



Improving Diagnostic Precision & Health Outcomes within the U.S. Latinx Population through Evidence-Based Neuropsychological Evaluation

Monica Rivera Mindt, Ph.D., A.B.P.P.
 Fordham University
 Icahn School of Medicine at Mount Sinai

 @DrRiveraMindt
 

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Leadership

- Past-President, Hispanic Neuropsychological Society (HNS)

Review & Editorial

- Standing Member, NIH National Institute of Aging (NIA): Neuroscience of Aging Study Section
- Senior Associate Editor, *Annals of LGBTQ Public and Population Health*
- Department Editor, *The Clinical Neuropsychologist Journal: Culture & Gender in Neuropsychology Department*

*No Conflicts of Interest

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The Problem: How Do We Improve Diagnostic Precision & Health Outcomes within the U.S. Latinx Population?

Challenges:

- Understanding & Integrating Culture
- U.S. Demographics
- Health Disparities
- Sociohistorical Considerations
- Risk for Misdiagnosis

Focus of this Session:

- Consider These Challenges
- Effects of cultural/linguistic diversity on the brain & cognition
- Approaches for cultivating evidence-based, culturally/linguistically responsive neuropsychology to improve diagnostic precision and health outcomes for Latinx (and all) examinees.

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Overview

- 1) **Challenges to Diagnostic Precision & Optimal Health Outcomes in the U.S. Latinx Population**
- 2) Effects of Cultural/Linguistic Diversity on the Brain & Cognition
- 3) Cultivating Evidence-Based, Culturally/ Linguistically Responsive Neuropsychology

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Part I: Challenges

- a) **Understanding & Integrating Culture**
- b) U.S. Demographic Shifts
- c) Health Disparities
- d) Sociohistorical Considerations
- e) Risk for Misdiagnosis

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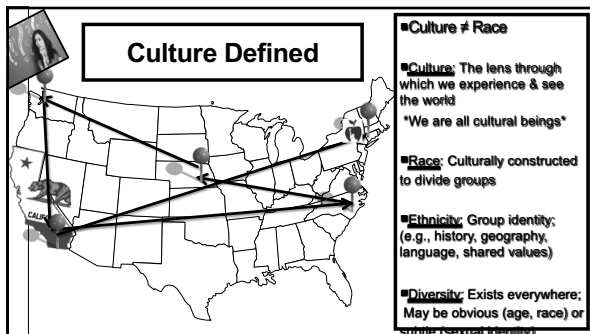
On Culture.....



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■ Culture ≠ Race

■ Culture: The lens through which we experience & see the world
 "We are all cultural beings"

■ Race: Culturally constructed to divide groups

■ Ethnicity: Group identity; (e.g., history, geography, language, shared values)

■ Diversity: Exists everywhere; May be obvious (age, race) or subtle (sexual identity)

Intersectionality of Health & Culture

Health

- Encompasses physical, mental, social, and spiritual well-being
- Health is "not merely the absence of disease or infirmity."

U.S. Health & Human Services (HHS), Office of the Surgeon General (OSG) et al., 2012; WHO, 1948

+

Culture


- 1) Integrated pattern of thoughts, communications, actions, customs, beliefs, values, and institutions associated, wholly or partially, w/ racial, ethnic, or linguistic groups, as well as with religious, spiritual, geographical, or sociological characteristics.
- 2) Dynamic in nature.
- 3) Individuals may identify w/ multiple cultures over their lifetimes.

Gilbert et al., 2007; HHS OMS, 2005


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Culture More Broadly Defined

Dimensions of Identity & Intersectionality



Thinking Styles	Language	Ethnicity	Religion
Perspectives	Sexual Orientation	Neurodiversity	
Job Level	Race	Gender	Skills
Culture	Physical Abilities	Experiences	Age



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Part I: Challenges

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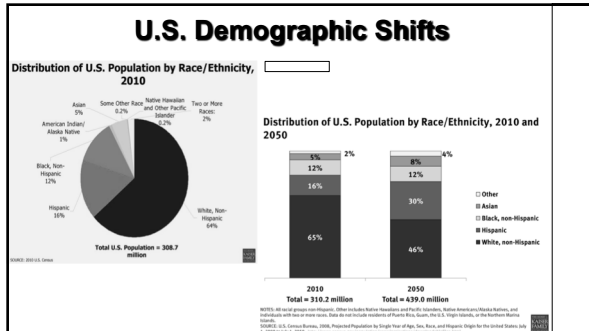
Why Focus on Latinx Population?

- Largest Ethnoracial Minority Group
- Fastest Growing
- Diverse Diaspora
- Understudied/Underserved

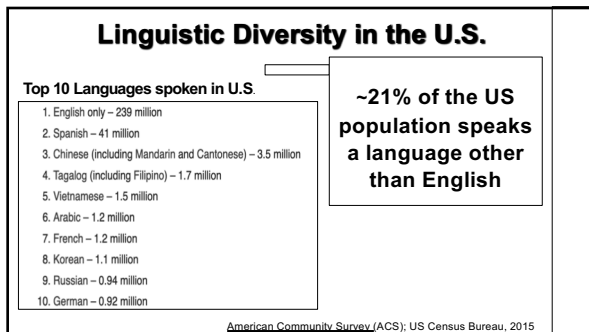


Rivera Mindt et al., 2010

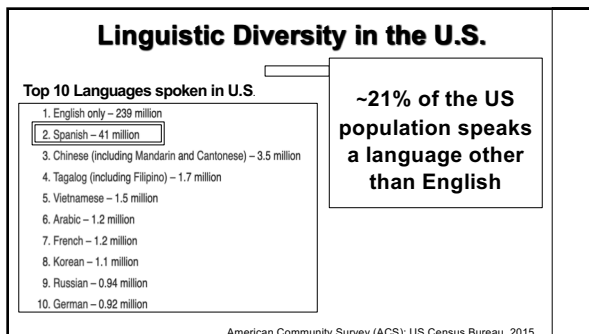
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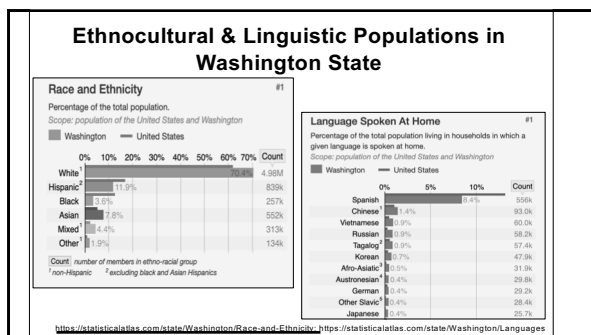
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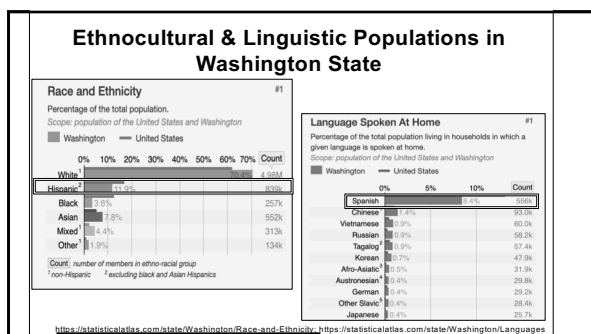
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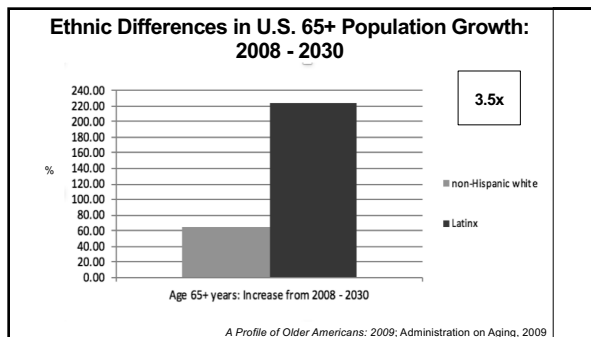
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Part I: Challenges


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All U.S. Residents Are Not Equal in Health

Among culturally/linguistically diverse populations:

- Life expectancy is not equal
- Death rates are unequal
- Disease burdens are unequal
- Access to health care services
- Quality of services rendered is unequal
- Health outcomes are unequal



Moropolo et al., 2002; Rivera-Mondt et al., 2014; Merquina, Rivera-Mondt et al., 2018; Richardson, 2008

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Health Disparities


Definition	Exemplars
<ul style="list-style-type: none"> • A particular type of health difference that is closely linked with social, economic, and/or environmental disadvantage. • Adversely affect groups of people who have systematically experienced greater obstacles to health based on.....characteristics historically linked to discrimination or exclusion (e.g., race, ethnicity, SES, gender, age, mental health, cognitive, sensory, or physical disability, sexual orientation). 	<ul style="list-style-type: none"> • Env. Stress: ↑ risk for childhood asthma, hypertension, substance use, diabetes, obesity & depression (Quinn et al. 2010; Russell et al. 2010; Nandi et al. 2010; Lee, et al., 2009; Braveman, 2009; Latkin et al. 2007). • Perceived Discrimination & Stigma: ↑ risk for psychiatric morbidity & substance use in LGBT persons, particularly LGBT youth (McCabe et al. 2010; Lohavotl & Simoni, 2011). • Acculturation Stress: Related to substance dependence & anxiety disorders (Ehlers et al. 2009). • Long-term Poverty & Family Stress: ↓ Physical mobility & cognitive functioning at older ages in African-Am. Women (Kasper et al. 2008).

<https://www.aza.org/toxics/health-disparities/fact-sheet-stress>; Healthy People 2020; US Health & Human Services, 2010


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Brain Health Disparities

National Latino AIDS Awareness Day



Latinos & Alzheimer's Disease: New Numbers Behind the Crisis



- U.S. Latinx population *disproportionately* suffers from:
 - HIV/AIDS¹⁻²
 - Vascular 'Dementia'³⁻⁴
 - Alzheimer's Disease⁵⁻⁹
- Increased need for *brain health & neuropsychological research and services* in the Latinx population¹⁰

1. Rivera Mindt et al., 2014; 2. Marquine, RiveraMindt et al., 2018; 3. Kuller et al. (2005); 4. CDC, 2007; 5. Linney et al. (2011); 6. Clark et al. (2005); 7. Filten et al. (2011); 8. von Strauss et al. (2000); 9. Husami et al. (2003); 10. Rivera Mindt et al., 2018

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HIV Health Disparities in the US

Percentage of total population

Black/African American	44%	<div style="width: 44%; height: 15px; background-color: #ccc;"></div>
Hispanic/Latino	25%	<div style="width: 25%; height: 15px; background-color: #ccc;"></div>
White	26%	<div style="width: 26%; height: 15px; background-color: #ccc;"></div>
Rest of population	5%	<div style="width: 5%; height: 15px; background-color: #ccc;"></div>

Asian/NH/OPI: 2%
AI/AN: 1%

NOTES OF CAUTION

Asian/NH/OPI:

- 2011 to 2015, 35% ↑ in HIV for gay/bisexual Asian men
- ↓ care retention & viral supp.

AI/AN:

- 2011 to 2015, 54% ↑ in HIV in persons w/ Two-Spirit identity.
- Poor epidemiological data

Notes: NH=Native Hawaiian; OPI=Other Pacific Islanders; AI/AN= American Indian/Alaska Native; CDC, 2016, 2017, 2018

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HIV & Latinx Health Disparities


- 3x ↑ HIV risk for Latinx
- ↑ mortality rate¹
- ↑ likely to die at younger age¹
- ↓ lower levels of care & viral suppression²
- prevalence & severity of cognitive impairment³⁻⁵

1. Morgello et al., 2002; 2. MMWR, 2017; 3. Wojna et al., 2006; 4. Rivera Mindt et al., 2014; 5. Marquine et al., 2018

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HIV & Latinx Health Disparities

- 3x ↑ HIV risk for Latinx
- ↑ mortality rate¹
- ↑ likely to die at younger age¹
- ↓ lower levels of care & viral suppression²
- prevalence & severity of cognitive impairment³⁻⁵




70% by 2030

Wing et al., 2016

1. Morgello et al., 2002; 2. MMWR, 2017; 3. Wojna et al., 2006; 4. Rivera Mindt et al. 2014; 5. Marquine et al., 2018

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AD & Latinx Health Disparities



Younger age of onset

Greater severity of initial AD symptoms

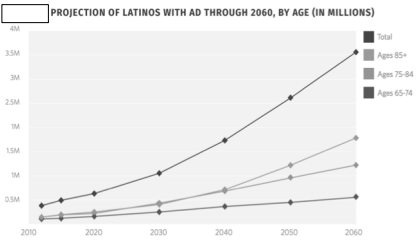
Alzheimer's Assoc., 2015; Campos et al., 2013

AD = Alzheimer's Disease

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AD & Latinx Health Disparities

PROJECTION OF LATINOS WITH AD THROUGH 2060, BY AGE (IN MILLIONS)



Year	Total	Ages 85+	Ages 75-84	Ages 65-74
2010	~0.5	~0.1	~0.1	~0.1
2020	~0.8	~0.2	~0.2	~0.2
2030	~1.2	~0.3	~0.3	~0.3
2040	~1.8	~0.5	~0.5	~0.5
2050	~2.5	~0.8	~0.8	~0.8
2060	~3.5	~1.2	~1.2	~1.2

Wu et al., 2016

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Costs Brain Health Disparities & Benefits of Addressing Them?

1) Personal Costs to Individuals, Families, Communities

2) Public Health Costs

FIGURE 1. PROJECTION OF TOTAL DIRECT & INDIRECT COSTS OF AD ON LATINOS (IN \$ BILLIONS)

Wu et al., 2016

3) Benefits: Advance Science & Treatment; Ethics Issues; & Improve Public Health

LaVeist et al., 2009; Wu et al., 2016; <https://haram.org/news/economic-toll-opioid-crisis-us-exceeded-1-trillion-2001>

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Part I: Challenges

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- e) Risk for Misdiagnosis

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Sociohistorical Considerations: The Legacy of Racism in (Neuro)Psychology

Zeitgeist: Early 20th Century

- **1905:** First practical intelligence scale published in France by Binet and Simon
- **1916:** Lewis Terman published modified Binet & Simon, later called the *Stanford-Binet Scale*

"High-grade or border-line deficiency... is very, very common among Spanish-Indian and Mexican families of the Southwest and also among negroes. Their dullness seems to be racial, or at least inherent in the family stocks from which they come... Children of this group should be segregated into separate classes... They cannot master abstractions but they can often be made into efficient workers... the whole question of racial differences in mental traits will have to be taken up anew and by experimental methods... from a eugenic point of view they constitute a grave problem because of their unusually prolific breeding"

-Terman, *The Measurement of Intelligence*, 1916, p. 91-92.

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**Sociohistorical Considerations:
The Legacy of Racism in (Neuro)Psychology**

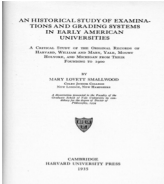
Zeitgeist: Early - Mid 20th Century

- **WWI:** Spurred testing for U.S. Army classification purposes; "Army Alpha" and "Army Beta" developed
- **Ellis Island:** Results of testing of immigrants misused:
 - provided justification for congressional act that limited immigration
 - ignored cultural bias of tests
- **Eugenics Movement** ----> WWII

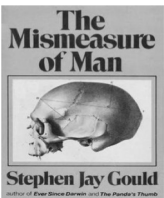
-Klineberg, 1935; Tulsy et al., 2004

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Persistence of Racism in Science, Teaching, & Society



AN HISTORICAL STUDY OF EXAMINATIONS AND GRADING SYSTEMS IN EARLY AMERICAN UNIVERSITIES
A Historical Study of the Methods, Systems, and Grading in American Universities from 1600 to 1800
BY HARRY JEROME HOLLANDER
HARVARD UNIVERSITY PRESS
1938



The Mismeasure of Man
Stephen Jay Gould
Illustration of a skull



SUPERIOR
THE STORY OF RACE SCIENCE
angela saini

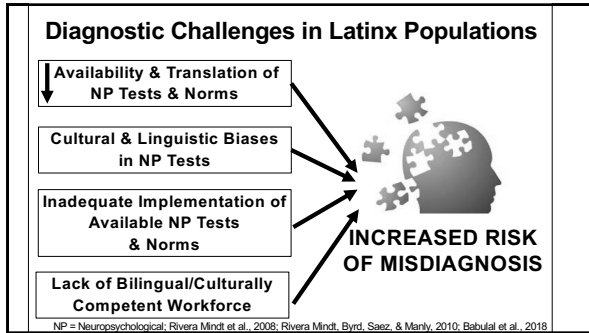
Slide modified from A. Inoue

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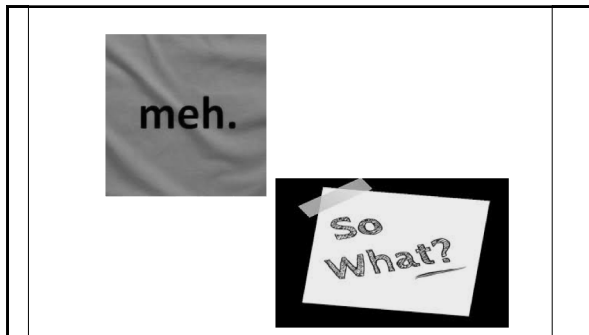
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ALL NP Tests are Culturally-Loaded

- Language measures aren't the only measures significantly impacted by language!
- BVFD
- DIGIT SPAN
- TRAILS VS COLOR TRAILS

Slide modified from Dr. M. Arce Renteria

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Demographics and Maintaining Our Relevance & Viability As a Field

Pragmatics

Evidence-Based Practice

Ethics & Ethos



Rivera Mindt et al., 2010; Postal, 2018

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APA General Ethical Principles	Corresponding Ethical Awareness
Principle A: Beneficence & Nonmaleficence	
Principle B: Fidelity & Responsibility	
Principle C: Integrity	
Principle D: Justice	Psychologists should be able to identify indiv. or group vulnerabilities that can lead to exploitation & recognize when a course of action would result in or has resulted in unfair or unjust practices.
Principle E: Respect for People's Rights & Dignity	Psychologists must be aware of special safeguards necessary to protect the autonomy, privacy, and dignity of members from the diverse populations with whom psychologists work.

From C. Fisher, 2012

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Part I: Challenges Summary

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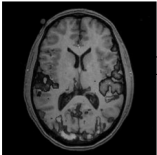
Overview

- 1) Challenges to Diagnostic Precision & Optimal Health Outcomes in the U.S. Latinx Population
- 2) **Effects of Cultural/Linguistic Diversity on the Brain & Cognition**
- 3) Cultivating Evidence-Based, Culturally/ Linguistically Responsive Neuropsychology

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On Theory...

A Traditional Universalist View

→

Cognition

Behavior

Emotions

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Critique of Universalist Approach

- **Can result in:**
 - inaccurate and harmful racial/ethnic generalizations
 - inappropriate use of NP instruments with REM populations
 - inadequate science by not examining construct validity.

-Gould, 1981; Nell (2000); Rivera Mindt, Byrd, Saez, & Manly, 2010


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Cultural Neuropsychology



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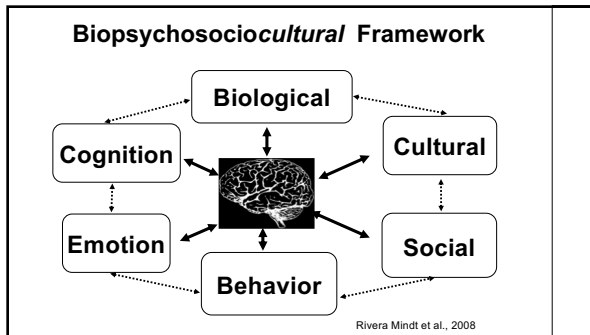
Cultural Neuropsychology



- The systematic study of brain-behavior relationships within the context of human beings recursively engaging in specific cultural practices that organize the development, maintenance, and revision of their cognition and behaviors.
(Cajigas, and Manly 2014)

Slide courtesy of Dr. M. Arce Renteria

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Differential Biomarkers & Risk Factors?

•GENETIC FACTORS
APOE ε4
 Caribbean
 Mexican

©Bryant et al., 2013a; O'Bryant et al., 2013b; Reitz et al., 2014; Rivera Mindt et al., 2014; Vega et al., 2017

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Discrimination

Gee et al., 2009

Slide Courtesy Dr. U. Clark

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Greater Discrimination Associated with Greater Amygdala rsFC with Several Brain Regions in SN*

Analyses controlled for current levels of stress, depression, anxiety, and PTSD-related symptoms.

*SN=Salient Network; FWE=family wise error

Slide Courtesy Dr. U. Clark

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Why Bilingualism?

- Engagement in cognitive enriching activities associated with reduced risk of dementia
- “Bilingual advantage” on cognition
 - Aspects of executive functioning, episodic memory, and visuospatial abilities
 - Children, young adults, and older adults
 - Some inconsistent findings
- Proposed mechanisms
 - Inhibition and switching between languages
 - Strengthening of attentional and executive control neural networks

(Scarmeas et al., 2011; Wilson et al., 2002; Akhtar & Menjivar, 2012; Bialystok, Craik, Klein, & Viswanathan, 2004; Bialystok, Craik, & Luk, 2008; Salvaterra & Rosselli, 2010; Schroeder & Marian, 2012); Slide courtesy of Dr. M. Arce Renteria

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Bilinguals May Be Able to Retain Similar Levels of Cognitive Functioning in the Face of Age &/Or AD-related Neurodegeneration, Compared To Monolinguals

Bilingualism delays the onset of behavioral but not aphasic forms of frontotemporal dementia*

Reviewers: Alabdali¹, Thomas H. Bak², Mikala Shallice³, Divyansh Gulshahi⁴, Amrisha Rajar⁵, Raghav Srinivasan⁶, Michael Hoenesberger⁷, Yvanis Duggirala⁸, Jaydeep Roy Choudhury⁹, Subash Kaul¹⁰

Contents lists available at ScienceDirect
Neuropsychologia
journal homepage: www.elsevier.com/locate/neuropsychologia

Bilingualism delays age at onset of dementia, independent of education and immigration status

Reviewers: Alabdali, 2018

Delaying the onset of Alzheimer disease
Bilingualism as a form of cognitive reserve

Reviewers: Liu, Cook, 2018
Ella Ruback, PhD
Helen F. Proffers, PhD

ABSTRACT
Alzheimer's disease is a strong epidemiologic evidence to suggest that older adults who maintain an active lifestyle in terms of social, mental, and physical engagement are protected to some degree

Degree of bilingualism predicts age of diagnosis of Alzheimer's disease in low-education but not in highly educated Hispanics
Laraña H, Gallardo J, David P, Salinas, Rivas J, Montoya, Douglas R, Calafate
University of Colorado, San Diego, United States

Slide courtesy of Dr. M. Arce Renteria

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Or Maybe Not...

2019, Vol. 78, No. 1, 128–136
© 2019 American Psychological Association
https://doi.org/10.1037/xap0000161

Bilingualism Does Not Alter Cognitive Decline or Dementia Risk Among Spanish-Speaking Immigrants

Laraña B. Zabedee
Columbia University

Peter W. Schofield
University of Newcastle

Megan T. Farrell, Yaelen Stern, and Jennifer J. Manly
Columbia University

Use of Spoken and Written Japanese Did Not Protect Japanese-American Men From Cognitive Decline in Late Life

Paul K. Crane,¹ Jonathan C. Graft,² Elena A. Eronkers,^{3,4} Laura E. Gibbons,⁵ Susan M. McCurry,⁶ Kristoffer Rhaadi,⁷ Viet Nguyen,⁸ Keerthi Arani,⁹ Kamal Masaki,⁷ and Lon White⁹

Slide courtesy of Dr. M. Arce Renteria

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Part II: Effects of Culture & Language Summary

- a) Brain-behavior relationships are not "one size fits all"

- b) Numerous sociocultural factors impact brain function, cognition, & test performance

- c) Critical to incorporate sociocultural factors to better understand brain-behavior relationships & reduce risk of misdiagnosis

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Overview

- 1) Challenges to Diagnostic Precision & Optimal Health Outcomes in the U.S. Latinx Population

- 2) Effects of Cultural/Linguistic Diversity on the Brain & Cognition

- 3) **Cultivating Evidence-Based (E-B), Culturally Responsive Neuropsychology (NP) Through:**
 - a) Culturally Competent & Responsive Clinical Scientists
 - b) Cultures of E-B, Culturally Responsive NP, Diversity, & Inclusion

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The Problem: How Do We Improve Diagnostic Precision & Health Outcomes within the U.S. Latinx Population?

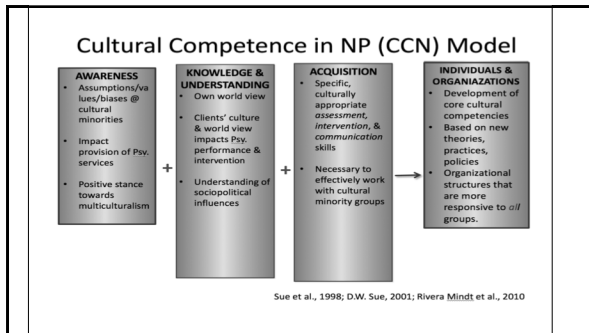
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- **Focus of this Session:**
 - Consider These Challenges

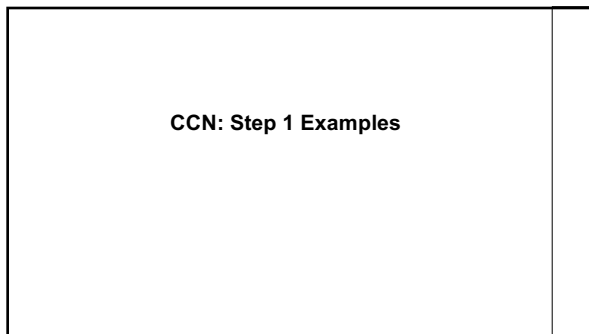
 - Effects of cultural/linguistic diversity on the brain & cognition

 - Approaches for cultivating evidence-based, culturally/linguistically *responsive* neuropsychology to improve diagnostic precision and health outcomes for Latinx (and all) examinees.

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whistling vivaldi
How stereotypes affect us and what we can do
CLAUDE M. STEELE

Implicit Racial Bias

Bailey Moriyfield, M.S.

Introduction


Research shows that even the best of us have implicit biases that influence our behavior in ways we are not even aware of. These biases are automatic and often operate below the level of conscious awareness. They are not necessarily bad, but they can be harmful if they lead to unfair treatment of others. This article explores the concept of implicit bias and how it affects our lives. It also provides strategies for recognizing and reducing our own implicit biases.

What is Implicit Racial Bias?

It is important to distinguish between explicit and implicit bias. Explicit bias is conscious and intentional, while implicit bias is unconscious and automatic. Implicit bias can be learned from the environment or developed naturally. It can affect our thoughts, feelings, and actions. For example, an implicit bias against a certain race might lead to a person being treated differently in a workplace or a classroom. This bias can be harmful to the individual and to society as a whole.

Side courtesy A. Inoue

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Cultural Competence vs. Humility

Given the complexity of multiculturalism, it is beneficial to understand cultural competency as a process rather than an end product

	Cultural competence	Cultural humility
Goals	To build an understanding of minority cultures to better and more appropriately provide services	To encourage personal reflection and growth around culture in order to increase service providers' awareness
Values	<ul style="list-style-type: none"> • Knowledge • "One-size-fits-all" 	<ul style="list-style-type: none"> • Openness • Curiosity
Beliefs	<ul style="list-style-type: none"> • Endorses the idea that there can be "competence" in a culture other than one's own • Supports the myth that cultures are monolithic 	<ul style="list-style-type: none"> • Challenges professionals to step the idea of learning with and from clients • No end result, which those in academic and medical fields can struggle with
Methodology	<ul style="list-style-type: none"> • Based upon academic knowledge rather than lived experience. Believes professionals can be "taught" to culture 	<ul style="list-style-type: none"> • Encourages lifelong learning with no end goal but rather an appreciation of the journey of growth and understanding
Strengths	<ul style="list-style-type: none"> • Allows to people to enter a gate • Promotes skill building 	<ul style="list-style-type: none"> • Promotes professionals and clients in a mutually beneficial relationship and attempts to diminish damaging power dynamics

Cagigas & Manly 2014; Slide courtesy of Dr. M. Arce Renteria

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CCN: Step 2 Examples

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Cultural Competence in Research & Practice

The Journal of Neuroscience, 29, 429–435, 2009
<http://www.jneurosci.org>
 DOI: 10.1523/JNEUROSCI.4444-08.2009
 DOI: 10.1093/ips/29.4.429

NP Psychology Press

INCREASING CULTURALLY COMPETENT NEUROPSYCHOLOGICAL SERVICES FOR ETHNIC MINORITY POPULATIONS: A CALL TO ACTION

Monica Rivera Mindes^{1,2,3}, Desiree Byrd^{1,2}, Pedro Saez¹, and Jennifer Manly^{1,2,3}

¹Department of Psychology, Fordham University, New York; ²Department of Psychology, The Mount Sinai School of Medicine, New York; ³Department of Psychology, The Mount Sinai School of Medicine, New York, and ⁴Yash Institute for Research on Alzheimer's Disease and the Aging Brain and the Department of Neurology, Columbia University College of Physicians and Surgeons, New York, NY, USA

US demographic and sociopolitical shifts have resulted in a rapidly growing need for culturally competent neuropsychological services. However, cultural competence as a skill set is not fully met with the needs of ethnic minority clients. In this discussion we review historical precedents and the basis of motivation to neuropsychology, ethical/legal/clinical guidelines pertinent to neuropsychological practice with ethnic minority clients, critical cultural contributions to neuropsychology across disciplines, barriers to practice and solutions for the provision of services to underserved minority clients. We describe a goal and diversity within the field by increasing multicultural awareness and knowledge, multidisciplinary research and training, multidisciplinary neuropsychological research, and the provision of clinically oriented neuropsychological services to underserved minority clients. Lastly, we discuss strategies for increasing the provision of culturally competent neuropsychological services and offer several concepts to move these goals.

Keywords: Ethnic minority, Cultural competence, Diversity, Neuropsychology.

ABD Approach
Always Be Developing Your Cultural Competence & Humility

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Sociocultural Instruments

Table 3. Overview of sociocultural instruments for use with African American (AA), Asian/Asian-American (Asian), and Latinx Populations

Sociocultural Instruments	AA	Asian	Latinx
Acculturation Rating Scale for Mexican Americans (ARMA) [144]			X
African American Acculturation Scale Short Form (AAAS-SF) [145]	X		
Asian American Multidimensional Acculturation Scale (AAMAS) [146]		X	
Bicultural Self-Efficacy (BISE) [147]			X
Short Acculturation Scale (SAS) [132]			X
Sains-Lew Asian Self-Identity Acculturation Scale (SL-ASIA) [148]		X	
The Abbreviated Multidimensional Acculturation Scale (AMAS) [134]			X
The Multigroup Ethnic Identity Measure (MEIM) [149]	X	X	X

Rivera Mindt et al., 2019

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- ### CCN: Step 3 Examples
- Get supervised experience w/ Latinx examinees (and/or other diverse populations)
 - Consult with experts when you need guidance or assistance
 - Practice
- Note.* Refer out to avoid conducting research or practicing outside your scope of competence

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Multicultural Ethical Competence in Neuropsychology

- Multicultural Ethical Commitment
- Multicultural Ethical Awareness
- Goodness-of-Fit Ethics & Multicultural Ethical Decision Making

C. Fisher, 2012

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MC Ethical Competence Area	Multicultural (MC) Ethical Competence in Neuropsychology (NP): Factors & Questions for Consideration
Multicultural Commitment	-Critically examine moral premises in NP that may largely reflect Eurocentric conceptions of the good. -Question "deficit" and "REM group comparative" approaches to understanding cultural differences. -How might institutional racism in NP influence each neuropsychologist's role, status, & motivation to develop professional identities free from these influences?
Multicultural Awareness	-Need for knowledge & skills in constructing & implementing culturally valid & language-appropriate assessments, treatments, and research procedures.
Goodness-of-Fit & MC Ethical Decision Making	-What are the cultural circumstances that might render indiv's more susceptible to the benefits or risks of the NP assessment, treatment or research? -Are traditional approaches to informed consent & confidentiality protections compatible with the values of spirit, collectivity, and harmony characteristics of different ethnocultural populations?

Adapted From C. Fisher, 2012

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Participant/Patient Advocacy

- Is treatment for the individual meeting standards of care?
- Is this individual receiving the same considerations as someone of the majority culture?
- What should you do if you notice things are not quite right?
 - Advocate for your patient by speaking with your supervisor or consulting
 - If a colleague/peer is not mindful of how culture is (negatively) informing care, (respectfully) discuss what you're thinking about



Slide modified from Dr. M. Arce Renteria

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Overview

- 1) Challenges to Diagnostic Precision & Optimal Health Outcomes in the U.S. Latinx Population
- 2) Effects of Cultural/Linguistic Diversity on the Brain & Cognition
- 3) **Cultivating Evidence-Based (E-B), Culturally Responsive Neuropsychology (NP) Through:**
 - Culturally Competent & Responsive Clinical Scientists
 - **Cultures of E-B, Culturally Responsive NP, Diversity, & Inclusion**

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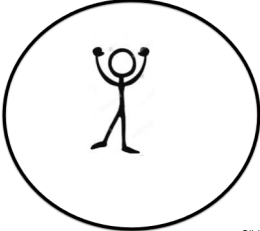
Specific Needs & Interventions for Increasing E-B, Cultural/Linguistic NP, Diversity & Inclusion

- **Outdated Paradigms**
- Evidence Base & Implementation

Note: We are in this together.

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**Outdated Paradigm #1:
We Only Need to Consider the Individual**

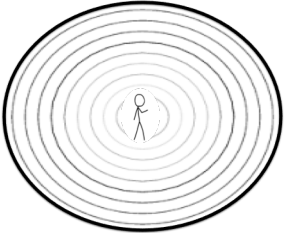


Slide Courtesy C. Rey-Casserty

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Intervention: Need to Consider People in Context, Layered Ecological Systems

- 1) **Microsystem:** immediate family, friends, teachers, & institutions
- 2) **Mesosystem:** interrelations of various entities found in the microsystem (e.g., home, school, community)
- 3) **Exosystem:** societal and cultural forces acting upon the individual w/o necessarily having a direct link to individual experience
- 4) **Macrosystem:** cultural values and norms, as well as laws and governmental influences
- 5) **Chronosystem:** influence of the passage of time, historical trends and transitions



Slide Modified from C. Rev. Casserly, APA Multicultural Guidelines, 2017


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Outdated Paradigm #2: (Neuro)Psychology's Legacy of Racism (& Societal Hegemony) Doesn't Impact our Field Now



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Persistence of Racism in Science, Teaching, & Society and What To Do About it



Slide modified from A. Inoue

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Specific Needs & Interventions for Increasing E-B, Cultural/Linguistic NP, Diversity & Inclusion

- Outdated Paradigms
- Evidence Base & Implementation

**Note. We are in this together.*

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Evidence Base & Implementation

- Evidence Base
 - 'Conquistador' Approach
 - Under-Representation & Poor Characterization of Diverse Individuals
 - Instrumentation
- Implementation = Workforce & Policy
 - Leaky Pipeline
 - Lack of training/capacity to implement EVIDENCE-BASED, culturally responsive research & practice

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**Intervention:
Move Beyond Conquistador Research & Training**



Sweat Equity, Time, Credibility & Trust
 Meaningful URM Representation & Characterization
 Instrumentation
 Institutional Support of Faculty/Investigators

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Moving Forward
 Moving Forward: Evidence-Based Training/Capacity to
 Implement Evidence-Based Culturally
 Responsive Research & Practice

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**YES, We Can Assure the Vital
 Future of Neuropsychology
 Through Diversity & Inclusion!**

"DIVERSITY IS BEING INVITED TO THE PARTY;
 INCLUSION IS BEING ASKED TO DANCE."
 VERNIA MYERS, DIVERSITY AND INCLUSION EXPERT

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Intervention: Keep at the Leaky Pipeline!


Authentic Value of Diversity & Inclusion + Institutional Commitment = Fixing the Leaky Pipeline

\$\$\$
Power Sharing
Transparency

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Training Advocacy and Awareness

- Trainees
 - Be proactive about learning
- Supervisors & Future Supervisors
 - Understanding and appreciation of heterogeneity of trainees
 - Microaggressions
- (Respectfully) push field toward inclusivity and awareness



Slide modified from Dr. M. Arce Renteria

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Intervention: Work Towards Understanding Health Disparities & Advance Health Equity

Health Equity

- Attainment of the highest level of health for *all* people.
- Achieving health equity requires valuing everyone equally with focused and ongoing societal efforts to address
 - avoidable inequalities,
 - historical contemporary injustices

Elimination of health and health care disparities.

NIA Health Disparities Research Framework

FUNDAMENTAL FACTORS: Ethnicity, Gender, Age, Race, Disability Status, Identity*

Environmental	Socioculture	Behavioral	Biological
<ul style="list-style-type: none"> Geographical and Physical Factors Climate/Weather Transportation Community Language Health Literacy 	<ul style="list-style-type: none"> Cultural Factors Health Beliefs Attitudes Values Norms Language Health Literacy 	<ul style="list-style-type: none"> Coping Adaptation Health Seeking Health Beliefs Health Literacy Health Literacy 	<ul style="list-style-type: none"> Physiological Differences Genetics Immune System Microbiome Health Literacy
<ul style="list-style-type: none"> Education Income Occupational Status Health Literacy 	<ul style="list-style-type: none"> Social Factors Family Structure Family Size Family Income Occupational Status Health Literacy 	<ul style="list-style-type: none"> Psychological Self-Perception Health Literacy Health Literacy 	<ul style="list-style-type: none"> Genetic Variability Genetic Diversity Health Literacy
<ul style="list-style-type: none"> Health Care Access Quality Equity 	<ul style="list-style-type: none"> Psychological Health Literacy Health Literacy 	<ul style="list-style-type: none"> Health Beliefs Health Literacy Health Literacy 	<ul style="list-style-type: none"> Genetic Variability Genetic Diversity Health Literacy

*Source: Arce Renteria, 2015

Healthy People 2020; US Health & Human Services (HHS), 2010

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APA's Advice on Developing Culturally Conscious Programs

- Form a strategic planning process that's consistent w/ both departmental and larger institutional goals.
- Steps for strategic planning process:
 - 1) Know your program. Inventory all diversity-related policies, including admissions, financial aid, outreach, recruitment, and employment policies.
 - 1) Assemble your team. Establish an interdisciplinary strategic planning team and a process to evaluate the relevant policies, now and over time.
 - 2) Understand your objective(s). ID the diversity-related educational goals & supporting evidence that justify each of the relevant policies.

Suinn et al., 2005

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APA's Advice on Developing Culturally Conscious Programs

- 3) Take necessary action steps. Ensure that any consideration of race is as limited as possible, consistent with institutional diversity goals.
- 4) Monitor results.
- 5) Review outcomes of diversity efforts and make appropriate adjustments over time.
- 6) Establish a process (that is likely to become less onerous and resource intensive over time) by which a periodic review of programs, policies, goals, and results is conducted—all in the context of educational, research, and legal developments.

Suinn et al., 2005

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Part III: Summary of Cultivating Evidence-Based, Culturally Responsive NP, Diversity, & Inclusion

- a) Culturally Competent/Responsive Clinical Scientists
- b) Cultures of E-B, C/L Responsive NP, Diversity, & Inclusion
- c) Moving Beyond Outdated Paradigms
- d) Advancing our Evidence Base & Implementation

Note: We are in this together.

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Resources

Psychology Training Program Diversity Resources	
Institutional Resources for Diversity Inclusion	Guidance on Voluntary use of Race to Achieve Diversity in Graduate Education APA Program Diversity and Accreditation Recommendations
Diversity Resources for Students	APA Resource Guide for LGBT Students APAGS Resource Guide for Ethnic-Minority Students
Diversity Resources for Faculty	APA Guidelines for Multicultural Education Valuing Diversity in Faculty
State and Federal Institutional Diversity Resources	Diversity in Higher Education Manual Federal Policies Included
Professional Resources for Issues of Diversity in Psychology and Clinical Practice	APA Diversity Training Presentation for Psychologists NIMH Cultural & Linguistic Appropriate Services Standards in Psychology

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Additional Resources

Hispanic Neuropsychological Society

*Great diversity assessment & training resources!

www.hnps.org

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 UG RAs: E. Breen (FCLC) & A. Slaughter (FCRH)



NIH National Institute on Aging
NIH National Institute on Drug Abuse
NIH National Institute of Mental Health
H C A P National Institute of Mental Health
alz.org alzheimer's association
SMART Research and Treatment (SMART)
NIH National Institute on Minority Health and Health Disparities

OUR PARTICIPANTS!

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