Objective and Subjective Measures of Diversity: How They Relate to One Another and Climate Perceptions

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Presentation Overview

- Background and context
- Purpose of study
- Data sources utilized
- Diversity and climate measures
- Results
- Discussion

Background and Context

- Supreme court recommendations for institutions based on "Michigan" cases
- Link between heterogeneity of experience to benefits in cognitive processes
- Racial diversity contributes to heterogeneity of perspectives
    - Requires a "critical mass" for sufficient interaction

Purpose of Study

- UM explores benefits of diversity using self-reported data from student surveys
    - Measures based on structural diversity also exist
- How do subjective and objective measures of diversity relate to one another?
- Are objective or subjective measures better predictors of climate perceptions and educational outcomes?

Data Sources

- 2000 U.S. Census zip code data
    - http://factfinder.census.gov
- University New Student Census
    - 2432 of 4237 incoming freshmen (57%) completed the online survey in Summer 2007
- Institutional data

Measures Considered

- Diversity measures
  - Diversity index
  - Prior environment scale
  - Majority/minority indicator
- Climate perceptions and educational outcomes
  - Value for diversity
  - Tolerance for discrimination
  - Racial understanding

Diversity Index

- Index measuring racial/ethnic heterogeneity of a population
  - Probability that two individuals selected at random will be of a different race/ethnicity
- Developed by Meyer & McIntosh (1992) and used by U.S. News
- Based on U.S. Census data for zip code of respondents' permanent address

Sample Diversity Index Calculation

- Fall 2007 UM undergraduate population
  - Five racial/ethnic subgroups considered (excludes Foreign students and students of an unknown race/ethnicity)

$$D = 1 - [f_{White}^2 + f_{Black}^2 + f_{Asian}^2 + f_{Hispanic}^2 + f_{NatAmer}^2]$$
$$= 1 - [(.629)^2 + (.145)^2 + (.157)^2 + (.065)^2 + (.004)^2]$$
$$= .555$$

Prior Environment Scale

- Self-reported description of racial/ethnic composition of pre-college environment
  - High school, neighborhood, friends
- Five-point response scale from "*all or nearly all people of color*" to "*all or nearly all white*"
- Individual responses averaged across items

Majority/Minority Indicator

- Based on U.S. Census and institutional data
- Identifies respondents as:
  - A racial/ethnic *majority* in their zip code;
  - A racial/ethnic *minority* in their zip code; or,
  - From an area with no overwhelming majority racial/ethnic group
- 65% threshold used for areas with no majority

Descriptive Analyses

- What kinds of environments are freshmen coming from in terms of their racial/ethnic composition?
- Does the diversity of the pre-college environment vary across racial/ethnic subgroups?
- Are freshmen coming from areas in which they are a racial/ethnic majority or a minority?

Diversity Index

Respondent Race/Ethnicity	N	Diversity Index Mean (SD)
American Indian	4	.32 (.232)
Black/African American	296	.43 (.168)
Asian	308	.43 (.166)
Hispanic	143	.45 (.183)
White	1520	.29 (.179)
Total	**2271**	**.34 (.189)**

Prior Environment Scale

Respondent Race/Ethnicity	N	Prior Environment Scale Mean (SD)
American Indian	3	3.83 (.764)
Black/African American	241	2.64 (.890)
Asian	268	3.17 (.769)
Hispanic	115	3.13 (1.005)
White	1306	4.07 (.670)
Total	**1933**	**3.71 (.914)**

Majority/Minority Indicator

| Respondent Race/Ethnicity	N	Racial/Ethnic Majority in Permanent Address Zip Code Row Percents				
		No Majority	White Majority	Asian Majority	Black Majority	Hispanic Majority
American Indian	4	25	50	0	25	0
Black/African American	296	40	36	0	24	0
Asian	308	40	59	0	1	0
Hispanic	143	41	54	0	4	1
White	1520	15	84	0	1	<1
Total	**2271**	**23**	**72**	**0**	**4**	**<1**

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Comparison of Measures

- How does an objective measure of diversity relate to a subjective measure of diversity?
- Does the form of this relationship differ for racial/ethnic majority and minority students?

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Scatterplot of Diversity Measures

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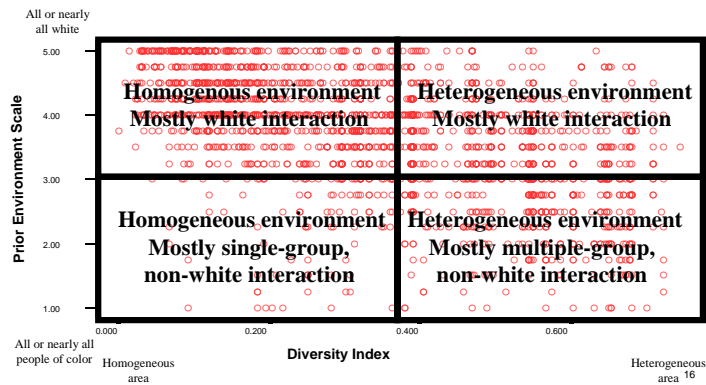
Scatterplot by Majority/Minority

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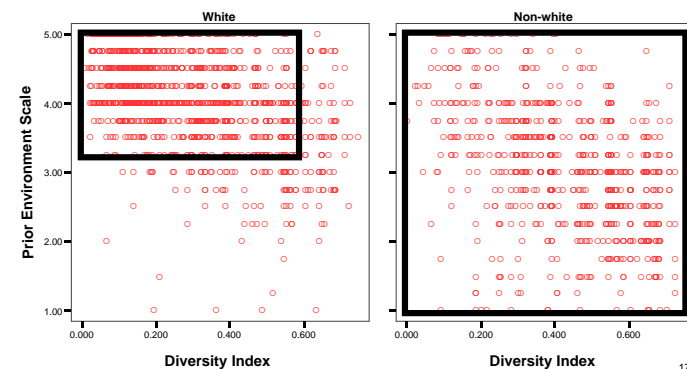
Relation to Climate Perceptions

🦀 How do climate perceptions relate to the diversity of one's pre-college environment?

🦀 Do average climate perceptions vary across racial/ethnic subgroups?

🦀 Do climate perceptions in one's pre-college environment differ for those who belong to the majority group in the area and those who do not?

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Relation Between Measures

	Correlation		
	Value of Diversity	**Tolerance for Discrimination**	**Racial Understanding**
Diversity Index	.176*	.018	.294*
Prior Environment	-.176*	-.003	-.338*

* Significant at the .05 level

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Perceptions by Race/Ethnicity

Respondent Race/Ethnicity	**N***	**Scale Mean (SD)**		
		Value of Diversity	**Tolerance for Discrimination**	**Racial Understanding**
American Indian	4	4.00 (.624)	4.17 (.962)	3.95 (.619)
Black/African American	299	3.74 (.749)	3.89 (.850)	3.87 (.668)
Asian	311	3.85 (.701)	3.72 (.799)	3.85 (.669)
Hispanic	144	3.81 (.720)	3.72 (.921)	3.81 (.751)
White	1546	3.75 (.648)	3.92 (.804)	3.65 (.735)
Total	**2304**	**3.77 (.674)**	**3.87 (.820)**	**3.72 (.724)**

 * Total subgroup N

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Perceptions by Majority/Minority

Majority/Minority Indicator for Respondent	**N***	**Scale Mean (SD)**		
		Value of Diversity	**Tolerance for Discrimination**	**Racial Understanding**
No majority group	530	3.92 (.680)	3.89 (.814)	3.97 (.681)
Belongs to majority group	1345	3.73 (.645)	3.92 (.792)	3.61 (.721)
Does not belong to majority group	396	3.69 (.737)	3.69 (.889)	3.76 (.710)
Total	**2271**	**3.77 (.675)**	**3.87 (.819)**	**3.72 (.726)**

 * Total subgroup N

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Summary of Findings

- UM is more diverse on average than pre-college environments of its students
- Positive relationship between heterogeneity and value for diversity and racial understanding
- Most positive perceptions reported by those from areas with no majority group
- Objective and subjective diversity measures each play unique roles

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Discussion

- How might this type of analysis be impacted by new race/ethnicity reporting guidelines?
- What objective or academic outcome variables could be considered (e.g., GPA), in addition to the subjective ones included in the current investigation?
- Other questions and comments?

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