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## Evaluating the Outcomes of a Health Career Summer Academy for Underserved Youth

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## BACKGROUND

- The Health Career Summer Academy (HCSA) is a week long program that introduces underserved students, grades 5-12, to different health careers and areas of study in the health sciences.
- Engaging students from underserved populations early, in middle school and high school, may help them better understand career options in healthcare (Adams & Price-Lea, 2004; Gordon & Copes, 2010).
- Students from underserved communities are generally less likely to attend college or complete a 4-year degree (Ng, Wolf-Wendel, & Lombardi, 2014).
- Out-of-school programs provide non-traditional learning experiences for students that can improve academic achievement, engagement in learning, and overall social development (Pittman, Irby, Yohalem, & Wilson-Ahlstrom, 2004).

## PURPOSE

- The purpose of this study was to determine whether a week-long summer academy increased characteristics of positive youth development (PYD), promoted transferrable life skills, and increased interest in college and/or health science careers.

## METHODS

- Design:** One-group pretest-posttest survey study.
- Setting:** During the 2017, 2018, and 2019 Health Career Summer Academy programs at West Chester University, Arcadia University, and Rosemont College, participants completed pretest and posttest surveys using the Qualtrics online survey platform.
- Participants:** Eighty-six youth participants (Table 1) in grades 5 through 12 from the greater Philadelphia area completed both pretest and posttest surveys. Participants ranged in age from 10-17 years old ( $M = 13.6$ ,  $SD = 1.7$ ).
- Instrumentation:** The Positive Youth Development Very Short Form (PYD-VSF; Geldhof et al., 2013) and parts of the Life Skills Transfer Survey (LSTS; Weiss et al., 2014) provided the primary measurement tools used in this study.
- Statistical Analysis:** Factor analysis and Wilcoxon signed-rank test using Stata statistical software program.

## RESULTS

- Factor analysis and Cronbach's alpha assessment confirmed the factor structure for the five Cs of PYD measured by the PYD-VSF (confidence, competence, character, caring, and connection), and the subscales of the LSTS (making healthy choices, appreciating diversity, getting help from others, and helping others).
- Using the Wilcoxon signed-rank test, positive, negative, and tie (zero) results were compared between pretest and posttest survey responses (Table 2;  $p < .05$ ).

Table 1: Participant Demographics

| Variable                       | 2017<br>n (%) | 2018<br>n (%) | 2019<br>n (%) | Total<br>n (%) |
|--------------------------------|---------------|---------------|---------------|----------------|
| <b>Summer Academy Attended</b> |               |               |               |                |
| West Chester University        | 34 (52%)      | 18 (28%)      | 13 (20%)      | 65 (76%)       |
| Arcadia University             | 8 (44%)       | 10 (56%)      | 0 (0%)        | 18 (21%)       |
| Rosemont College               | 3 (100%)      | 0 (0%)        | 0 (0%)        | 3 (3%)         |
| <b>Sex</b>                     |               |               |               |                |
| Male                           | 22 (61%)      | 8 (22%)       | 6 (17%)       | 36 (42%)       |
| Female                         | 23 (46%)      | 20 (40%)      | 7 (14%)       | 50 (58%)       |
| <b>Race</b>                    |               |               |               |                |
| White or Caucasian             | 8 (50%)       | 5 (31%)       | 3 (19%)       | 16 (19%)       |
| Black or African American      | 17 (44%)      | 17 (44%)      | 5 (12%)       | 39 (45%)       |
| Other                          | 11 (65%)      | 2 (12%)       | 4 (23%)       | 17 (20%)       |
| Multiracial                    | 9 (64%)       | 4 (29%)       | 1 (7%)        | 14 (16%)       |

Table 2: Wilcoxon Signed-Rank Test Results 2017-2018

| Variable                 | Sign       | n  | Sum Ranks | Pretest Mean | Posttest Mean | p-value |
|--------------------------|------------|----|-----------|--------------|---------------|---------|
| Making Healthy Choices   | post > pre | 34 | 1692.5    | 3.79         | 3.94          | 0.0129* |
|                          | post < pre | 19 | 798.5     |              |               |         |
|                          | post = pre | 20 | 210       |              |               |         |
| Appreciating Diversity   | post > pre | 35 | 1750.5    | 4.36         | 4.53          | 0.0020* |
|                          | post < pre | 14 | 650.5     |              |               |         |
|                          | post = pre | 24 | 300       |              |               |         |
| Getting Help from Others | post > pre | 40 | 1929.5    | 4.29         | 4.51          | 0.0002* |
|                          | post < pre | 14 | 581.5     |              |               |         |
|                          | post = pre | 19 | 190       |              |               |         |
| Helping Others           | post > pre | 37 | 1810      | 4.29         | 4.47          | 0.0017* |
|                          | post < pre | 16 | 681       |              |               |         |
|                          | post = pre | 20 | 210       |              |               |         |
| Competence               | post > pre | 10 | 586       | 3.62         | 3.55          | 0.6244  |
|                          | post < pre | 12 | 723       |              |               |         |
|                          | post = pre | 48 | 1176      |              |               |         |
| Confidence               | post > pre | 28 | 1435      | 3.72         | 3.76          | 0.0700  |
|                          | post < pre | 15 | 801       |              |               |         |
|                          | post = pre | 30 | 465       |              |               |         |
| Character                | post > pre | 28 | 1309      | 3.87         | 3.93          | 0.9180  |
|                          | post < pre | 30 | 1272      |              |               |         |
|                          | post = pre | 15 | 120       |              |               |         |
| Caring                   | post > pre | 24 | 1332      | 4.35         | 4.49          | 0.0364* |
|                          | post < pre | 11 | 628       |              |               |         |
|                          | post = pre | 38 | 741       |              |               |         |
| Connection               | post > pre | 25 | 1247.5    | 4.03         | 4.06          | 0.7380  |
|                          | post < pre | 23 | 1128.5    |              |               |         |
|                          | post = pre | 25 | 325       |              |               |         |

\* $p < .05$

## DISCUSSION

- The findings of this study suggest that the benefits of summer academic enrichment programs may extend beyond academics and positively influence students' behaviors related to:
  - Making Healthy Choices
  - Appreciating Diversity
  - Getting Help from Others
  - Helping Others
  - Caring
- "Caring" was the only variable from the five Cs of PYD that demonstrated a significant improvement. The short duration of the summer academy may have limited the program's impact on PYD.
- Discipline-specific summer academy programs may help to promote cultural diversity in higher educational institutions by increasing enrollment of minority and underserved students. In health sciences programs, this improvement could help lead to a more diverse healthcare workforce.

## CONCLUSIONS

- Youth participants in the week-long Health Career Summer Academy at West Chester University, Arcadia University, and Rosemont College demonstrated development of transferrable life skills following this summer academic enrichment program.
- Summer academy programs may be an effective tool for middle school and high school students to explore potential academic and career pathways.

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