CONTEXTUAL VARIABLES WHEN WORKING WITH ASIAN AMERICANS: THE ECLECTIC FRAMEWORK

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ECLECTIC FRAMEWORK BACKGROUND

- Purposes
    - Understanding the why?
        - Dissect culture into salient components
        - Developing a nuanced understanding/ appreciation for the examinee and experiences that influence behavior and cognition
- Assumptions
    - Race does not equal genetics
    - Cognition can change with experience
    - Test scores do not equal diagnosis or meaningful recommendations
        - Determined by clinicians interpreting data within the context of person and his/her environment
    - Neuropsychologists are psychologists

LEARNING OBJECTIVES

▶ Appreciate how culture and language can impact three aspects of the neuropsychological assessment: (1) collecting accurate data, (2) providing a context for interpreting data, and (3) generating useful recommendations.

▶ Learn the American Education and Research Association (AERA) Standards for Fairness in Testing and rational behind the standards.

▶ Appreciate the demographic heterogeneity of Asian-Americans through use of the ECLECTIC Framework.

▶ Illustrate how specific cultural characteristics can guide approaches for neuropsychological testing with Asian-Americans through a case sample.

AMERICAN EDUCATIONAL RESEARCH ASSOCIATION (AERA): STANDARDS FOR EDUCATIONAL AND PSYCHOLOGICAL TESTING (2014)

Fairness in Testing

AERA STANDARDS (2014) FOR FAIRNESS IN TESTING

- Fairness during the testing process
  - Comfort with tester and communication
    - Rapport
    - Meaning of testing situation
    - Logistics of the testing situation
    - Communication style

AERA STANDARDS (2014) FOR FAIRNESS IN TESTING

- Minimize measurement bias
  - Construct equivalency
  - Content bias
  - Test translation
  - What is considered a correct response

AERA STANDARDS (2014) FOR FAIRNESS IN TESTING

- Fairness in accessibility
  - Demonstrate knowledge
    - English proficiency
    - Need for interpreters
    - Other considerations
      - Guessing
      - Verbal expression
      - Processing style
      - Time orientation
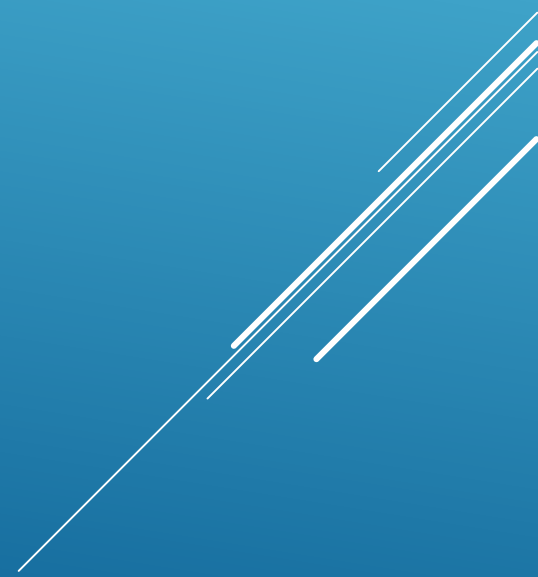
AERA STANDARDS (2014) FOR FAIRNESS IN TESTING

- Validity of interpretation for intended use
  - Can interpretation generalize to other cultures
    - All previous standards for fairness needs to be met
    - Differential opportunity to learn skills/content
    - Heterogeneity within subgroups

ECLECTIC FRAMEWORK

- Education/Literacy
- Culture/Acculturation
- Language
- Economics
- Communication Style
- Testing Situation: Perception and Goals
- Intelligence Conception
- Context of Immigration

EDUCATION/LITERACY

IMPACT OF EDUCATION

- Develops Test Taking Skill
  - using writing tools
  - emphasizes memorization
  - reinforces attitudes and values of learning
  - exposes students to test taking situations.
- Cognitively,
  - exposes students to information outside of the immediate environment and language not used in everyday conversation
  - teaches reading
  - develops taxonomic classification
  - improves semantic processing
  - helps develop formal operational thinking
    (for a review see Ardila et al., 2010).

IMPACT OF LITERACY

- Decontextualized communication
    - Reading exposes the individual to visual symbols that are distinct from the world they represent.
    - Ability to ask questions about things that are not present
    - Foundation for abstract thinking (Greenfield, 1997)
- Limitless source for acquiring information that is outside of one's immediate environment
- External storage to facilitate memory

(Ardila et al., 2010).

EXPECTED YEARS OF EDUCATION BY COUNTRY 2015
(UNITED NATIONS 2015)

Rank	Country	Education Index	Expected Years Ed.	Mean Year Ed.
8	United States	0.900	16.5	13.2
18	South Korea	0.867	16.6	12.2
22	Japan	0.842	15.3	12.5
30	Hong Kong	0.822	15.7	11.6
35	Singapore	0.814	15.4	11.6
57	Sri Lanka	0.752	14.0	10.9
80	Malaysia	0.700	13.1	10.1
106	Thailand	0.641	13.6	7.9
107	Philippines	0.637	11.7	9.3
108	China	0.631	13.5	7.6
112	India	0.624	11.7	6.3
113	Indonesia	0.622	12.9	7.9
117	Vietnam	0.617	12.6	8.0
128	Pakistan	0.550	12.1	10.1
151	Laos	0.474	10.8	5.2
154	Cambodia	0.459	10.9	4.7
155	Bangladesh	0.457	10.2	5.2

Half of U.S. Asians have at least a bachelor's degree

% of those ages 25 and older with a bachelor's degree or more, by origin group, 2015

Indian **72%**

Malaysian **60**
Mongolian **59**
Chinese **53**
All Asians **51**
Filipinos **46**
Nepali **41**

Vietnamese **29**

Cambodian **18**
Hmong **17**
Laotian **16**
Bhutanese **9**
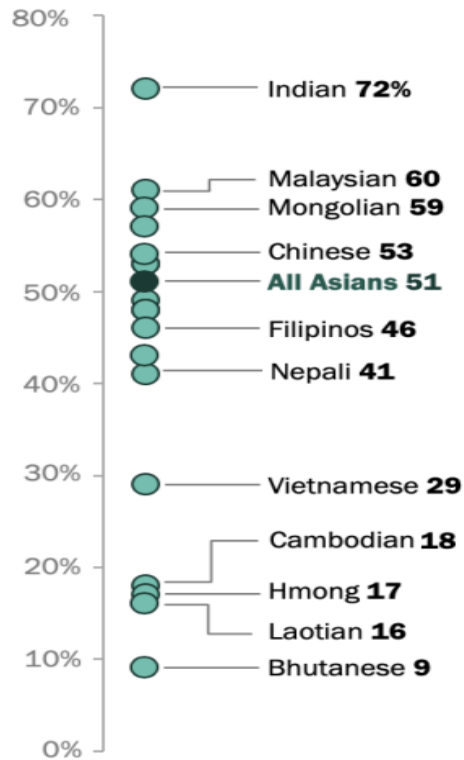
Note: Chinese includes those identifying as Taiwanese. Data not available for all Asian origin groups. See methodology for more.
Source: Pew Research Center analysis of 2013-2015 American Community Survey (IPUMS).

PEW RESEARCH CENTER

PROGRAM FOR INTERNATIONAL STUDENT ASSESSMENT (PISA) 2018

Ranking	Country	Average score Math, Science, Reading
1	China (Beijing, Shanghai, Jiangsu, Zhejiang)	578.7
2	Singapore	556.3
3.	Macao	542.3
4.	Hong Kong	530.7
6.	Japan	520.0
7.	South Korea	519.7
8.	Taiwan	516.7
25.	United States	495.0
48.	Malaysia	431.0
60.	Thailand	412.7
71.	Indonesia	382.0
76.	Philippines	350.0

LITERACY RATE 2020 (WORLD POPULATION REVIEW, 2020)

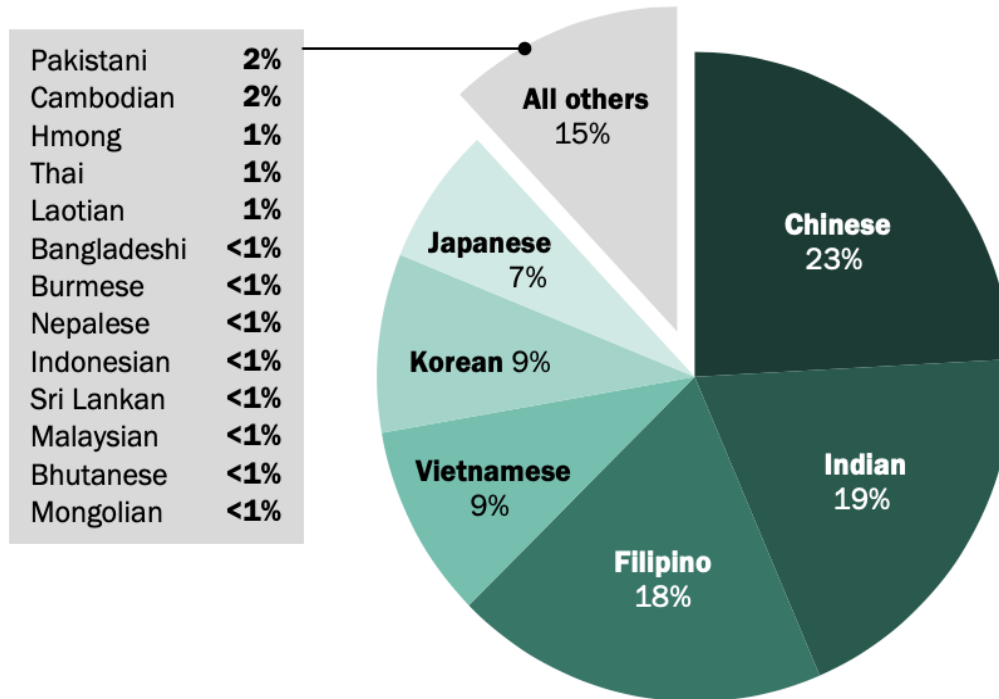| Country	Literacy Rate
Taiwan	98.5%
Singapore	96.8%
Thailand	96.7%
China	96.4%
Philippines	96.3%
Malaysia	94.6%
Vietnam	94.5%
Indonesia	93.9%
Myanmar	93.1%
Sri Lanka	92.6%
Laos	79.9%
Cambodia	77.2%
India	71.2%
Pakistan	57.9%

IMPLICATIONS

1) Be knowledgeable of the AA patient's educational background, including the quality of his/her education.

2) Scores on international standard tests such as PISA, TIMSS, PIRLS, can be a proxy for education quality for a country.

3) Be knowledgeable of AA's school's services for foreign students such as English as a Second Language (ESL) Program.

4) It is essential to procure demographically matched norms for test interpretation.

5) If these norms are not available, it is recommended that neuropsychologists use the individual comparison method (Gasquione, 2009), which compares test scores to a premorbid estimate of functioning.

CULTURE/ACCULTURATION

Six origin groups make up 85% of all Asian Americans

% of origin group among all Asian Americans, 2015

Pakistani	**2%**
Cambodian	**2%**
Hmong	**1%**
Thai	**1%**
Laotian	**1%**
Bangladeshi	**<1%**
Burmese	**<1%**
Nepalese	**<1%**
Indonesian	**<1%**
Sri Lankan	**<1%**
Malaysian	**<1%**
Bhutanese	**<1%**
Mongolian	**<1%**

All others 15%

Chinese 23%

Japanese 7%

Korean 9%

Vietnamese 9%

Indian 19%

Filipino 18%

Note: Chinese includes those identifying as Taiwanese. Category "Other Asian, not specified" not shown. Figures may not add up to 100% due to rounding. See methodology for more. Source: Pew Research Center analysis of 2015 American Community Survey 1-year estimates (American FactFinder).

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HETEROGENEITY OF RELIGIONS IN ASIAN COUNTRIES

- China: 52% no affiliation, 21% folk religion, 18% Buddhist, 5% Christian
- Japan: 57% no affiliation, 36% Buddhist
- South Korea: 46% no affiliation, 29% Christian, 27% Buddhist
- India: 80% Hindu, 14% Muslim, 2% Christian
- Pakistan: 96% Muslim
- Philippines: 85% Roman Catholics
- Singapore: 34% Buddhist, 18% Christian, 16% no affiliation, 10% other
- Laos: 66% Buddhist, 31% Folk religion
- Thailand: 93% Buddhist
- Vietnam: 45% folk religion, 30% no affiliation, 16% Buddhist, 8% Roman Catholic/Christian
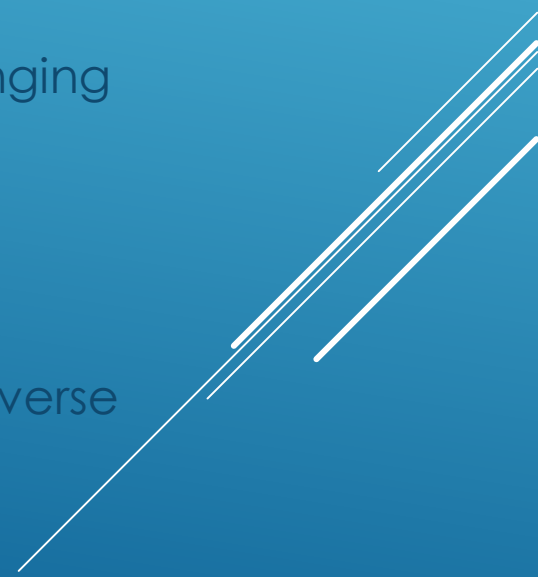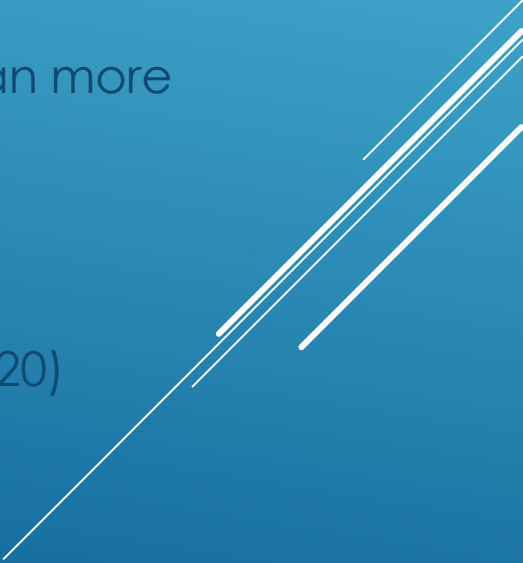
(Wikipedia)

HETEROGENEITY OF ASIAN-AMERICANS

- Macrosocietal structures (e.g. sociopolitical-economic history, demographics, government, and educational system)
  - language(s) spoken, English proficiency or bilingualism,
  - educational opportunities, intellectual functioning on Western tests,
  - relationship between the neuropsychologist and patient
- Values, beliefs, worldview, religions, family structures, and norms for social interactions (Judd & Beggs, 2005)
  - developing rapport and optimizing communication
  - understanding conceptions of intelligent behavior
  - generating meaningful recommendations.
- Common medical conditions and attitudes/beliefs regarding health and illness, and common treatments for illnesses (Judd & Beggs, 2005)
  - generating hypotheses about diagnoses
  - making useful treatment recommendations.

PAN ASIAN CULTURE   (GUO & UHM, 2014; LAU, 2014).

- collectivist emphases on the group and interdependency
    - social conformity and restraint
    - strongly defined roles
    - suppression of emotional expression
    - indirect communication
    - family loyalty with a fierce obligation to avoid bringing shame to one's family
- Influence by Eastern philosophical traditions
    - Hinduism, Buddhism, Taoism, and Confucianism
    - Stress interdependency of the person with the universe

IMPACT OF ASIAN CULTURE ON COGNITION

▸ Visual perception

  ▸ More holistic and integrative

  ▸ Westerners focus on object, East integrate object and context

▸ Memory

  ▸ West more categorical and emphasize self, Asian more relational

▸ Categorization

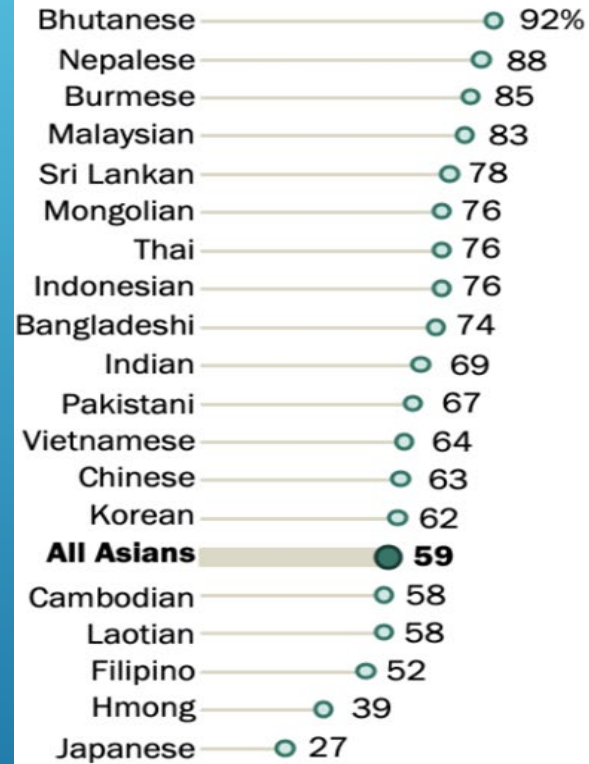 ▸ West more categorical, East more emphasis on relationships between objects   (Pedraza, 2020)

LEVEL OF ACCULTURATION

- Neuropsychological definition: 'the similarity of a patient's culture and experiences to, and adoption of, mainstream culture' (Fujii, 2016)
  - Important for titrating the impact of an AA patient's home culture on presentation and functioning.
  - Guiding the evaluation process.
- Asian American Multidimensional Acculturation Scale (Gim-Chung, Kim, & Abreu, 2004)
- Clinically based upon characteristic such as age at immigration or generation in U.S., exposure to mainstream culture, or cultural identity (Birman & Simon, 2014).

Immigrant shares by Asian origin groups

% foreign born among Asian origin groups in the U.S., 2015

Bhutanese	92%
Nepalese	88
Burmese	85
Malaysian	83
Sri Lankan	78
Mongolian	76
Thai	76
Indonesian	76
Bangladeshi	74
Indian	69
Pakistani	67
Vietnamese	64
Chinese	63
Korean	62
All Asians	**59**
Cambodian	58
Laotian	58
Filipino	52
Hmong	39
Japanese	27

Notes: Chinese includes those identifying as Taiwanese. See methodology for more.
Source: Pew Research Center analysis of 2013-2015 American Community Survey (IPUMS).

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IMPLICATIONS:

- Neuropsychologists need to research an AA patient's culture and at a minimum informally assess for acculturation prior to the assessment to develop plans for the assessment.

- To reduce testing biases, neuropsychologists should refer to the American Education Research Association (AERA) et al., (2014) Standards for Educational and Psychological Testing.

- A cultural conceptualization can then assist in developing useful recommendations.

- Be cognizant of generational issues in immigrants.

- Asians' collectivist culture have implications for cognition and underlying brain functioning. (for a review see Yang, Wong, & Li, 2020).

LANGUAGE
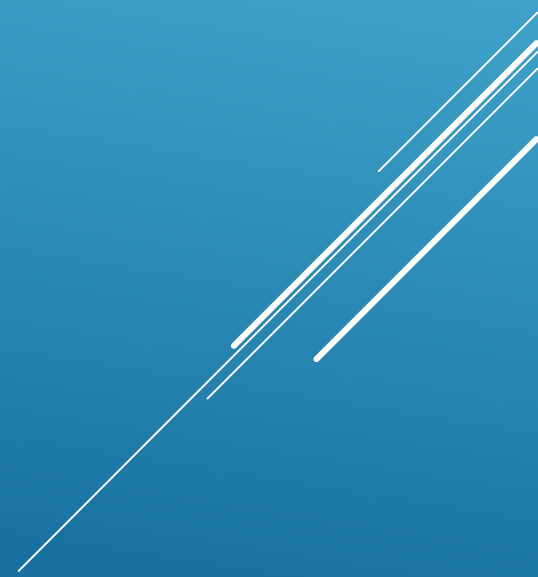
PREVALENCE OF ASIAN LANGUAGES SPOKEN AT HOME

- Chinese* 2,720,325
- Tagalog 1,599,040
- Vietnamese 1,367,910
- Korean 1,130,727
- Hindi 638,307
- Japanese 449,309
- Urdu 377,153
- Gujarati 368,925
- Panjabi 255,280
- Telugu 235,307
- Bengali 231,468
- Hmong 217,921
- Mon-Khmer, Cambodian 205,761
- Tamil 177,345
- Thai 155,242
- Laotian 150,600

Laotian 150,600
Malayalam 137,679
Ilocano 88,769
Nepali 78,360
Marathi 69,732
Other Indian 69,733
Other Asian languages 69,607
Indonesian 65,700
Burmese 55,068
Kannada 46,261
Bisayan 28,226
Sinhalese 26,281
Mien 17,268
Other Pakistani 15,269
Sebuano 14,770
Malay 12,396

LIMITED ENGLISH PROFICIENCY AMONG ASIAN AMERICAN ETHNICITIES/PROPORTION OF HOUSEHOLD THAT ARE LINGUISTICALLY ISOLATED

- Vietnamese 53% (34%)
- Chinese 46% (30%)
- Korean 45% (29%)
- Thai 45% (24%)
- Cambodian 44% (18%)
- Bangladeshi 43% (25%)
- Laotian 42% (19%)
- Hmong 41% (19%)

Indonesian 36% (21%)
Malaysian 30% (21%)
Pakistani 27% (11%)
Sri Lankan 25% (16%)
Japanese 24% (15%)
Asian Indian 22% (10%)
Filipino 22% (8%)

FIRST, SECOND, AND THIRD LANGUAGES BY NUMBER OF SPEAKERS IN INDIA (PRUTHI, 2018)

Language	First language speakers		Second language speakers[11]	Third language speakers[11]	Total speakers	
	Figure[11]	% of total population			Figure[12][11]	% of total population
Hindi[b]	528,347,193	43.63%	139,207,180	24,160,696	691,347,193	57.09%
English	259,678	0.02%	83,125,221	45,993,066	129,259,678	10.67%
Bengali	97,237,669	8.03%	9,037,222	1,008,088	107,237,669	8.85%
Marathi	83,026,680	6.86%	12,923,626	2,966,019	99,026,680	8.18%
Telugu	81,127,740	6.70%	11,946,414	1,001,498	94,127,740	7.77%
Tamil	69,026,881	5.70%	6,992,253	956,335	77,026,881	6.36%
Gujarati	55,492,554	4.58%	4,035,489	1,007,912	60,492,554	4.99%
Urdu	50,772,631	4.19%	11,055,287	1,096,428	62,772,631	5.18%
Kannada	43,706,512	3.61%	14,076,355	993,989	58,706,512	4.84%
Odia	37,521,324	3.10%	4,972,151	31,525	42,551,324	3.51%
Malayalam	34,838,819	2.88%	499,188	195,885	35,538,819	2.93%
Punjabi	33,124,726	2.74%	2,300,000	720,000	36,074,726	2.97%
Sanskrit	24,821	0.002%	1,234,931	1,196,223	2,360,821	0.19%

LANGUAGE LEARNING DIFFICULTY
(NATIONAL VIRTUAL TRANSLATION CENTER, 2007)

- Category 1: Languages closely related to English (23-24 weeks; 600 hours)

- Category 2: Languages similar to English (30 weeks (750 hours)

- Category 3: Languages with linguistic and/or cultural differences from English (36 weeks; 900 hours)

  - Indonesian, Malaysian

- Category 4: Languages with significant linguistic and/or cultural differences from English (44 weeks; 1100 hours)

  - Bengali, Burmese, Hindi, Khmer, Lao, Mongolian*, Nepali, Sinhali, Tagalog, Thai*, Urdu, Vietnamese*

- Category 5: Languages which are exceptionally difficult for native English speakers (88 weeks; 2200 hours)

  - Cantonese, Mandarin, Japanese*, Korean

IMPLICATIONS:

- Determine the need for interpreter services and test translations prior to assessment.
    - find trained interpreters (Santos, Fujii, & Pedraza, 2020)
    - procure appropriately translated tests or selected translation of tests if none available (International Test Commission, 2017).
- Evaluation in English may be appropriate for many AAs
- Neuropsychologists should also be versed in the bilingualism literature (for a review see Freeman, Shook, & Marian, 2016).
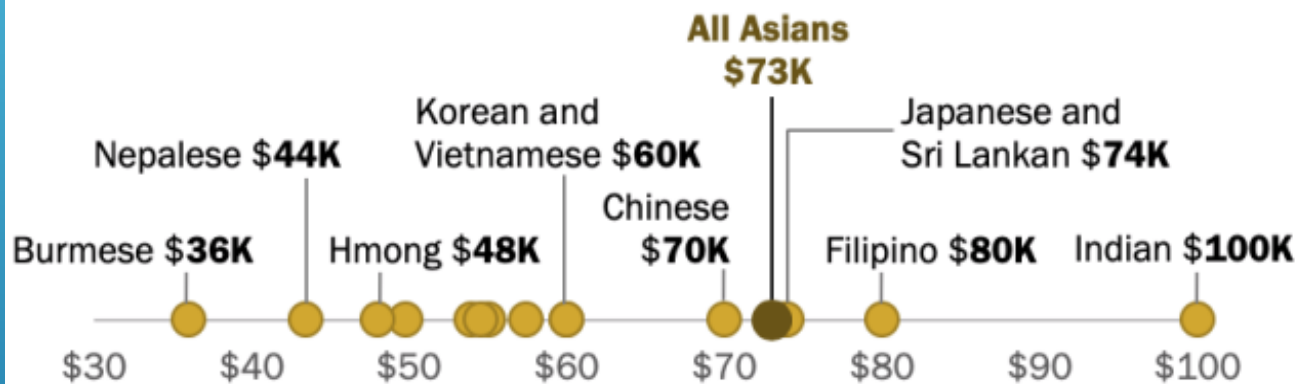
ECONOMICS

ECONOMIES OF 10 ASIAN COUNTRIES (WORLD BANK, 2017A)

	Country	Gross Domestic Product (in millions)	Estimated Population (in millions)	World rank	Country	Gross Domestic Product (per capita US$)
1	China (PRC)	6,039	1,393	7	Singapore	81,300
2	Japan	5,495	127	43	Japan	37,800
3	India	1,708	1,267	46	South Korea	35,400
4	South Korea	1,094	49	106	Thailand,	14,400
5	Thailand	318	67	113	China (PRC)	12,900
6	Singapore	236	5.5	153	Philippines	7,000
7	Philippines	199	100	160	India	5,800
8	Pakistan	117	185	163	Vietnam	5,600
9	Vietnam	115	92	167	Laos	5,000
10	Laos	7.1	6.9	174	Pakistan	4,700

Most U.S. Asian origin groups have household incomes that fall below those of Asian Americans overall

Median annual household income in thousands (2015), by origin group

All Asians $73K

Korean and Vietnamese $60K

Japanese and Sri Lankan $74K

Nepalese $44K

Chinese $70K

Burmese $36K   Hmong $48K   Filipino $80K   Indian $100K

$30 $40 $50 $60 $70 $80 $90 $100

Notes: Bhutanese, Malaysian and Mongolian estimates not shown due to small sample size. The household population excludes persons living in institutions, college dormitories and other group quarters. Households are classified by the race or detailed Asian group of the head. Incomes are not adjusted for household size. See methodology for more detail.
Source: Pew Research Center analysis of 2013-2015 American Community Survey (IPUMS).

PEW RESEARCH CENTER

IMPLICATIONS:

- Economics have significant implications for understanding the cognitive functioning and test performance.
  - National level
    - countries with stronger economies have better educational systems and network infrastructure (McPhillips, 2017; OECD, 2016a; World Bank, 2017a)
    - country's economy is correlated (.59) with performance on academic and western intelligence tests (Lynn & Meisenberg, 2010)
    - implication is that a country's economy can be used as a rough indicator to adjust expected performance on neuropsychological tests (for a review see Fujii, 2016).
  - Country's economy associated with availability of translated/normed tests

IMPLICATIONS:

- Poverty associated with negative environmental factors for cognitive development

  - less stimulating reading environments (Sénéchal, & LeFevre, 2002)

  - stressful, chaotic, traumatic environments associated with smaller frontal and hippocampal areas that modulate memory and executive functioning (Ursache & Noble, 2016)

  - Decrements in structures account for 15%-20% of academic deficits (Hair, Hanson, Wolfe, & Pollak, 2015)

COMMUNICATION STYLE

COMMUNICATION STYLE: DEFINITION

▶ Manner how information is transmitted between people (pragmatics).

▶ It not only involves how information is imparted, but also what information is appropriate to disclose and to whom.

▶ Incongruence in communication style between a neuropsychologist and patient can result in miscommunication, negative perception of the other, and impact rapport (Tannen, 1984).

COMMUNICATION STYLE DIFFERENCES

- expectations in which situations talking is acceptable

- what is considered appropriate to disclose to strangers

- the pace of speech and duration of pauses to indicate one has finished speaking and it is the listener's turn to respond

- the meaning of and comfort with silence

- meaning of nonverbals

- directness of communication

- preference for linear thinking

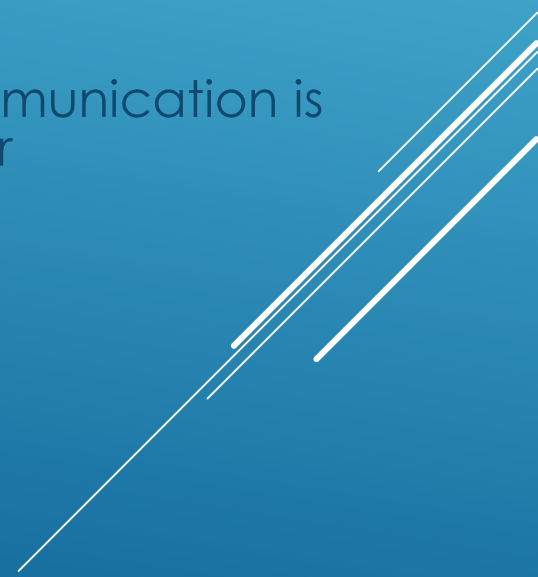- norms for emotional expressiveness

- idioms of distress

DIFFERENCES BETWEEN ASIANS AND WEST

INDIVIDUALIST CULTURES

- Direct
- Meaning is in content of what is said
- Onus for communication is on the speaker.

COLLECTIVIST CULTURES

- Indirect
- Greater emphasis on nonverbals/absence of content
- Onus for communication is on the listener

DIFFERENCES BETWEEN ASIANS AND WEST

▸ Head nodding means "I am listening to you"

▸ Idioms of distress

  ▸ manner that people of a culture express emotional distress.

  ▸ reflects a shared way of experiencing or communicating emotional concerns and may or may not involve specific symptoms or syndromes (American Psychiatric Association, 2013).

  ▸ Somatization

    ▸ emotional problems are typically demonstrated through physical symptoms, due to the stigma of mental illness (Maffini & Wong, 2014).

  ▸ Asians tend to delay seeking assistance for mental health or neurological issues until symptoms are severe (Kim, Saw, Zane, & Murphy, 2014).

IMPLICATIONS:

- Be cognizant of AAs' communication style and be vigilant for indirect or subtle signs of discomfort or distress.

- AA patients may be at a higher level of distress when seeking treatment.

- Probe for possible stressors when AA patients complain of physical symptoms.

- AA patients should be given permission to ask questions if they do not understand test instructions or any aspect of the assessment.

- Check-ins throughout the assessment can reinforce this behavior as some AA cultures acquiesce only after several offers to avoid appearing rude.

- AAs' indirect communication style is moderated by generation and acculturation.

TESTING SITUATION

GREENFIELD'S CROSS CULTURAL RESEARCH (1997)

- Psychological testing is a western technology with its values and cultural assumptions inherent in the process.

- Due to the western cultural bias, the process can be unfair for people from cultures:

  - unfamiliar and/or uncomfortable with the testing situation

  - behaviors, values, and world views are dissimilar to the west

  - biases can impact motivation and test performances

- AERA Standards (2014) for Fairness in Testing

HETEROGENEITY IN EXPERIENCE/COMFORT WITH TESTING

- Testing situation is familiar, thus comfortable for many AAs who come from countries with good educational systems or are educated in the U.S.

- Testing situations can also be perceived as stressful and uncomfortable for AAs:
  - Low levels of education
  - Do not speak English well
  - Historically performed poorly on tests
  - Feel the neuropsychologist is asking intrusive questions about him/her or family
  - Perceived to be a psychiatric evaluation
  - Microaggressions can negatively impact rapport and test performance (Thames et al., 2013).

IMPLICATIONS:

▶ Be knowledgeable of the AA patient's culture and level of acculturation to develop hypotheses of how s/he will perceive the testing situation and adapt approaches to address issues and maximize comfort.

  ▶ engage in small talk

  ▶ emphasize confidentiality

  ▶ frame the evaluation as a medical versus psychological assessment

  ▶ mirror the less direct eye contact of the AA patient

IMPLICATIONS:

- Engagement in assessment can be maximized by determining the AA's concerns or goals for the evaluation and then tailoring recommendations towards these goals.

  - Probe what is most bothering the patient or how the patient's purported neurological condition is causing him/her distress

  - Provide a general description of the neuropsychological evaluation

  - Inform the patient how this information can be useful to understand his/her concerns

  - Describe how this information can guide recommendations to address the patient's concerns.

INTELLIGENCE CONCEPTION

WHAT IS INTELLIGENCE?

- Construct is somewhat amorphous as psychologists have not agreed upon a standard definition (Sternberg & Kaufman, 2011).

- Concepts of intelligence become more complicated when examining different cultures.

  - Numerous theorists purport that intelligence is intimately tied to survival and advancement within one's social and physical environment (Vygotsky, 1978; Sternberg, 2014).

- Thus intelligence across cultures will differ contingent upon unique challenges faced in adapting to and problem solving within their environments (Laboratory of Comparative Human Cognition, 1982).
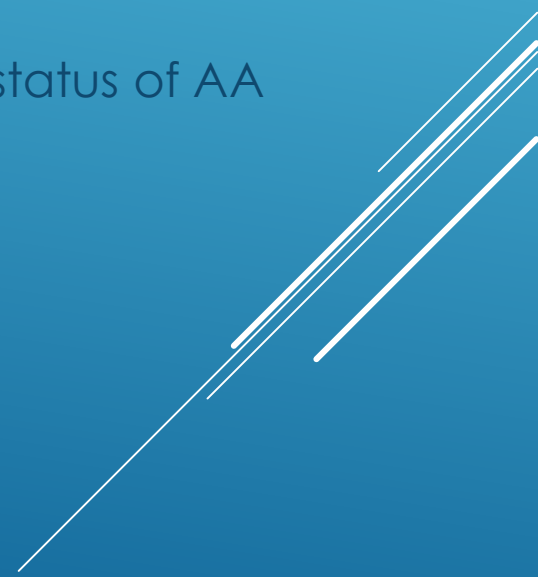
TRAILMAKING NORMS FOR DIFFERENT COUNTRIES

Country	Estimated IQ	Age Range	Trails A	Trails B
U.S.	98	25-34	19.0 (5.9)	49.5(17.1)
Denmark	98	20-29	26.9(10.5)	60.9(19.9)
Sweden	99	20-34	28.0(10.7)	64.0(26.0)
Argentina	93	20-29	38.9(12.6)	72.3(20.7)
Italy	97	20-29	33.5(13.0)	78.1(33.7)
China	105	20-29	24.7 (7.8)	44.7(12.0)
Canada	99	20-29	36.1(10.0)	85.7(38.7)
Belgium	99	18-29	27(6)	60(16)___

ASIANS AND HIGH ACADEMIC ACHIEVEMENT

▸ AA demonstrate stronger academic achievement and score higher on standardized tests than Whites, particularly in STEM subjects (National Center for Fair and Open Testing, 2019; OECD, n.d.).

▸ Social and cultural factors:

  ▸ Belief that academic achievement is something that can be developed versus western beliefs in innate abilities.

  ▸ Confucian ideals of the perfectibility of humans through learning and self-cultivation.

  ▸ Educational attainment is perceived to be associated with social prestige and upward mobility.

  ▸ Parents have higher expectations and are highly influential on children due to parenting styles that engender interdependence and collectivism (Hsin & Xie, 2014).

  ▸ The importance of motivational factors is illustrated by weak correlations for socioeconomic status and academic achievement, particularly for Southeast Asians (Kim, Cho, & Song, 2020).

IMPLICATIONS:

▶ Test data interpretation:

  ▶ pattern for higher math versus verbal abilities

  ▶ weaker association between socioeconomic status of AA immigrants and academic achievement.
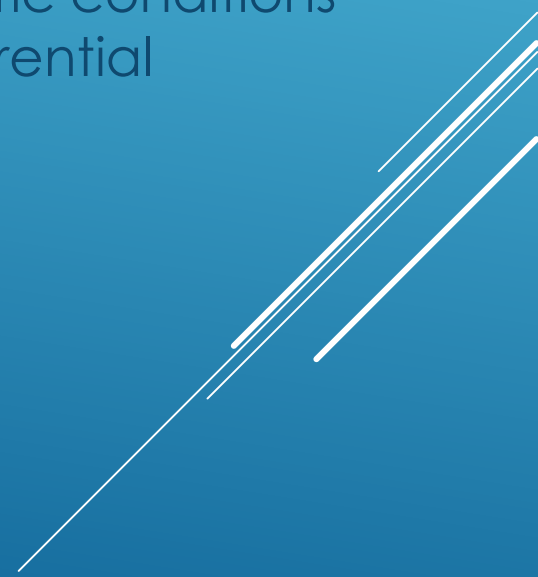
CONTEXT OF IMMIGRATION

IMMIGRATION AND SELECTION BIAS

- Not everyone from a given country can emigrate to the United States
  - person must meet eligibility criteria for category of immigration: family reunification, employment, political, and lottery
  - possess resources to travel to the United States
- Thus there is a selection bias of who emigrates
- Biases differ per country as each have their own economic, political, and geographic realities.
- A related issue is when a person immigrates within the country's immigration history, as there can be several "waves" of immigration associated with different sectors of society.

PROCESS OF IMMIGRATION

- ▸ Different experiences for person and country of origin

- ▸ Salient for refugees as many have experienced physical and psychosocial traumas during the immigration process.

- ▸ Experiences can be associated with psychiatric conditions and also neurological considerations for differential diagnoses (Ngo, Le, & Le, 2010).

IMPLICATIONS:

▸ Selection biases of immigration can provide important clues for understanding how the AA patient fits within his/her own culture of origin as there is significant heterogeneity within population.

   ▸ language spoken, education level and quality, occupation and socioeconomic status.

▸ Determining a person's status within her country is a key issue when attempting to estimate premorbid functioning on western tests when no relevant norms exist for that country (for a description see Fujii, 2016).

▸ A contextual understanding is especially important for AAs who may not present as the prototypical person for that country.

ESTIMATING PREMORBID IQ ON WESTERN TESTS

- Individual comparison approach to test interpretation (Gasquoine, 2009)
  - uses an estimate of premorbid abilities as the benchmark to compare current scores
  - does not specifically use demographically adjusted norms to calculate test scores.
- Weakness for CDCs is that current strategies for estimating premorbid abilities may not be valid
  - Word recognition reading
  - Regression based
  - Demographics

STRATEGY FOR ESTIMATING PREMORBID IQ ON WESTERN TESTS (FUJII, 2016)

- 1) Procure an estimated score on western IQ tests from the client's country of origin
  - Literature
  - Education
  - Country performance on international standardized tests (e.g. PISA, TIMSS)
  - Country's GDP
- 2) Determine a client's functional level within his country of origin:
  - Education
  - occupational status
  - urban versus rural living
  - reason for immigration
- 3) Adjust for "ball park figure"

CASE SAMPLE

BACKGROUND /REASON FOR REFERRAL

- Mr. W is a 64 year-old Chinese-American male, bartender for a luxury Waikiki Hotel

- Model employee, loved job, 40 years same hotel, rarely called in sick, did work of several people, thinking of working another 10 years

- 300 lb. door falling on the back of his head, ran to prevent door from falling on elderly couple, co-worker didn't help

- No LOC, headache and nausea, GCS 15/15, CT negative

- Initial dx: contusion of multiple sites of head and neck

- Developed chronic headaches 5-10/10,

- Dx: s/p post-concussion/mild traumatic brain injury, post-traumatic headache

- 1.5 years later, referred by attorney for workman's compensation litigation, scheduled to return to work in two weeks

ADDITIONAL BACKGROUND

- WMC payments late after first month

- Returned to full-time work AMA 6 months later, two weeks later HR told him to go home, co-worker said he look so exhausted

- Returned 3 months later 2 days/wk., later increased to 3 days

- "very disappointed" when noticed WC did not include tips in wages, and later discovered co-worker got full amount

- "smiling" during HR interaction "not a nice conversation"

- HR not supportive, told go to insurance company

- Headaches worsened, more tired, cut back to 2 days, HR then told to stay home until get better

- Department of Labor, "did not want to make waves," verified suspicions, "get in line"

- Finally called attorney over a year later

ECLECTIC FRAMEWORK

- Education/Literacy
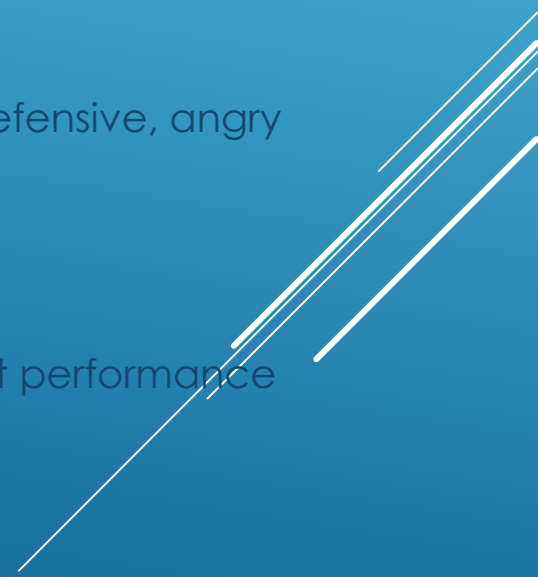 - Vietnam until middle school, Hawaii HS, 2 years college
- Culture/Acculturation
  - Father Chinese banker in Vietnam, mother Chinese from Hawaii
  - Ambitious family, all siblings successful, Engineer, business owner, entrepreneur
  - First generation, 1.5, immigrated 13 years-old, lived near Chinatown 35 years
  - Married at age 47 to Chinese-American, accountant from California, she is bilingual, they speak Chinese and English at home
  - Likes all types of food, identifies as Christian, but does not attend church
  - Loves to travel visited 40 countries and 32 states
  - Strongly identifies with American, likely strongly bicultural

ECLECTIC FRAMEWORK

- Language
  - Bilingual-Chinese and English, equally competent, strong accent
- Economics
  - Vietnam middle (45/211) in world economies, likely not in 1960's, Hawaii-middle class
- Communication Style
  - Asian politeness, low emotional expressiveness
  - Idiom of distress
- Testing Situation: Perception and Goals
  - Aware psychological evaluation uncomfortable and defensive, angry
  - After initial introduction very pleasant, people pleaser
  - He wants relief from headaches
  - MMPI-2 personality very slow 3 hours, mentally tired
  - Cognitive tests, slow and methodical, apologetic about performance

ECLECTIC FRAMEWORK

- Intelligence Conception
  - Family stress academic achievement/ambitious
- Context of Immigration
  - Immigrated to Hawaii with mother age 13 in 1967
  - Father banker in Saigon, didn't say anything about war
  - Older siblings moved to Hawaii to stay with maternal grandparents
  - Mother moved back to Vietnam a year later and died of cancer
  - Lived on own since 15, developed OCD,

IMPACT ON AERA STANDARDS FAIRNESS IN TESTING

- Fairness during the testing process
  - Increase comfort by not probing about family and mental illness
  - Focus on complaints about employer, him being a model employee, and headaches to figure how relieve
  - Use reflections to elicit emotions, normalize reactions
  - Hypothesize somaticize depression and anger at employer
- Minimize measurement bias
- Fairness in accessibility
  - Very slow so allow time, need to prioritize tests
- Validity of interpretation for intended use
  - Bilingualism and Eastern culture on test performance
  - Emphasis on behavior observations for understanding challenges in returning to work

TEST DATA

- Adult North American Reading Test (ANART)   98   (Est IQ Lynn & Vanhanen Vietnam 94, 100)

- Wechsler Adult Intelligence Scale-IV: Full Scale IQ   89
- Similarities   6   Block Design   9
- Digit Span   10   Matrix Reasoning   11
- Vocabulary   8   Symbol Search   7
- Arithmetic   10   Visual Puzzles   9
- Information   11   Coding   7
    - Verbal Comprehension   91   Perceptual Reasoning   98
    - Processing Speed   84   Working Memory   100

- Rey Auditory Verbal Learning Test-II (RAVLT)

Trial	1	2	3	4	5	1-5 TOTAL	B	SDFR	LDCR
Raw	3	5	7	9	6	30	5	6	4
	1%	17%	5%	54%	10%	21%	54%	37%	23%

- Recognition   15   90%   (10 false positives)

- Rey-Osterreith Complex Figure (ROCF)
- Copy   36   84%   (piecemeal approach)
- Immediate recall   12.5   16%
- Delayed recall   12   16%

- Trails A   97"   1%
- Trails B   206"   1%
- Wisconsin Card Sorting Test 64:   Categories Completed   4
- Symptom Validity Tests: all passed

- Minnesota Multiphasic Personality Inventory-2 (MMPI-2) (T scores)
- L-56 F-45 K-72 (K corrected) 1-86   2-70   3-86   7-72   8-65   FBS   24
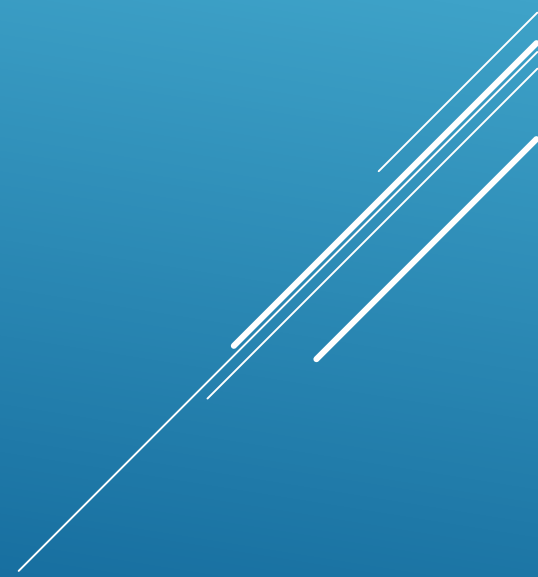
DIAGNOSIS AND RECOMMENDATIONS

- Diagnoses
  - Mild concussion
  - Post-traumatic headaches
  - Psychological Factors Affecting Medical Condition, Moderate
  - Unspecified Depressive Disorder with Anxious Distress
- Recommendations
  - Psychiatrist for antidepressant therapy useful for headaches
  - Psychotherapy to relax and determine triggers for headaches

FOLLOW UP YEAR LATER

- Follow through on recommendations, didn't like psychiatrist, liked psychologist and relaxation, but still experiencing headaches

- Disclosed he was afraid of going back to work as there were too many changes and he will have to relearn everything

- Gained insight during session that headaches when thinking about work

- Also admitted he had suffered from OCD after mother died. He lived alone since age 15, had to check 3-4x before going out of the apartment. "Powered through it."

- Experienced massive headache night after evaluation

- Concluded Mr. W would not be able to return to work

SUMMARY

▶ Psychological assessment is a western technology that is based on the values and assumptions of western culture, thus may be unfair for examinees from non-western cultures.

▶ AERA identifies four requirements that must be met to ensure fairness in testing: 1) examinee must be comfortable with the testing situation, 2) test biases are minimized, 3) examinees should not experience disadvantages in providing responses, and 4) tests must be valid for the intended purpose of the test.

▶ The impact of culture can be distilled into three aspects: 1) collecting accurate data, 2) providing a context for interpreting data, and 3) generating useful recommendations.

▶ Asian-Americans are highly heterogeneous, thus neuropsychologists need to study examinee's background to develop a context for understanding the examinee that can guide the assessment process.

▶ The ECLECTIC Framework can aid in identifying pertinent cultural facets for understanding an Asian-American examinee.

REFERENCES:

American Education Research Association, American Psychological Association, & the National Council on Measurement in Education. (2014). Standards for educational and psychological testing (2nd ed.). Washington, DC: American Education Research Association.

American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (DSM-5®). Washington, DC: American Psychiatric Publications.

Ardila, A., Bertolucci, P., Braga, L., Castro-Caldas, A., Judd, T., Kosmidis, M., … Rosselli, M. (2010). Illiteracy: The neuropsychology of cognition without reading. Archives of Clinical Neuropsychology, 25, 689–712. doi:10.1093/arclin/acq079

Birman, D., & Simon, C. D. (2014). Acculturation research: Challenges, complexities, and possibilities. In F. Leong (Ed. in chief). APA handbook of multicultural psychology, volume 1: Theory and research (pp. 207–230). Washington, DC: American Psychological Association.

Budiman, A., Cilluffo, A., & Ruiz, N. (2019). Key facts about Asian origin groups in the U.S. Retrieved on March 6, 2020 from https://www.pewresearch.org/fact-tank/2019/05/22/key-facts-about-asian-origin-groups-in-the-u-s/.

Freeman, M. R., Shook, A., & Marian, V. (2016). Cognitive and emotional effects of bilingualism in adulthood. In E. Nicholadis & S. Montanari (Eds.), Bilingualism across the lifespan: Factors moderating language proficiency. Washington, DC: American Psychological Association Press (pp. 285-303).

Fujii, D. (2018). Developing a cultural context for conducting a neuropsychological evaluation with a culturally diverse client: the ECLECTIC framework. The Clinical Neuropsychologist, 32(8), 1353-1355. DOI: 10.1080/13854046.2018.1435826

Gim-Chung, R. H., Kim, B. S., & Abreu, J. (2004). Asian American multidimensional acculturation scale: Development, factor analysis, reliability, and validity. Cultural Diversity and Ethnic Minority Psychology, 10, 66–80. doi:10.1037/1099-9809.10.1.66

REFERENCES:

Greenfield, P. (1997). You can't take it with you: Why ability assessments don't cross cultures. American

Psychologist, 52, 1115–1124. doi:10.1037/0003-066X.52.10.1115Guo, T., & Uhm, S. Y. (2014). Society and acculturation in Asian American communities. In J. Davis & R. D'Amato (Eds.), Neuropsychology of Asians and Asian-Americans (pp. 55-76). Springer, New York, NY.

Hsin, A., & Xie, Y. (2014). Explaining Asian Americans' academic advantage over whites. Proceedings of the National Academy of Sciences, 111(23), 8416-8421.

International Test Commission. (2017). The ITC Guidelines for Translating and Adapting Tests (Second edition). Retrieved on March 22, 2020 from www.InTestCom.org.

Judd, T., & Beggs, B. (2005). Cross cultural forensic neuropsychological assessment. In K. Barrett & W. George (Eds.), Race, culture, psychology & law (pp. 193–205). Thousand Oaks, CA: Sage.

Kim, S. W., Cho, H. S., & Song, M. J. (2019) Revisiting the explanations for Asian American scholastic success: a meta-analytic and critical review, Educational Review, 71:6, 691-711, DOI: 10.1080/00131911.2018.1471664

Kim, J. E., Saw, A., Zane, N. W., & Murphy, B. L. (2014). Patterns of utilization and outcomes of inpatient psychiatric treatment in Asian Americans. Asian American Journal of Psychology, 5(1), 35.

Laboratory of Comparative Human Cognition. (1982). Culture and intelligence. In R. J. Sternberg (Ed.), Handbook of human intelligence (pp. 642–719). Cambridge: Cambridge University Press.

Lau, E. Y. Y. (2014). Clinical interviewing and qualitative assessment with Asian heritage clients. In J. Davis & R. D'Amato (Eds.), Neuropsychology of Asians and Asian-Americans (pp. 135-150). Springer, New York, NY.

Lopez, G., Ruiz, N., & Patten, E. (2017). Key facts about Asian Americans, a diverse and growing population. Retrieved on March 6, 2020 from https://www.pewresearch.org/fact-tank/2017/09/08/key-facts-about-asian-americans/.

REFERENCES:

Lynn, R., & Meisenberg, G. (2010). National IQs calculated and validated for 108 nations. Intelligence, 38, 353-360. https://doi.org/10.1016/j.intell.2010.04.007

Maffini, C. S., & Wong, Y. J. (2014). Assessing somatization with Asian American clients. In L. Benuto, N. Thaler, & B. Leany (Eds.), Guide to psychological assessment with Asians (pp. 347-360). Springer, New York, NY.

McPhillips, D. (2017). Best countries for education: From primary school to university, a look at how countries invest in the world's future leaders. U.S. News. Retrieved May 20, 2017, from https://www.usnews.com/news/best-countries

National Center for Fair and Open Testing (2019). 2019 SAT Scores: Gaps Between Demographic Groups Grows Larger. Retrieved on March 20, 2020 from https://www.fairtest.org/2019-sat-scores-gaps-between-demographic-groups-gr.

National Virtual Translation Center. (2007). Learning language difficulty for English speakers. Retrieved on March 7, 2020 from http://web.archive.org/web/20071014005901/http://www.nvtc.gov/lotw/months/november/learningExpectations.html.

Ngo, D., Le, M., & Le, P. D. (2011). Neuropsychology of Vietnamese Americans. In D. Fujii (Ed.), The neuropsychology of Asian Americans (pp. 181–200). New York, NY: Psychology Press.

Organisation for Economic Co-operation and Development (OECD). (n.d.). Programme for International Student Assessment (PISA) 2018 Results. Retrieved on March 6, 2020 from https://www.oecd.org/pisa/PISA-results_ENGLISH.png.

Organisation for Economic Co-operation and Development (OECD). (2016a). Broadband statistics update. Retrieved May 20, 2017, from http://www.oecd.org/sti/broadband/broadband-statisticsupdate.htm

REFERENCES:

Pedraza, O. (2020). Introduction to clinical cultural neuroscience. In O. Pedraza (Ed.), Clinical Cultural Neuroscience. (pp. 1-31). NY: Oxford.

Pruthi, R. (2018). Language Census 2011: Surge in Hindi and English speakers; Tribal language speakers decline. Retrieved on April 11, 2020 from https://www.jagranjosh.com/current-affairs/language-census-2011-surge-in-hindi-speakers-south-indian-language-and-urdu-speakers-decline-1530869001-1

Ramakrishnan, K., & Ahmad, Farah. (2014). Diversity and English Proficiency Part of the "State of Asian Americans and Pacific Islanders" Series. Retrieved on April 11, 2020 from https://cdn.americanprogress.org/wp-content/uploads/2014/04/AAPIReport-INTRO.pdf

Santos, O., Fujii, D., & Pedraza, O. (2020). Neuropsychological assessment of non-English speakers. In. O. Pedraza (Ed.), Clinical cultural neuroscience: Foundations and assessment. (pp. 169-199). New York, NY: Oxford University Press.

Sénéchal, M., & LeFevre, J. (2002). Parental involvement in the development of children's reading skill: A five-year longitudinal study. Child development, 73, 445-460. 10.1111/1467-8624.00417

Sternberg, R. J. (2014). Teaching about the nature of intelligence. Intelligence, 42, 176–179. doi:10.1016/j.intell.2013.08.010

Sternberg, R. J., & Kaufman, S. B. (Eds.). (2011). Cambridge handbook of intelligence. New York, NY: Cambridge University Press.

Tannen, D. (1984). The pragmatics of cross-cultural communication. Applied Linguistics, 5, 189–195.

Thames, A. D., Hinkin, C. H., Byrd, D. A., Bilder, R. M., Duff, K. J., Mindt, M. R., ... & Streiff, V. (2013). Effects of stereotype threat, perceived discrimination, and examiner race on neuropsychological performance: simple as black and white? Journal of the International Neuropsychological Society, 19(5), 583-593.

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REFERENCES:

United Nations Development Programme (n.d.) Human development reports. Retrieved on March 6, 2020 from http://hdr.undp.org/en/countries/profiles/PAK

Ursache, A., & Noble, K. G. (2016). Neurocognitive development in socioeconomic context: Multiple mechanisms and implications for measuring socioeconomic status. Psychophysiology, 53, 71-82. doi: 10.1111/psyp.12547

Vygotsky, L. S. (1978). Mind in society: The development of higher psychological processes. Cambridge, MA: Harvard University Press.

World Atlas. (n.d.). List of countries by literacy rate. Retrieved on March 6, 2020 from https://www.worldatlas.com/articles/the-highest-literacy-rates-in-the-world.html.

World Bank. (2017a). GDP ranking. Gross domestic product ranking table. Retrieved May 20, 2017, from http://data.worldbank.org/data-catalog/GDP-ranking-table

World Bank. (2017b). World Bank country lending groups. Retrieved April 11, 2020, from https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lendinggroups

Yang, L., Wong, B., & Li, L. Q. (2020). Culture and memory. In O. Pedraza (Ed.) Clinical cultural neuroscience: Foundations and assessment (pp. 81-99). New York, NY: Oxford University.