.055	-.078
	SA	.454**	.508**	.147	.005	-.008
	Language – Text	.263*	.341**	.282*	.225*	.028
	Language – Communication	.455**	.422**	-.052	.170	.004
	Language – Total	.404**	.428**	.184	.220*	.018
	Study 2	SA (n = 154)	.266**	.161*	.208*	-.082
GPA (n = 81)		.341**	.355**	.098	.029	.334**
Working? (n = 99)		.049	.212*	.029	.168+	.236*
More Money? (n = 62)		.063	.225*	.207+	.233*	-.066
POQ (n = 40)		.742**	.661**	.135	.367*	.095
SWLS (n = 40)		.263+	.212+	.064	.327*	.228+
Study 3	Spanish ICAPS Scales					
	English ICAPS	.867***	.898***	.885***	.848***	.891***
	SA	.283***	.392***	-.015	.048	-.101
	SWLS	.387***	.441***	.096	.270	.177
	English ICAPS Scales					
SA	.228**	.322***	.091	.278**	.120	
SWLS	.398***	.450***	.078	.130	.216**	

+ p < .10 * p < .05 ** p < .01 *** p < .001

Incremental Validity

Seeking to further demonstrate the ability of the ICAPS to predict personal maladjustment as well as to demonstrate incremental validity, the ICAPS was administered to a sample of 136 American college students along with the Millon Clinical Multiaxis Inventory - II and the Cross

Cultural Adjustment Inventory (CCAI). The CCAI is the only other standardized measure which attempts to measure ability to adapt to new cultures. The regression partial correlations below suggest that the ICAPS significantly predicts maladjustment beyond the CCAI. Partialled correlations are listed below. The numerous correlations suggest that the ICAPS is negatively related to a variety of mental problems as well as predicting maladjustment beyond that predicted by the CCAI.

Correlations between ICAPS and MCMI-II

<u>MCMI Scale</u>	<u>r</u>	<u>Partial r with CCAI removed</u>
Schizoid	-.35***	-.20*
Avoidant	-.39***	-.25**
Dependent	-.20*	-.12
Histrionic	.23**	.19*
Narcissistic	.15	.09
Antisocial	-.08	-.06
Aggressive/Sadistic	-.10	-.06
Compulsive	-.14	-.18*
Passive-Aggressive	-.30**	-.19*
Self-Defeating	-.27**	-.14
Schizotypal	-.38***	-.23**
Borderline	-.36***	-.21*
Paranoid	-.19*	-.15
Anxiety	-.31***	.15
Somatoform	-.23**	-.10
Bipolar	.14	.11
Dysthymic	-.39***	-.23**
Alcohol Dependent	-.27**	-.12
Drug Dependent	-.07	.03
Thought Disorder	-.26**	-.12
Major Depression	-.35***	-.20*
Delusional Disorder	-.14	-.09

~= $p < .10$ *= $p < .05$, **= $p < .01$, ***= $p < .001$

In two other studies of incremental validity ICAPS was administered to student groups along with either the Big Five Inventory (BFI, $n=136$) or the California Psychological Inventory (CPI, $n=145$) and the scales of the Millon Clinical Multiaxis Inventory III (MCMI-III) as a measure of adjustment. Regression studies demonstrated the ICAPS predicted many MCMI-III scales, and so adjustment, beyond that captured by the BFI or the CPI. This suggests that the ICAPS is measuring adjustment potential beyond personality in the normal sense. The tables below present the incremental validity for MCMI III scales and the BFI and the CPI.

Millon Scale (MCMII-III)	R	R ² change with ICAPS	R	R ² change with ICAPS
	BFI		CPI	
Debasement	.541	.034	.788	.133
Borderline	.526	.023	.707	.069
Thought Disorder	.418	.028	.653	.029
Dysthymia	.546	.029	.702	.078
Desirability	.587	.178	.709	.119
Delusional Disorder	.258	.031	.676	.029
Anxiety			.623	.050
Alcohol Dependence			.607	.027
Schizotypal			.658	.027
Passive-Aggressive			.730	.056
Somatoform			.675	.059
Paranoid			.699	.069
Aggressive			.729	.020
Avoidant			.761	.083
Dependent			.690	.115
Narcissistic			.772	.018
Schizoid			.642	.036
Drug Dependence			.439	.044
Self-Defeating			.605	.093
Major Depression			.670	.097
Depressive			.674	.116
PTSD			.640	.081

Concurrent Validity

Another aspect of validity is concurrent validity when compared to other measures that measure similar constructs. The four factors of the ICAPS are somewhat similar to the big five factors of personality. One would expect that the ICAPS would correlate positively with Extroversion and Openness and negatively with Neuroticism. No theoretical prediction was made relative to Agreeableness and Conscientiousness. Two measures of the big five factors were used to ensure that the relationships would not be obscured by any idiosyncrasies in the measures used. The pattern of correlations below generally fits our predictions.

Correlations between the ICAPS and the Big Five Inventory (BFI) and the NEO PI-R
among college students in the United States

<u>Variable</u>	<u>r</u>	<u>n</u>
BFI Extroversion	.46***	136

BFI Openness to Experience	.57***	136
BFI Neuroticism	-.28**	136
BFI Agreeableness	.30***	136
BFI Conscientiousness	.32***	136
NEO Extroversion	.43*	27
NEO Openness to Experience	.50**	27
NEO Neuroticism	-.40*	27
NEO Agreeableness	.27ns	27
NEO Conscientiousness	.21ns	27

~p<.10 *p<.05, **p<.01, ***p<.001

Discriminant Validity

Discriminant validity is the idea that a scale should be distinct from other measurable aspects of individual differences that are conceptually distinct from it. In the case of the ICAPS one aspect of differences that are not a conceptual part of the scale is intelligence. That is our understanding of the potential to adjust to new cultures is that it has to do with interpersonal coping styles and not with the kinds of abilities measured by traditional intelligence tests. And so we correlated the ICAPS with three widely differing measures of ability, a vocabulary test (Concept Mastery Test), a test of verbal creativity (Remote Associates Test) and a measure of spatial skill (Minnesota Paper Form Board Test). As we predicted none of these correlations were significant - although the correlation with the measure of creativity would have been significant if a larger group had obtained the same correlation. This suggests that while not being generally associated with the sort of intelligence measured by academically oriented tests the ICAPS may be associated with being able to think in creative ways.

ICAPS Correlated with Measures of Intellect in College Students in the United States

r

Concept Mastery Test	.19ns
Remote Associates Test	.30ns
Minnesota Paper Form Board Test	-.25ns

n=31, ~p<.10, *p<.05, **p<.01, ***p<.001

Every scale measures in a particular way unique to itself. Part of understanding the validity of a test is to get some idea of the particular way in which a test measures. The best way to discover this is to correlate the test with a variety of other measures of individual differences and observe the patterns in correlation. Consequently we correlated the ICAPS with both the Meyers-Briggs Type Inventory (MBTI) and the California Psychological Inventory (CPI). The MBTI is the most

used test of personality world wide and is derived from the theories of Carl Jung. Jung suggested that we have a basic attitude towards life and what is important in life that was dichotomized either inside us or outside of us and so the first distinction the MBTI makes is where we find meaning in life - inside of ourselves or outside of ourselves (introversion-extroversion). The MBTI also measures what Jung called psychic functions which are dichotomized into the polarities by the MBTI. There is no obviously theoretical link between these Jungian concepts and our conceptualization of the ICAPS. In our sample there were no significant correlations. But again the correlations between ICAPS and extroversion and sensing would have been significant had larger groups obtained the same correlation. This suggests that the ICAPS and so ease in intercultural-adjustment may be associated with finding meaning in the external world and not being overly concerned with minor details.

Correlations between the ICAPS and the Meyers-Briggs Type Inventory (MBTI)
among college students in the United States

<u>Variable</u>	<u>r</u>
MBTI Extroversion	.30ns
MBTI Introversion	-.18ns
MBTI Sensing	-.33ns
MBTI Intuiting	.27ns
MBTI Thinking	.14ns
MBTI Feeling	-.22ns
MBTI Judging	.12ns
MBTI Perceiving	-.04ns

n=30, ~= $p < .10$ *= $p < .05$, **= $p < .01$, ***= $p < .001$

The California Psychological Inventory is widely used in personnel and forensic applications in the United States and several other countries. It is so used because it has among the best validity documentation in the field and it measures constructs which are readily understood by people in a variety of fields. It is intended to predict how people will act in non-test situations and how others will react to the individual tested and has adequate validity information to show that it does these things. Thus by correlating the CPI with the ICAPS we will be able to predict something about how people who score high and low on the ICAPS will act in the real world and how they will be regarded by others in the real world.

Several significant correlations were found between the ICAPS and the CPI. The CPI has been found to have three main factors and scores for these factors are reported in the three V scores. As with the big five measures the ICAPS correlated with measures of Introversion-extroversion (V1 Internality) and the third of the five factors which is called Realization on the CPI. These correlations confirm that social involvement and openness are associated with ease of intercultural adjustment.

The second group of scales on the CPI are measures of different aspects of social skill. The ICAPS correlated significantly with all of these scales. The third group of scales on the CPI are measures of mental organization. The CPI did not correlate with Socialization nor with Self-Control suggesting that neither the degree to which a person has internalized the norms of their culture nor their tendency to control their impulses are related to inter-cultural adjustment. With the larger group the correlation between the ICAPS and the Responsibility scale was significant suggesting there is a weak relationship between a person's willingness to consider the effects of their actions on others and intercultural adjustment. At the same time there was a significant correlation with Tolerance suggesting that persons who are low in ethnic and social prejudices adjust more easily to a new culture. Taken together these two correlations suggest that persons who are not too abnormal in their thinking but tolerant of others' differences are better at adjusting to a new culture.

The next group of scales on the CPI are validity scales. There was a significant correlation between the ICAPS and the Communality scale suggesting that persons who gave unusual answers in general do not adjust to a new culture as easily as those whose responses are less abnormal.

The fifth group of scales on the CPI are measures of work style and drive. The ICAPS correlated with all of these suggesting that persons who have a strong drive to accomplish tasks no matter what style they strive for achievement, adjust more easily to a new culture.

The sixth group of scales on the CPI are a heterogeneous group that don't fit anywhere else. The ICAPS correlated with Psychological Mindedness and weakly with Flexibility. These suggest that persons who adjust better to a new culture have insight into their own and others' mental processes and some flexibility.

The final group of Scales on the CPI are specifically designed to assess job performance in a variety of areas. These scales are scored by a computer program run by the test publishers and so were not available for the large hand-scored sample. The ICAPS correlated with scales measuring Managerial Potential and Leadership Potential. This suggests that some of the same social skills that lead to success in a work situation are related to intercultural adjustment. And finally the ICAPS correlated with Creative Temperament scale suggesting that persons who adjust more easily to new cultures have both a capacity and a willingness to see things differently from others.

Correlations between the ICAPS and the California Psychological Inventory (CPI)
among two samples of college students in the United States

<u>Variable</u>	<u>Group 1</u>	<u>Group 2</u>
	<u>r</u>	<u>r</u>
CPI V1 Internality	-.38*	-.319***
CPI V2 Norm Favoring	.15ns	.095
CPI V3 Realization	.47**	.457***
CPI Dominance	.52**	.465***
CPI Capacity for Status	.44*	.417***
CPI Sociability	.49**	.474***
CPI Social Presence	.47**	.464***
CPI Self-Acceptance	.49**	.439***
CPI Independence	.48**	.438***
CPI Empathy	.52**	.500***
CPI Responsibility	.08ns	.261*
CPI Socialization	.23ns	.171
CPI Self Control	.04ns	.167
CPI Good Impression	.19ns	.156
CPI Communality	.01ns	.275**
CPI Well Being	.39*	.384***
CPI Tolerance	.30~	.435***
CPI Achievement via Conformance	.35~	.312**
CPI Achievement via Independence	.51**	.424***
CPI Intellectual Efficiency	.45*	.485***
CPI Psychological Mindedness	.58***	.461***
CPI Flexibility	.30~	.201*
CPI Femininity	-.19ns	-.178
CPI Managerial Potential	.44*	not scored
CPI Work Orientation	.29ns	not scored

CPI Creative Temperament	.42*	not scored
CPI Leadership Potential	.53**	not scored
CPI Amicability	.24ns	not scored
CPI Law Enforcement Orientation	-.04ns	not scored
CPI Tough-Mindedness	.28ns	not scored

~p<.10, *=p<.05, **=p<.01, ***=p<.001

Malleability of ICAPS Scores

The ICAPS includes the word Potential which implies an unrealized capacity to adjust to a new culture. In using it we do not suggest that the potential is inherent in the person without reference to her or his interactions with the environment. Rather, we mean to denote the capacity of the person at a given moment to adapt to a new culture in the belief that much of the potential comes from previous learning. This being the case, then it should be possible to increase the potential of an individual to adapt to a new culture through learning processes. We investigated this by administering the ICAPS and before and after 24 newly arrived Japanese sojourners in the U.S. participated in a one day intercultural communication and adjustment seminar designed to improve their capacity to deal with American culture. There was a significant difference in scores before and after the seminar which suggests that capacity to adapt to a new culture is a set of teachable skills. This suggests that groups or persons who wish to move into a new culture for work of life would benefit from such seminars. It also seems likely that longer, more comprehensive seminars would produce even greater results.

Factor Analysis

Another aspect of validity has to do with the statistical unity of a scale. There are more than one opinion on this aspect of testing. Some theorists argue that the unidimensionality of a scale is proof of its validity and suggest that a scale should never contain more than one statistical factor. We have adopted a different point of view. We are primarily interested in a scale of empirical utility and so our methods of item selection and validation have all been directed toward utility rather than theoretical or statistical purity. We do think that a factor analysis of the scale provides very useful insight into the dimensions that underlie the process which we are measuring and so factor analyses were conducted to elucidate those processes.

A factor analysis of the ICAPS has suggested there are four main factors in the scale. The items loading most strongly on each of the factors along with the factor loading are presented in the tables below. The existence of more than one dimension is to be expected as a result of the empirical method of scale construction in which unidimensionality has never been a goal. The four main factors account for only a moderate portion of the variance (19%) in the scale. This means that there are individual items or aspects of intercultural adjustment that are not captured by the factors. Thus the total score is a better predictor of adjustment than a combination of the

four factors.

Naming factors is not an exact science. We have tentatively named the four factors, Emotional Regulation, Openness, Flexibility and Critical Thinking or Creativity. These labels were arrived at through an examination of the content of the items most closely associated with each of the factors. We think the largest factor, Emotional Regulation, is a sort of gate keeper factor without which the other factors have less impact. It is only when a person is able to modulate their inevitable anxiety in the face of new and so ambiguous cultural that an individual can be open to perceive what is occurring, think critically about what to do and be flexible enough to act in ways that would not necessarily fit with her or his culture of origin.

Standardized scores on these factors are provided in the ICAPS Scoring Report. The factor scores are derived from a weighted summing across items loading on each factor. The factor scales being considerably shorter than the total scale; have only moderate internal consistency. Test-retest reliability has been acceptable.

Factor Loadings and Items for Factor 1 - Emotional Regulation

Item Number	Factor Loading	Item
9	-.736	I do not worry very much.
10	-.720	I rarely feel anxious or fearful.
11	.571	I often worry about things that might go wrong.
33	-.345	I feel happy most of the time.
36	.292	I get angry easily.
4	.230	Being in tense emotional situations scares me.
13	.225	I usually feel lower than others.
15	.206	If I have done something wrong I want to hide from other people.
26	-.198	People should not care what other people do.

Factor Loadings and Items for Factor 2 - Openness

Item Number	Factor Loading	Item
44	-.546	I have tried to write poetry.
19	.490	Watching ballet or modern dance performances is boring.
53	-.467	I like to wonder about the origins of the universe.
23	-.454	Smells remind me of old memories.
5	.452	When I see someone being treated unfairly, I sometimes don't care much.
21	-.427	I like haiku poems.
37	.318	I hardly ever get excited.

Factor Loadings and Items for Factor 3 - Flexibility

Item Number	Factor Loading	Item
55	.736	I think women should have as much sexual freedom as men.
54	.723	Sex education is a good thing.
2	.527	I would not object to my husband or wife having friends of the opposite sex.
37	-.255	I hardly ever get excited.
39	-.217	I am a traditional person.
12	-.207	I don't get much pleasure from talking with people.

Factor Loadings and Items for Factor 4 – Critical Thinking or Creativity

Item	Factor	Item
8	-.696	Spanking a child is the best way to teach them.
41	-.676	The trouble with children nowadays is their parents don't punish them enough.
46	-.398	My parents were always strict with me.
39	-.249	I am a traditional person.
30	.230	Sometimes I rearrange my room just to make it different.
44	.223	I have tried to write poetry.
18	.208	The average citizen can influence governmental decisions.

Norms

The norms against which individual scores on the test are judged is an ever evolving sample appropriate for the test-takers national back ground. Presently the test is normed for people in the United States and people in Japan. Norms for persons from other countries are in the process of being developed. Japanese norms are always used when the test is taken in Japanese. Norms for either the United States or Japan are used as appropriate when the test is taken in English. A Spanish version with norms for Mexico and South and Central America will be available soon. All norms are constantly being revised as more data is gathered.

Scores are reported in standard format so that a person's score is always relative to a norm of 50 for their nationality. The standard deviation for normal scores is also always 10. So a score can always be interpreted relative to these norms. It is anticipated that there will be small changes in the norms used as information on various groups accumulates over time. As there has not been any large differences among groups on the test it is anticipated that no large changes will occur in norms in the future.

Contact Information

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