

# An Analysis of Underrepresented Minorities' Exposure to Allied Health Fields

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# Impetus of Study

- ▶ Background in Allied Health Field
- ▶ Background in Higher Education

# Background

## ► Underrepresented Minority (URM) Report

### Total percent of URM students enrolled in five allied health programs

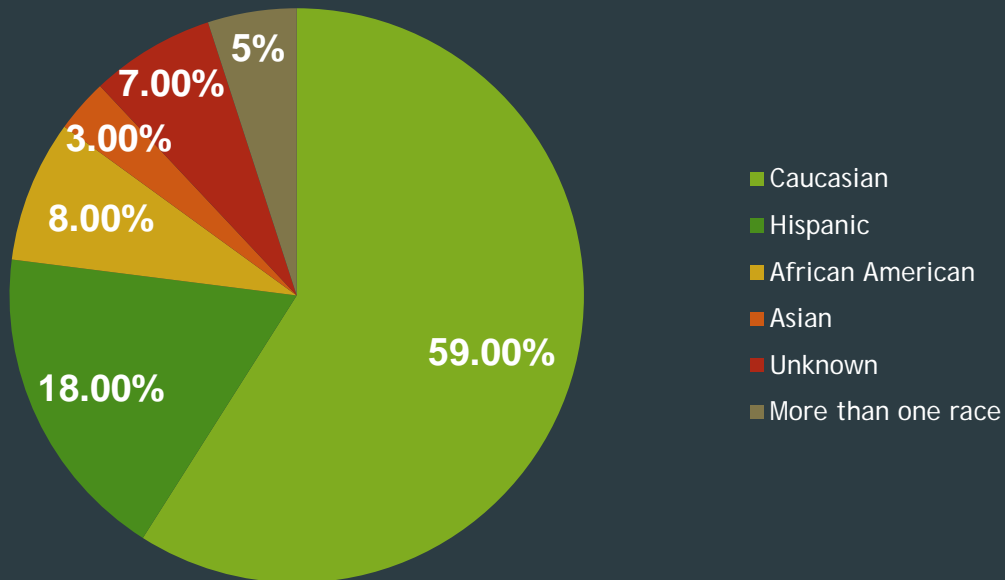


Figure 1. Percent of students for each race enrolled in allied healthcare programs. Retrieved from MWCC Institutional Research Dept., 2015

# Problem Statement

- ▶ Ethnic minorities underrepresented in U.S. health professions (Duffus, Trawick, Moonesinghe, Tola, Truman, & Dean, 2014).
  - ▶ African Americans and Hispanics 37% of total population, 10% of health professionals
- ▶ Challenging and urgent issue (Alexander, Chen, & Grumbach, 2009)
- ▶ Healthcare needs not being met (Sutherland, Hamilton, & Goodman, 2007)
- ▶ Decreased URM enrollment in allied health programs (Baldwin, Woods, & Simmons, 2006)
- ▶ Poor recruitment (Baldwin & Agho, 2003)

# Purpose

The purpose of this study is to investigate URM and non-URMs' knowledge of and exposure to allied health fields; to determine “if whether” some of the groups were being exposed differentially to different resources, and to identify the resources necessary to expose and provide knowledge of allied health careers in order to begin to recruit URM into allied health programs.

# Literature Review

- ▶ By 2060, minority populations expected to increase from 38% currently to 56% (U. S. Census Bureau, 2015).
- ▶ Workforce that resembles the society it serves (Duffus et al., 2014; Day, Gonzalez, Ladd, Bucobo, Pickett-Blakely, Tilara, & Christie, 2016)
- ▶ “A more diverse and culturally competent healthcare workforce is an urgent national priority” (Ghaddar, Ronnau, Saladin, & Martinez, 2013, p. 1870).
- ▶ Problem has its roots in the higher education system (Minority Allied Health Professionals, n.d.)

# Literature Review

- ▶ URM enrollment at Community Colleges (40%) (American Association of Community Colleges, 2016).
- ▶ Low enrollment = decreased allied health professionals (Demo, Fry, Devine, & Butler, 2015)
- ▶ Contributing factors of low enrollment:
  - ▶ Poor knowledge of healthcare professions and opportunities (Mishoe, Valeri, & Beveridge, 1992)
- ▶ Exposure = Improvement in Recruitment (Ernst, Belrose, Eckhardt, Hild, & Rodriguez, 2014)

# Study Significance

- ▶ Minority populations are steadily increasing
- ▶ Because of low number of URM in the healthcare workforce, tomorrow's professionals will not be representative of URM populations (Sutherland et al., 2007)
- ▶ Who does the study impact?
  - ▶ “Healthcare is one of the biggest drivers in our district and close-by communities. The Midwestern Community College fulfills its mission by preparing people for the workforce. We need to be able to fill positions with people that represent the community we serve. The minority will soon be the majority in the community we serve.” (MWCC President, personal communication, January 19, 2016).



# Study Significance con't

- ▶ Explore the types and extent of exposure to allied health fields as a starting point to determining effective recruitment strategies
- ▶ Increasing recruitment of URM may increase enrollment into these programs

# Research Question 1

- ▶ To what extent does URM versus non-URM status predict exposure to allied health fields?
  - ▶  $H_1$  1: URM status does predict exposure to allied health fields.
  - ▶  $H_0$  1: URM status does not predict exposure to allied health fields.

# Research Question 2

- ▶ To what extent does URM versus non-URM status predict knowledge about allied health fields?
  - ▶  $H_1$  2: URM status does predict knowledge about allied health fields.
  - ▶  $H_0$  2: URM status does not predict knowledge about allied health fields.

# Research Question 3

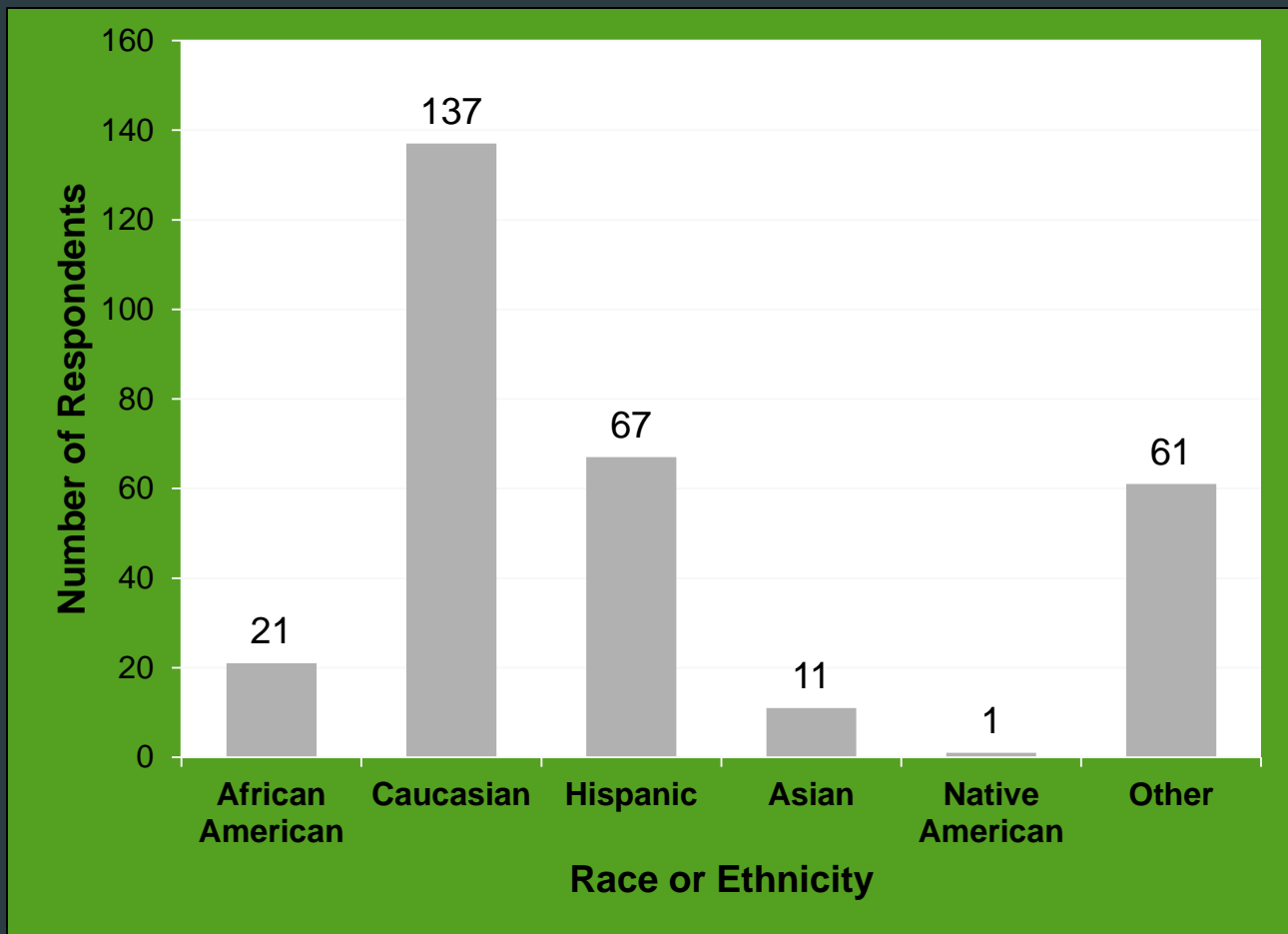
- ▶ What types of allied health information were URM and non-URM students exposed to?

# Research Design

- ▶ Quantitative, Quasi-Experimental Methodology
  - ▶ Quantitative- measures variables numerically (Leedy & Ormrod, 2013).
  - ▶ Quasi-experimental
    - ▶ No random assignment to groups
    - ▶ Independent Variable (three naturally occurring groups)
    - ▶ Dependent Variable

# Participants

- ▶ Cross-sectional, accessible, purposive ( N = 225)



# Data Collection

- ▶ Received IRB approval from MWCC and Olivet
- ▶ Modified versions of Kosegi and Feely's (1989) survey of pre-allied health counselor's resources and perceptions
  - ▶ Validity- 10 Health Sciences faculty
- ▶ Survey Monkey email link- fall of 2016 semester
- ▶ Students were informed that clicking "continue" on 1<sup>st</sup> page of survey acted as an electronic signature of their willingness to participate.

# Analytical Methods

- ▶ Q.1 To what extent does URM versus non-URM status predict exposure to allied health programs?
  - ▶ Descriptive Statistics
  - ▶ Histogram
  - ▶ Exposure ( $\alpha = .862$ )
  - ▶ One-Way Between Subjects (BS) ANOVA
    - ▶ Independent Variable (IV) –racial/ethnic group
    - ▶ Dependent Variable (DV)-types of exposure



# Exposure Question

**Part I:**

Below is a list of methods used to expose students to allied health (health sciences) fields, please indicate the degree that you were exposed to each method in high school:

Answer Options	Not Exposed	Slightly Exposed	Exposed	Very Exposed
Pamphlets/fliers				
Posters				
Books/journals				
Visiting professionals				
Career days/fairs				
Audiovisual material				
Observations or job shadowing				
Health professional mentors				
One on one counseling sessions with high school counselor				
High school health careers course				
Social media				
Family member or friend				

# Results

Levene's test  $p = .44$ , population variances are equal for all groups

African American ( $M = 24.61$ ,  $SD = 7.86$ )

Caucasian ( $M = 23.68$ ,  $SD = 7.12$ )

Hispanic ( $M = 26.26$ ,  $SD = 6.36$ )

$F(3, 232) = 2.75$ ,  $p = .043$ ,  $\eta^2 = .034$ .

# Analytical Methods

- ▶ Q.2 To what extent does URM versus non-URM status predict knowledge about allied health fields?
  - ▶ Descriptive Statistics
  - ▶ Histogram
  - ▶ Knowledge ( $\alpha=.923$ )
  - ▶ One-Way BS ANOVA
    - ▶ IV –racial/ethnic group
    - ▶ DV-knowledge items

# Knowledge Question

## Part II.

Below is a list of 12 allied health fields. Please indicate the degree of knowledge for each of the allied health professions during your high school years.

Answer Options	Not Knowledgeable	Somewhat Knowledgeable	Knowledgeable	Very Knowledgeable
Dental Assistant				
Dental Hygienist				
Medical Assistant				
Medical Lab Technologist				
Occupational Therapy				
Phlebotomy				
Physical Therapy				
Radiography (Rad or X-ray Tech)				
Specials Radiography (CT, MRI, Ultrasound)				
Respiratory Therapy				
Sleep Tech				
Speech Therapy				

# Results

Levene's test  $p = .24$ , population variances are equal for all three groups

African American ( $M = 20.95$ ,  $SD = 7.28$ )

Caucasian ( $M = 22.60$ ,  $SD = 8.06$ )

Hispanic ( $M = 24.28$ ,  $SD = 9.17$ )

$F(3, 245) = 1.38$ ,  $p = .249$  or  $>.05$ ,  $\eta^2 = .016$

# Analytical Methods

- ▶ Q.3 What types of allied health information were URM and non-URM students exposed to?
  - ▶ Descriptive Statistics
  - ▶ 12 separate One-Way BS ANOVAs
    - ▶ IV—racial/ethnic group
    - ▶ DV—each individual exposure type

# One-way BS ANOVAs Results Table

Race/Ethnicity	African American		Caucasian		Hispanic		
Item	M	SD	M	SD	M	SD	p-value
Pamphlets/fliers	2.13	.83	1.92	.91	2.09	.80	.32
Posters	2.18	.85	2.02	.96	2.25	1.0	.22
Books/journals	2.33	1.11	2.02	.97	2.18	1.0	.30
Visiting prof.	2.22	1.02	1.85	.87	1.98	.88	.23
Career days/fairs	2.27	1.07	2.12	.90	2.43	.91	.84
Audiovisual material	1.86	1.03	1.89	.98	2.05	.95	.32
Observe/ job shadow	1.81	1.13	1.52	.82	1.71	.87	.22
Health prof. mentors	1.81	1.09	1.59	.83	1.58	.79	.30
HS counselor	1.86	1.03	2.13	1.07	2.38	.96	.14
<b>HS health career class</b>	1.59	.95	1.78	.95	1.03	.11	<b>.04</b>
<b>Social media</b>	1.81	1.05	2.08	1.07	1.04	.12	<b>.00</b>
Family/ friend	2.72	1.24	2.69	.95	2.93	.90	.24

# Results

High school health careers class,  $F(3, 254) = 2.69, p < .05, \eta^2 = .03$

Tukey's post hoc procedures indicated that African American students ( $M = 1.59, SD = .95$ ) were exposed less to health careers courses than Caucasian ( $M = 1.78, SD = .95$ ) and Hispanic ( $M = 2.03, SD = 1.03$ ) students.



# Results

Social media used to promote allied health careers,  $F(3, 255) = 4.94, p < .05, \eta^2 = .05$ .

Tukey's post hoc procedures indicated that Hispanic students ( $M = 1.04, SD = .12$ ) were exposed less to social media than Caucasian ( $M = 2.08, SD = 1.07$ ) and African American ( $M = 1.81, SD = 1.05$ ) students.

# Conclusions

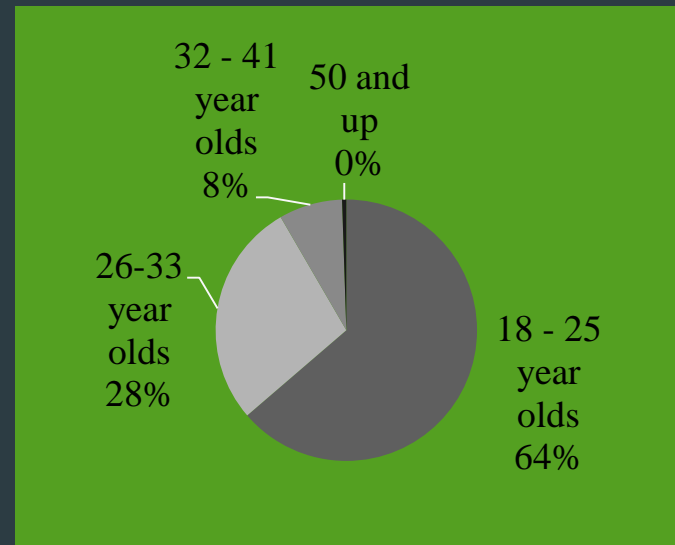
- ▶ URM status does predict exposure to allied health fields
  - ▶ An inequality exists
  - ▶ Partially supported
- ▶ URM status does not predict knowledge about allied health fields
  - ▶ An inequality does not exist
- ▶ Hispanic and African-American Students were less exposed to allied health through social media and HS health career course,  $p < .05$

# Implications

- ▶ Better understanding of minority students' exposure to allied health fields
- ▶ Provided indicators of needed exposure resources
- ▶ Provided a tool to use for surveying other students

# Limitations

- ▶ Results cannot be generalized
- ▶ Low number of URM students enrolled in the allied health programs
- ▶ Age of the students
- ▶ Current exposure to health programs
- ▶ Validity of tool



# Recommendations

- ▶ Survey returning adult students
- ▶ Replicate the study with high school students
- ▶ Comparison study with predominantly URM and non-URM high schools.
- ▶ A study looking at different variables amongst high school students i.e., private vs. public, urban vs. rural vs. suburban
- ▶ Qualitative study

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