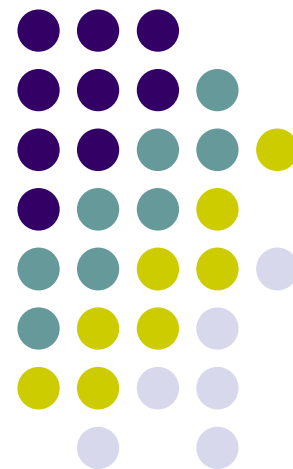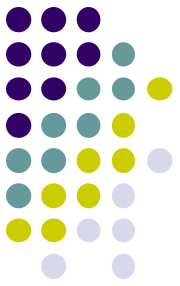# Cross-Cultural Use of Behavior Coding: An Update

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Valued Collaborators

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- Sharon Shavitt, Urbana-Champaign
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- Saul Weiner, UIC-College of Medicine

What is behavior coding?

- The systematic coding of interviewer and respondent behaviors

- It provides an objective and replicable technique for measuring what happens in a survey interview.

- Problems in comprehension and ability to provide answers can be identified from behaviors of both respondents and interviewers in consistent and interpretable ways.

Unresolved:

- Does culture mediate the meaning of the social behaviors captured by behavior codes?
    - are behavior codes comparable?
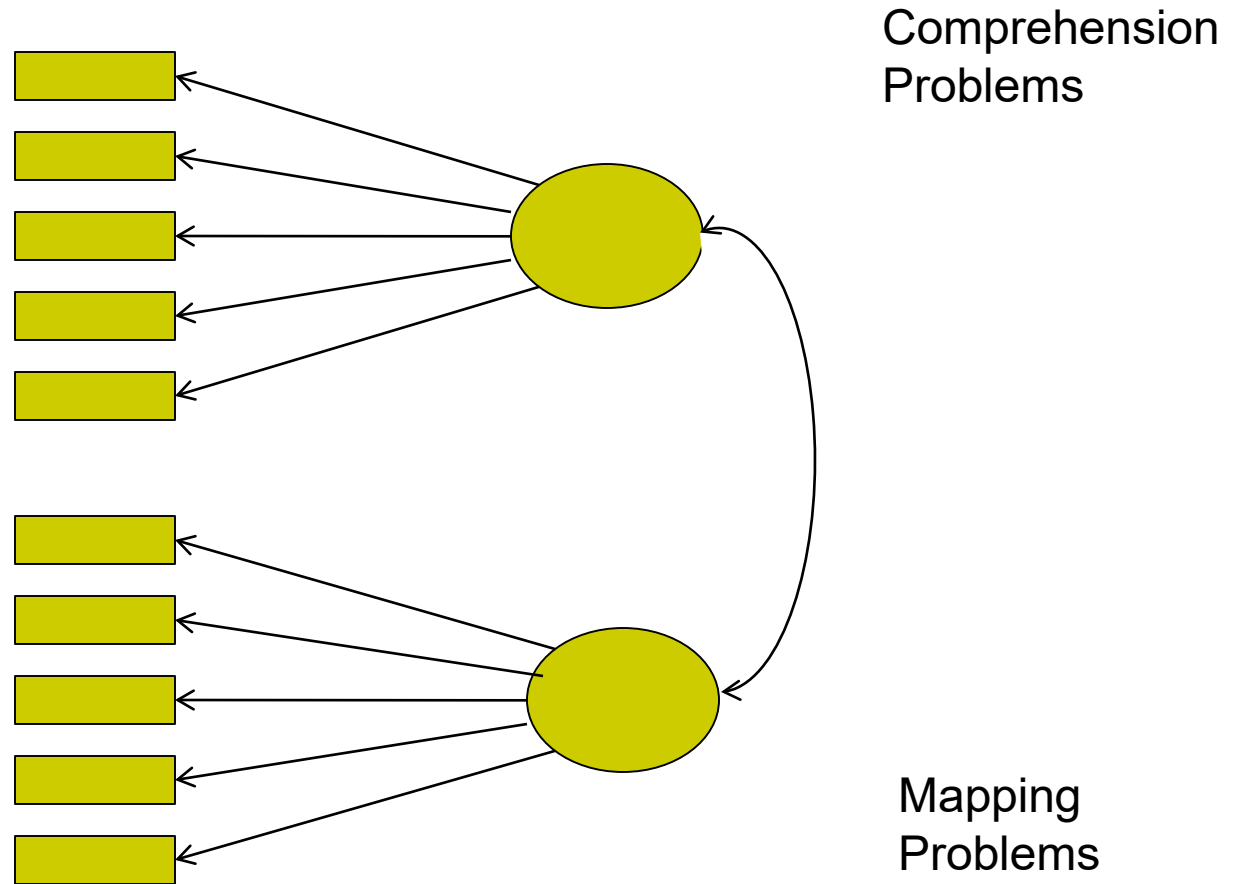   - are they etic or emic?
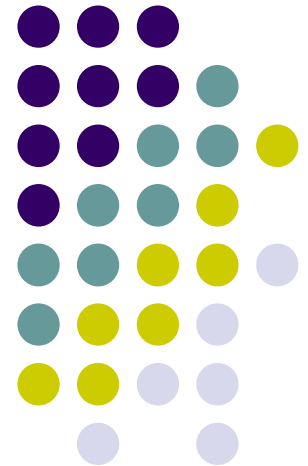
One-Factor Model
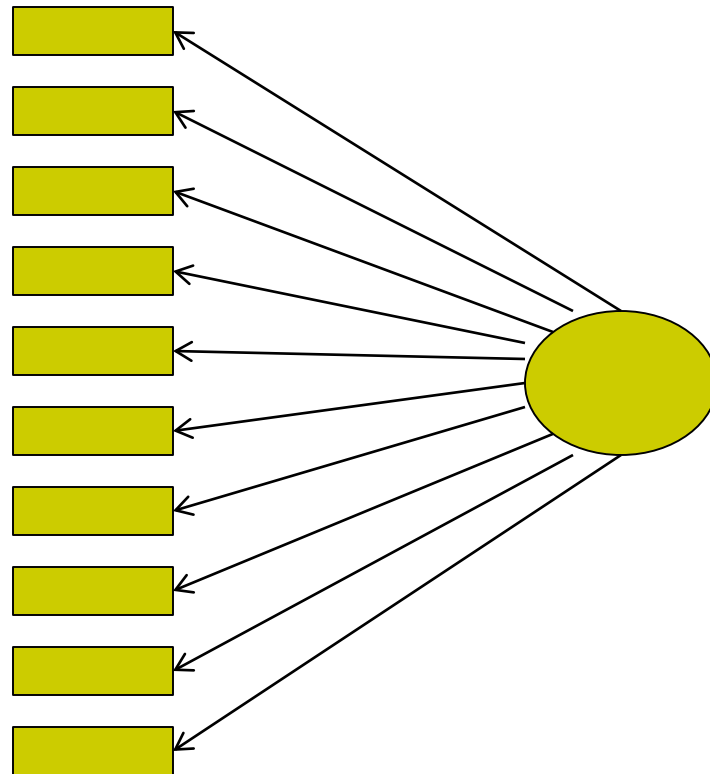
General
Processing
Problems

Two-Factor Model

Comprehension
Problems

Mapping
Problems
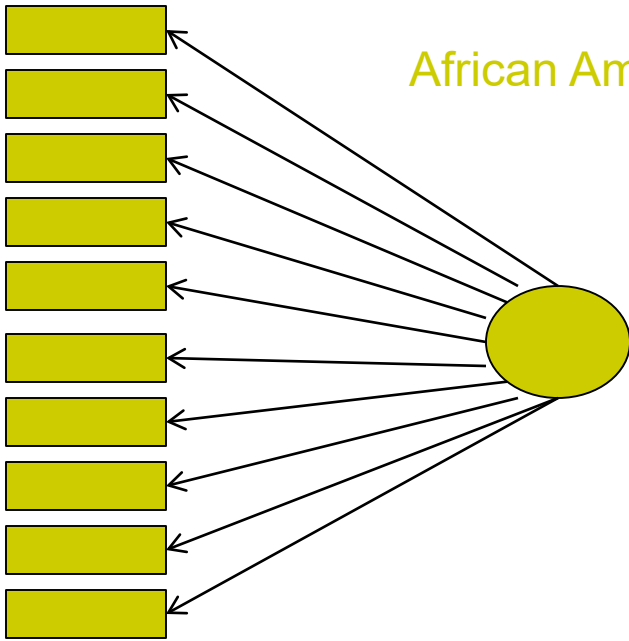
African American

Puerto Rican

Mexican American
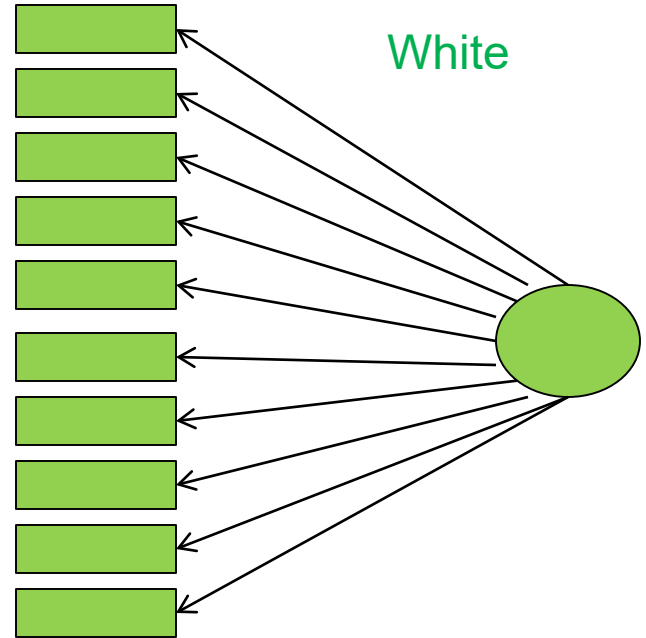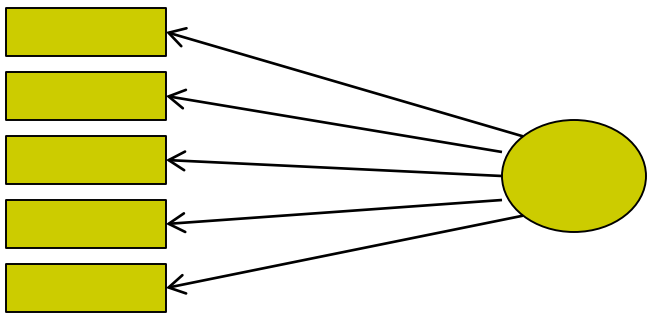
White

African American
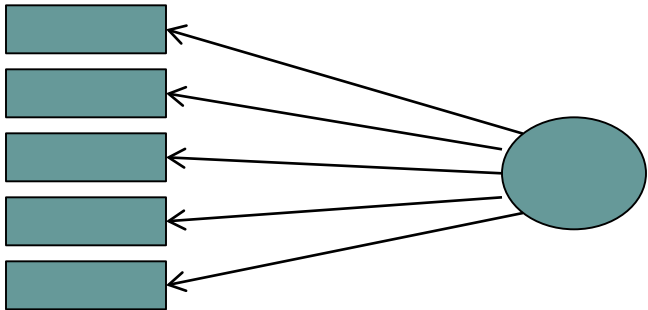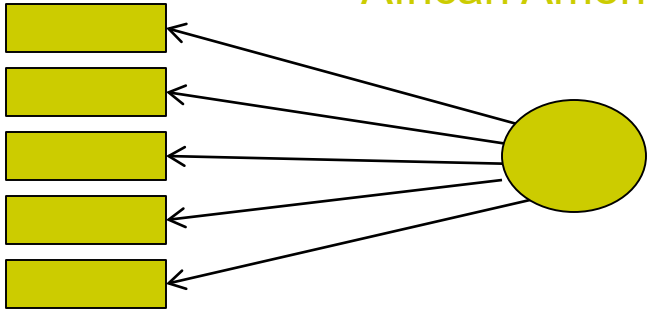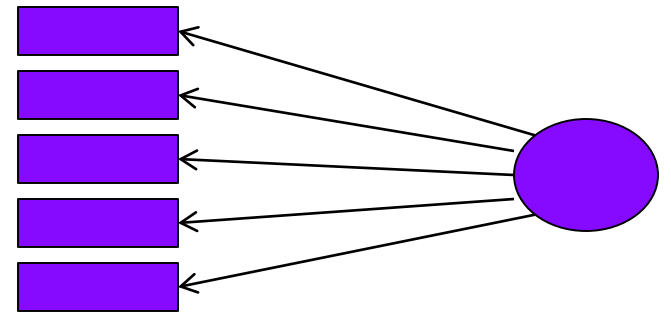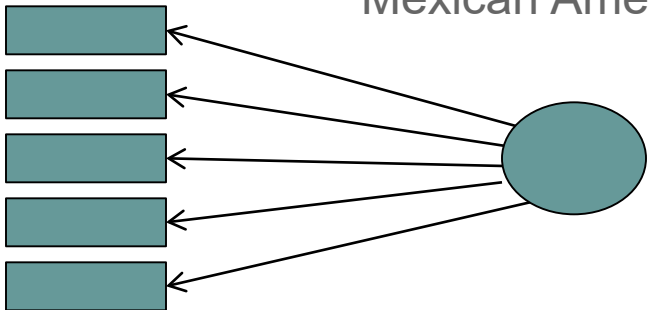
Puerto Rican

Mexican American
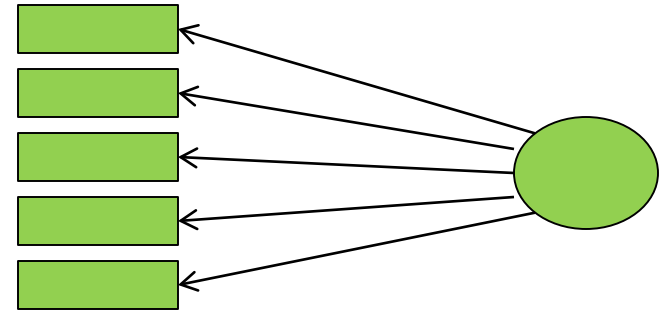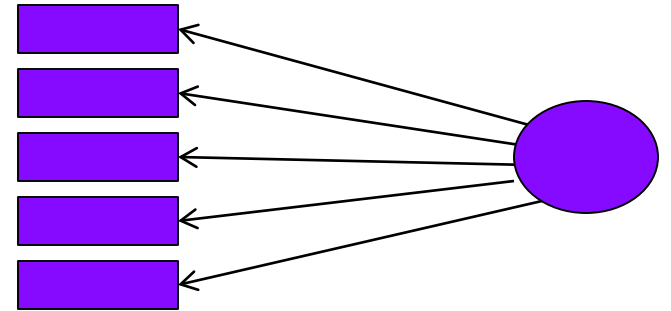
White
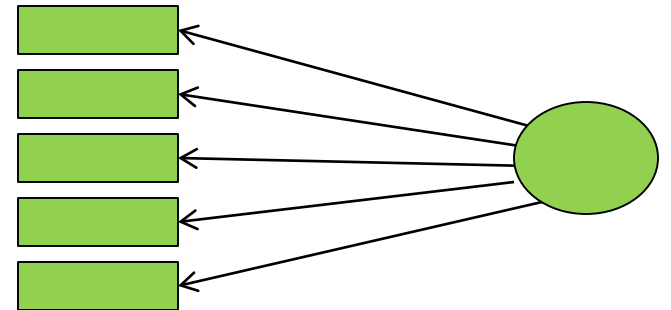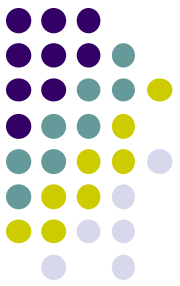
Comparison of multiple group one- vs. two-factor models

	Model x^2	df	p-value	RMSEA	CFI
One-factor model	116.2	104	ns	0.033	0.975
Two-factor model	106.7	98	ns	0.029	0.982

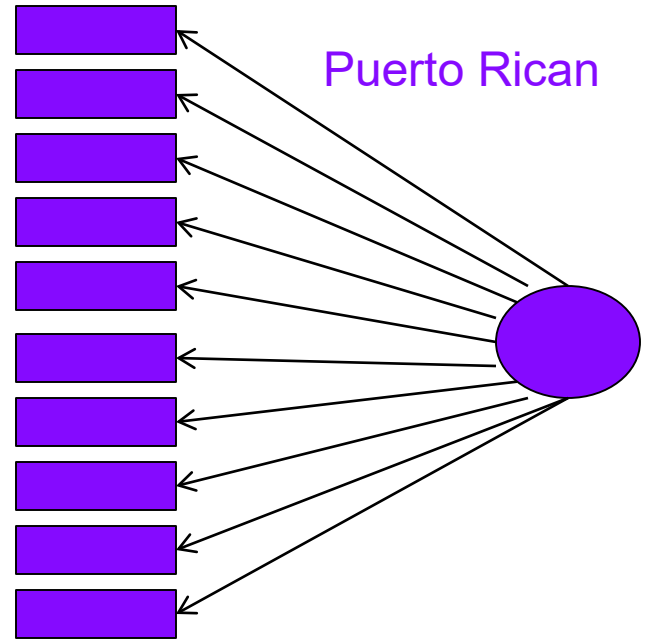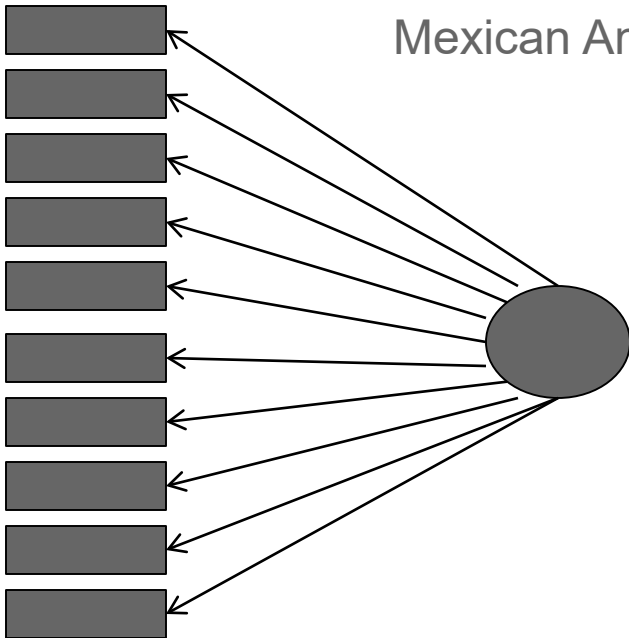# Comparison of nested two-factor models with equal vs. unequal error variances

	Model x^2	df	p
Factor loadings constrained to be equal	106.7	98	ns
Factor loadings and error variances constrained to be equal	125.1	109	ns

	Δx^2	Δdf	p
Chi-Square Test for Models with WLSMV estimation	32.5	24	ns

Conclusions

- Culture does not appear to mediate the meaning of behavior codes in that they exhibit a very similar structure across groups

- This was a first exploration…

Next Steps

- New studies recently conducted with NSF and NIH funding
  - Assessment of broader sample of cultural groups
  - Testing multiple questions related to culture, cultural identification and survey response behaviors
  - Validate behavior coding by introducing questions with known problems to observe group differences in responses

Examples of Audio Respondent Behavior Interaction Codes
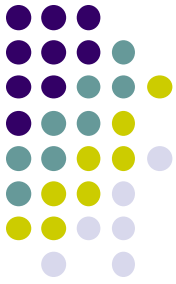
Codes Used to Identify Comprehension Problems

Clarification (unspecified): respondent indicates uncertainty about question, but it is unclear as to whether the problem is related to the construct or the context.

Clarification (construct): respondent asks for repeat or clarification of question or makes a statement indicating uncertainty about question meaning (e.g., "what do you mean by depressed?").

Clarification (time frame): respondent indicates uncertainty about the question's time frame.

Clarification (context): respondent indicates s/he understands the meaning of the construct but indicates uncertainty about question meaning within the context of the question as stated (e.g., "what do you want to know about being depressed?").

Clarification (rewording): respondent rephrases the question before answering.

Codes Used to Identify Memory Retrieval Problems

Memory difficulty: respondent gives answer but expresses concern about accuracy of memory or difficulty remembering.

Making inferences: respondent indicates that they are estimating or guessing an answer to a specific question based on what they "usually do" or "must have done."

Qualified answer (general): respondent gives answer that meets question objective, but answer is qualified to indicate uncertainty about accuracy (includes "DK" followed by response).

Codes Used to Identify Mapping Problems

Clarification (response format): respondent indicates uncertainty about the format for responding.

Inadequate answer (general): respondent gives answer that does not meet question objective.

Imprecise response (general): respondent gives answer that only partially meets question objective (e.g., "well over 10 times," "at least twice").

Imprecise response (different response option): respondent gives answer that does not use the response options provided with the question (e.g., "not so good health" instead of excellent, very good, good, fair or poor).

Imprecise response (range): respondent answers question with a range rather than a single number.

Codes Used to Identify Social Desirability Problems

Anonymity/confidentiality: respondent answers question but expresses concern about anonymity or privacy of response.

Refusal to answer: respondent refuses to answer question for reasons of privacy or anonymity.

Refusal to answer: respondent refuses to answer question for some other reason (please record reason).

Refusal to answer: respondent refuses to answer question but does not give reason.

Other Behavior Codes

No problems identified: respondent indicates no problems with the question as it is initially read.

Interruption with answer: respondent interrupts initial question reading with answer.

Prior answer: respondent or interviewer indicates that the answer was volunteered prior to the question being asked.

Corrected answer: respondent changes answer.

Don't know: respondent gives a "don't know" or equivalent answer (no other answer given).

Missing data: question cannot be heard on recording.

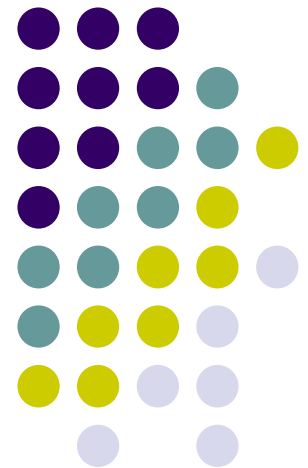**Not applicable**: question was skipped appropriately.

Race/Ethnic Groups Sampled

- African Americans (U.S.-born)
- Mexican Americans
  - Primarily English speaking
  - Primarily Spanish speaking
- Korean Americans
  - Primarily English speaking
  - Primarily Korean speaking
- Non-Hispanic whites (U.S.-born)

Preliminary Findings

Behavior Coding

Bad Questions

Questions
Nonexistent policies or objects
Q117. *In the past 10 years, how frequently have you visited a serrerium?*
Q118. *Do you support or oppose a law to ban the import of fotams into the U.S.?*
Mismatch of question and response options
Q119. *How many times in the past 12 months have you walked to work? Much more frequently, somewhat more frequently, about the same amount, somewhat less frequently, or much less frequently?*
Response options non exhaustive or mutually exclusive
Q122. *How often do you eat a hot breakfast? Would you say every day, once a week, or never?*
Q123. *Which of the following should the government do in the next year? Would you say revise the federal tax system, create a universal health care system, or improve educational testing scores among U.S. students?*

NOTE: COM = Comprehension Difficulty; MAP = Mapping Difficulty

General Findings

Questions	COM
<u>Nonexistent policies or objects</u>	
Q117. *In the past 10 years, how frequently have you visited a serrerium?*	**60.8%**
Q118. *Do you support or oppose a law to ban the import of fotams into the U.S.?*	**82.6%**
<u>Mismatch of question and response options</u>	
Q119. *How many times in the past 12 months have you walked to work? Much more frequently, somewhat more frequently, about the same amount, somewhat less frequently, or much less frequently?*	
<u>Response options non exhaustive or mutually exclusive</u>	
Q122. *How often do you eat a hot breakfast? Would you say every day, once a week, or never?*	
Q123. *Which of the following should the government do in the next year? Would you say revise the federal tax system, create a universal health care system, or improve educational testing scores among U.S. students?*	

NOTE: COM = Comprehension Difficulty

General Findings

| Questions	COM	MAP
Nonexistent policies or objects		
Q117. *In the past 10 years, how frequently have you visited a serrerium?*	**60.8%**	
Q118. *Do you support or oppose a law to ban the import of fotams into the U.S.?*	**82.6%**	
Mismatch of question and response options		
Q119. *How many times in the past 12 months have you walked to work? Much more frequently, somewhat more frequently, about the same amount, somewhat less frequently, or much less frequently?*		**38.9%**
Response options non exhaustive or mutually exclusive		
Q122. *How often do you eat a hot breakfast? Would you say every day, once a week, or never?*		**17.1%**
Q123. *Which of the following should the government do in the next year? Would you say revise the federal tax system, create a universal health care system, or improve educational testing scores among U.S. students?*		**21.1%**

NOTE: COM = Comprehension Difficulty; MAP = Mapping Difficulty

General Findings

Questions	COM	MAP
Nonexistent policies or objects		
Q117. *In the past 10 years, how frequently have you visited a serrerium?*	**60.8%**	**8.9%**
Q118. *Do you support or oppose a law to ban the import of fotams into the U.S.?*	**82.6%**	**18.4%**
Mismatch of question and response options		
Q119. *How many times in the past 12 months have you walked to work? Much more frequently, somewhat more frequently, about the same amount, somewhat less frequently, or much less frequently?*	**16.3%**	**38.9%**
Response options non exhaustive or mutually exclusive		
Q122. *How often do you eat a hot breakfast? Would you say every day, once a week, or never?*	**12.4%**	**17.1%**
Q123. *Which of the following should the government do in the next year? Would you say revise the federal tax system, create a universal health care system, or improve educational testing scores among U.S. students?*	**5.5%**	**21.1%**

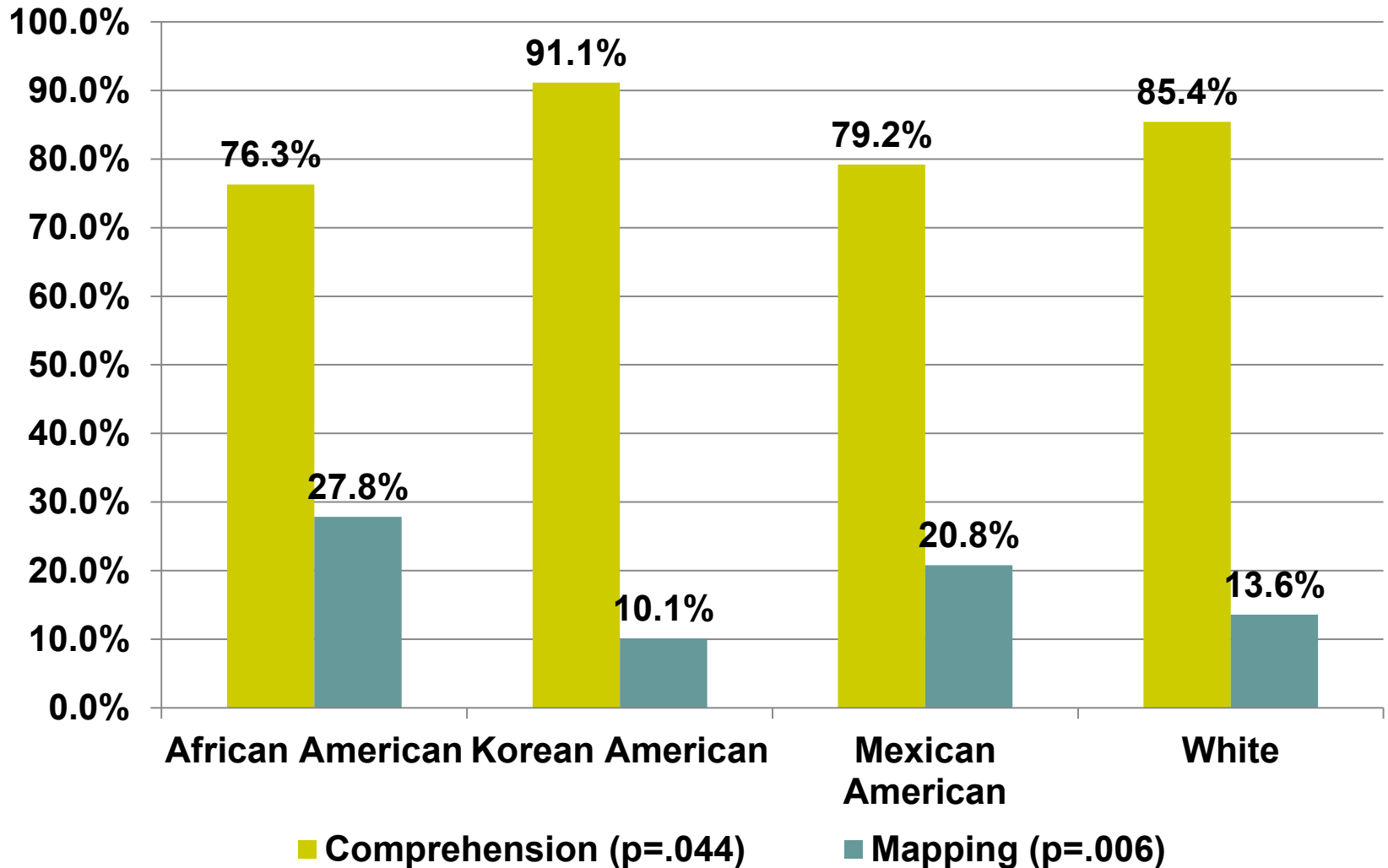NOTE: COM = Comprehension Difficulty; MAP = Mapping Difficulty

Nonexistent policies or objects:
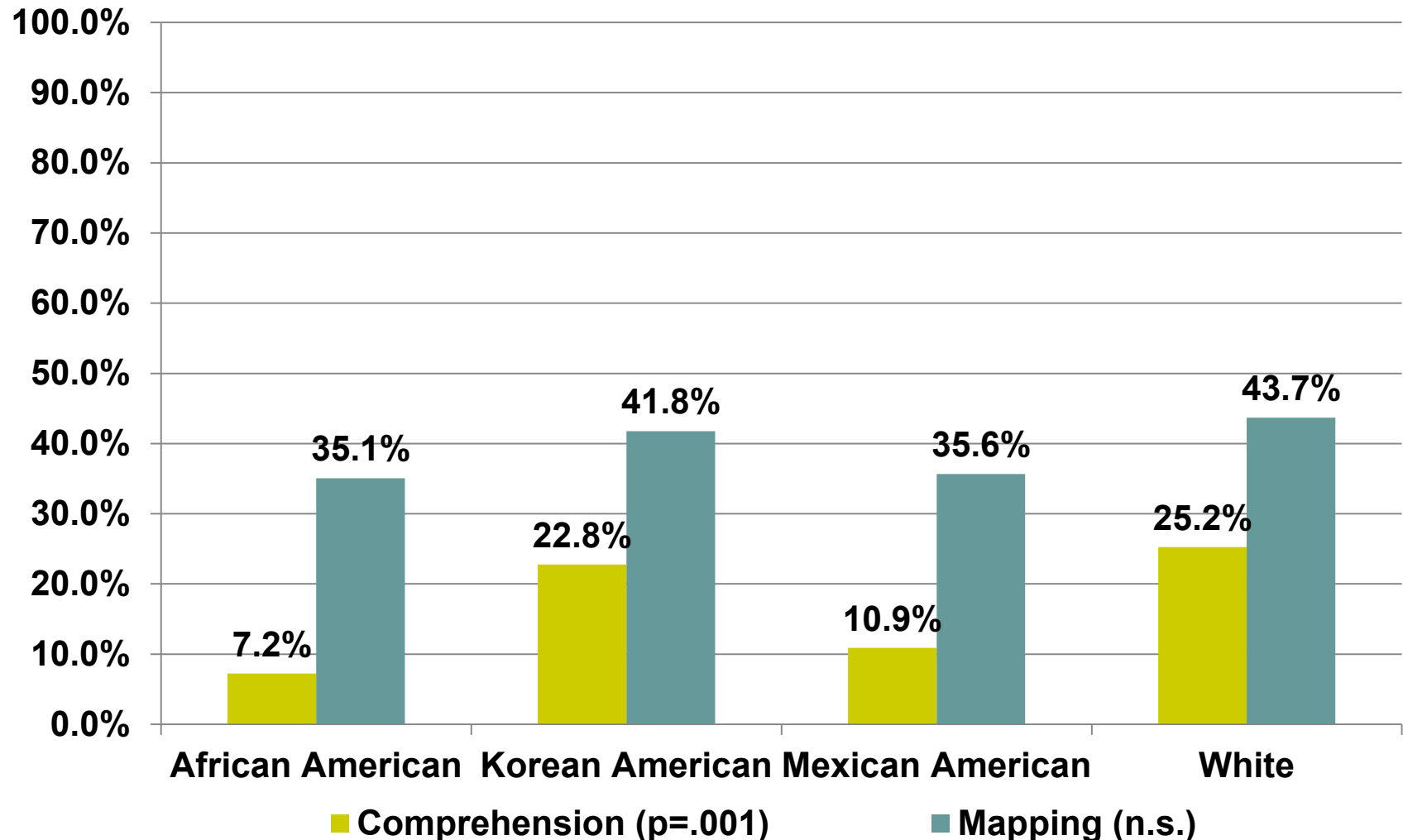## Q117. "In the past 10 years, how frequently have you visited a serrerium?"

- Comprehension (p=.054)
- Mapping (n.s.)
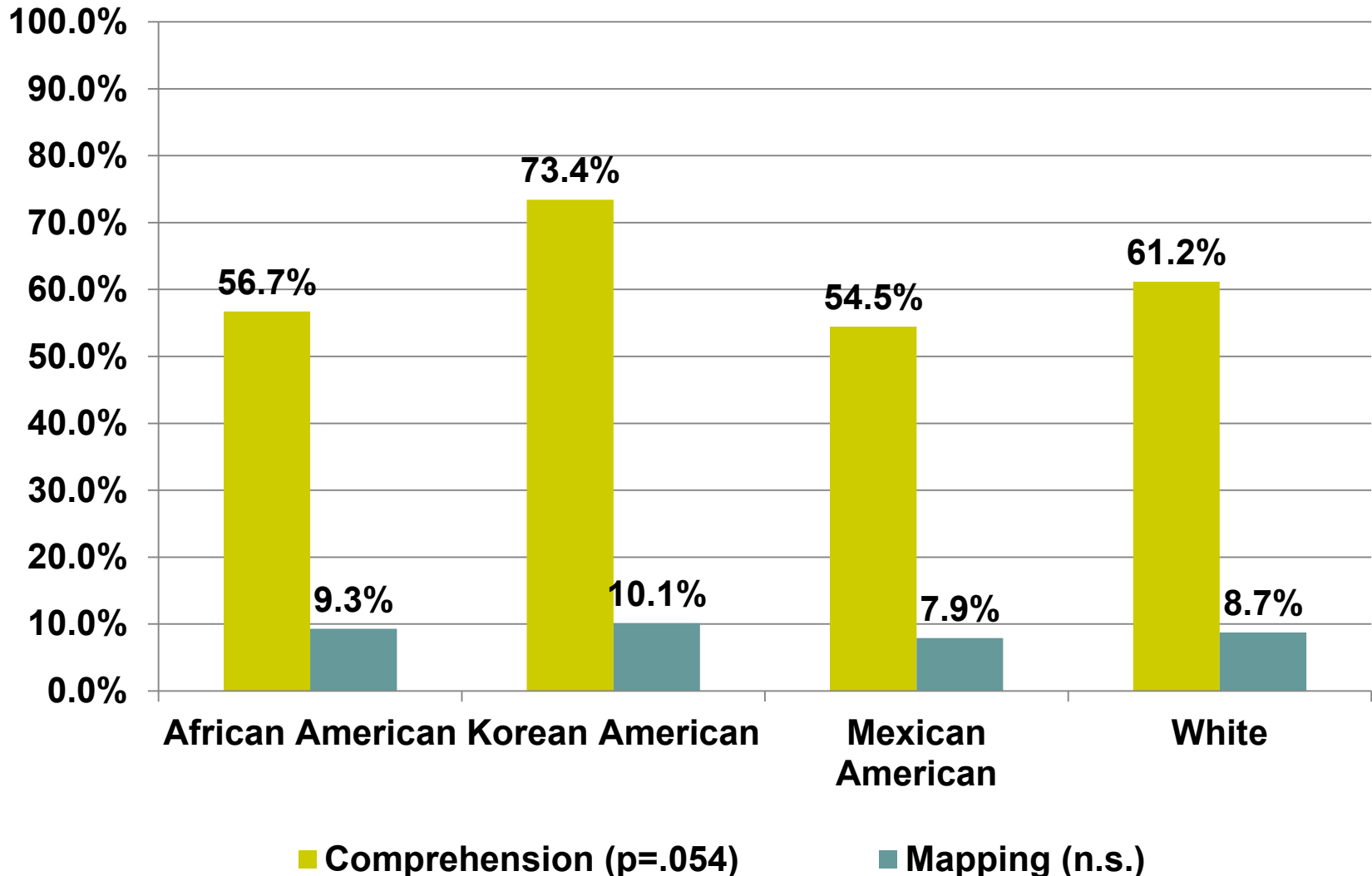
Nonexistent policies or objects:
Q118. "Do you support or oppose a law to ban the import of fotams into the U.S.?"

Chart showing responses by group with Comprehension (p=.044) and Mapping (p=.006):

- African American: Comprehension 76.3%, Mapping 27.8%
- Korean American: Comprehension 91.1%, Mapping 10.1%
- Mexican American: Comprehension 79.2%, Mapping 20.8%
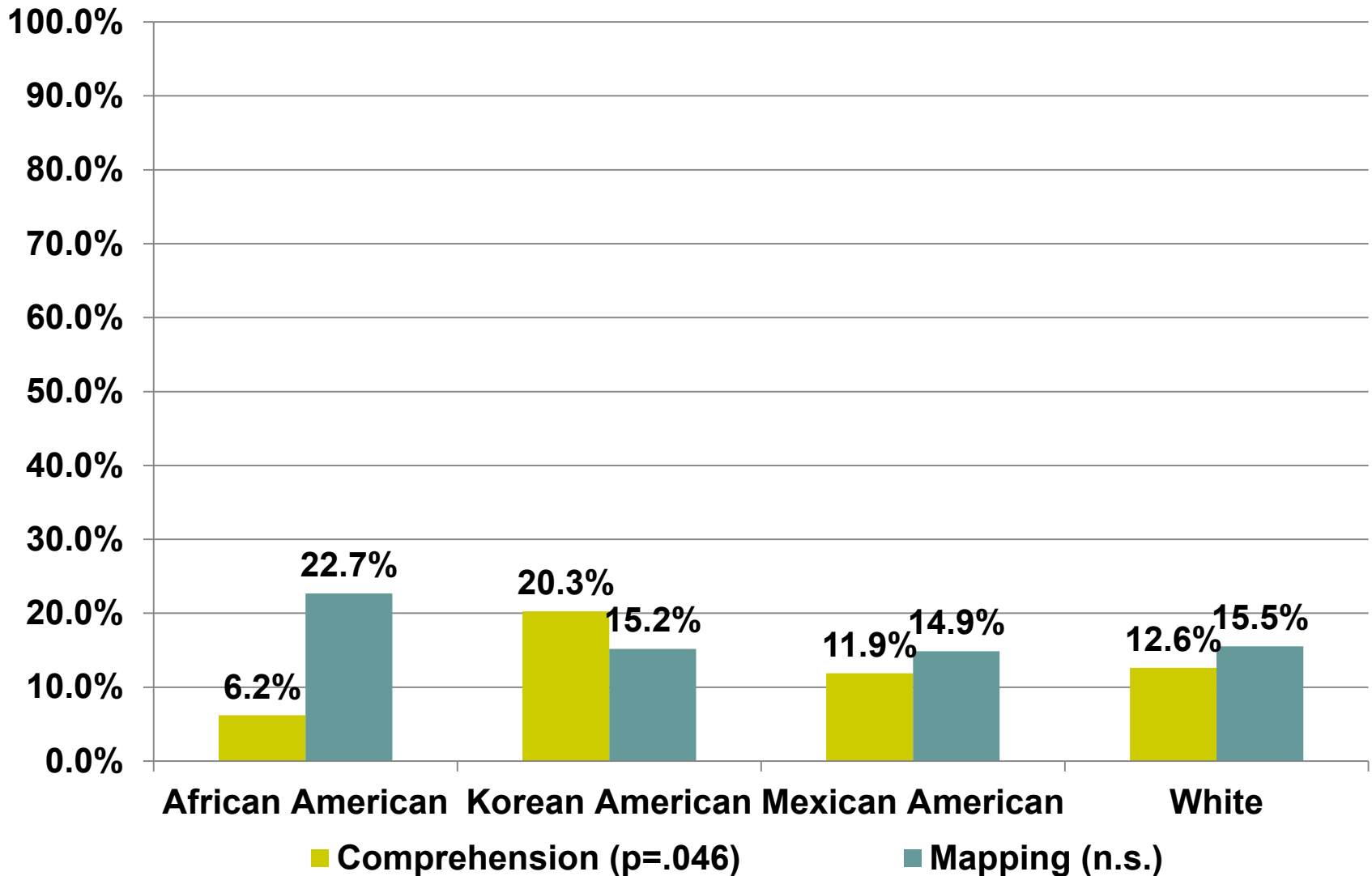- White: Comprehension 85.4%, Mapping 13.6%

Mismatch of question and response options:
Q119. "How many times in the past 12 months have you walked to work? Would you say much more frequently, somewhat more frequently, about the same amount, somewhat less frequently, or much less frequently?"

Response options non exhaustive or mutually exclusive: Q122. "How often do you eat a hot breakfast? Would you say every day, once a week, or never?"

Chart showing percentages by group:

- African American: Comprehension 6.2%, Mapping 22.7%
- Korean American: Comprehension 20.3%, Mapping 15.2%
- Mexican American: Comprehension 11.9%, Mapping 14.9%
- White: Comprehension 12.6%, Mapping 15.5%

Legend: ■ Comprehension (p=.046) ■ Mapping (n.s.)

Response options non exhaustive or mutually exclusive:
Q123. Which of the following should the government do in the next year? Would you say revise the federal tax system, create a universal health care system, or improve educational testing scores among U.S. students?
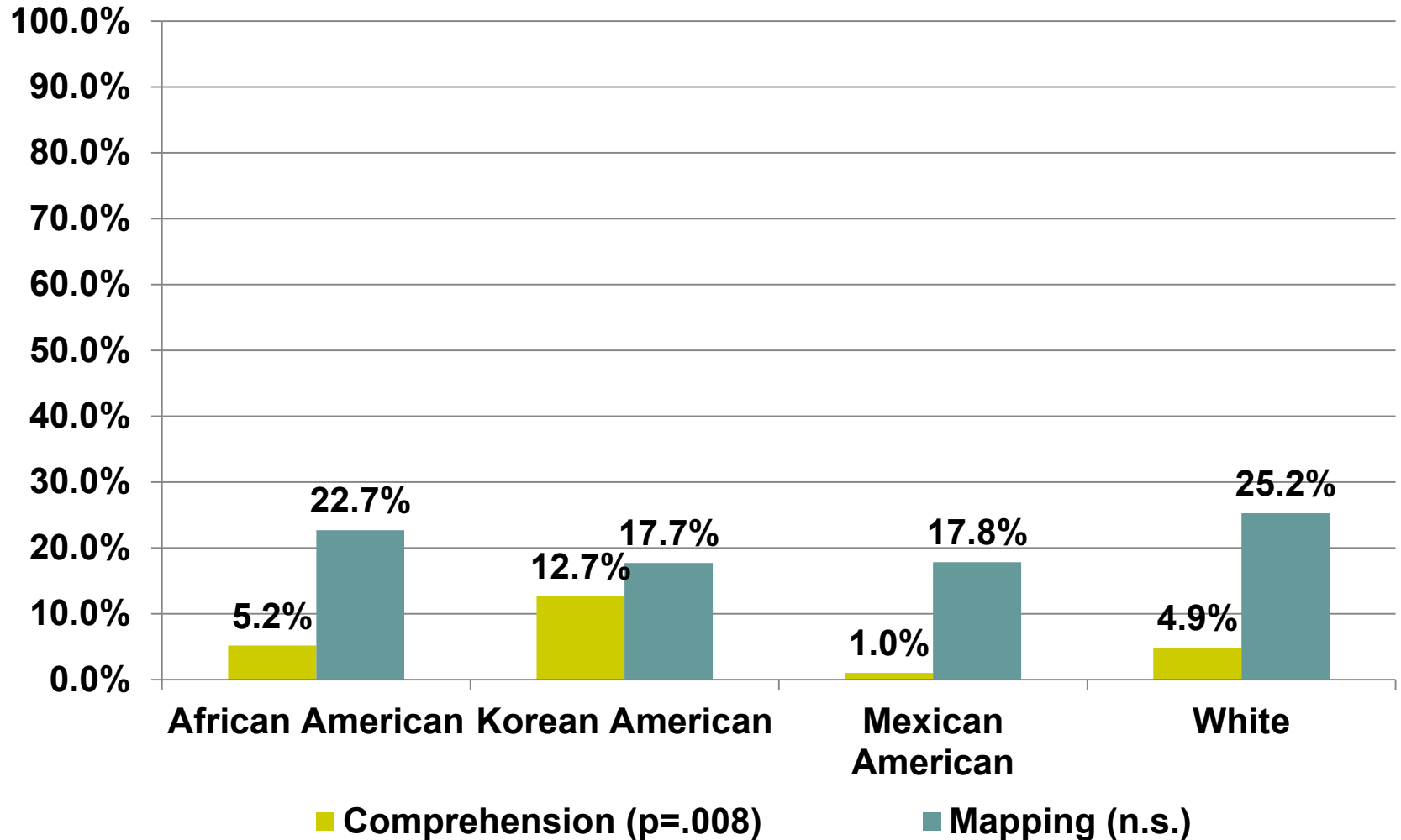
Moving Forward

- Now finalizing the verbal behavior coding
- Still working on non-verbal behavior coding
- 2011 will be spent analyzing these data

Thanks for your questions.

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