

## Variation in Patient Satisfaction based on Clinician's Gender, Race, Age, and Degree

Elizabeth Lieb

Grant M. Greenberg M.D., M.H.S.A., M.A.

Melanie B. Johnson MPA

Follow this and additional works at: <https://scholarlyworks.lvhn.org/research-scholars>



Part of the [Health and Medical Administration Commons](#), and the [Sociology Commons](#)

---

This Poster is brought to you for free and open access by LVHN Scholarly Works. It has been accepted for inclusion in LVHN Scholarly Works by an authorized administrator. For more information, please contact [LibraryServices@lvhn.org](mailto:LibraryServices@lvhn.org).

# Variation in Patient Satisfaction Based on Clinician's Gender, Race, Age and Degree

Elizabeth Lieb, Melanie B. Johnson MPA, Grant M. Greenberg MD, MHSA, MA

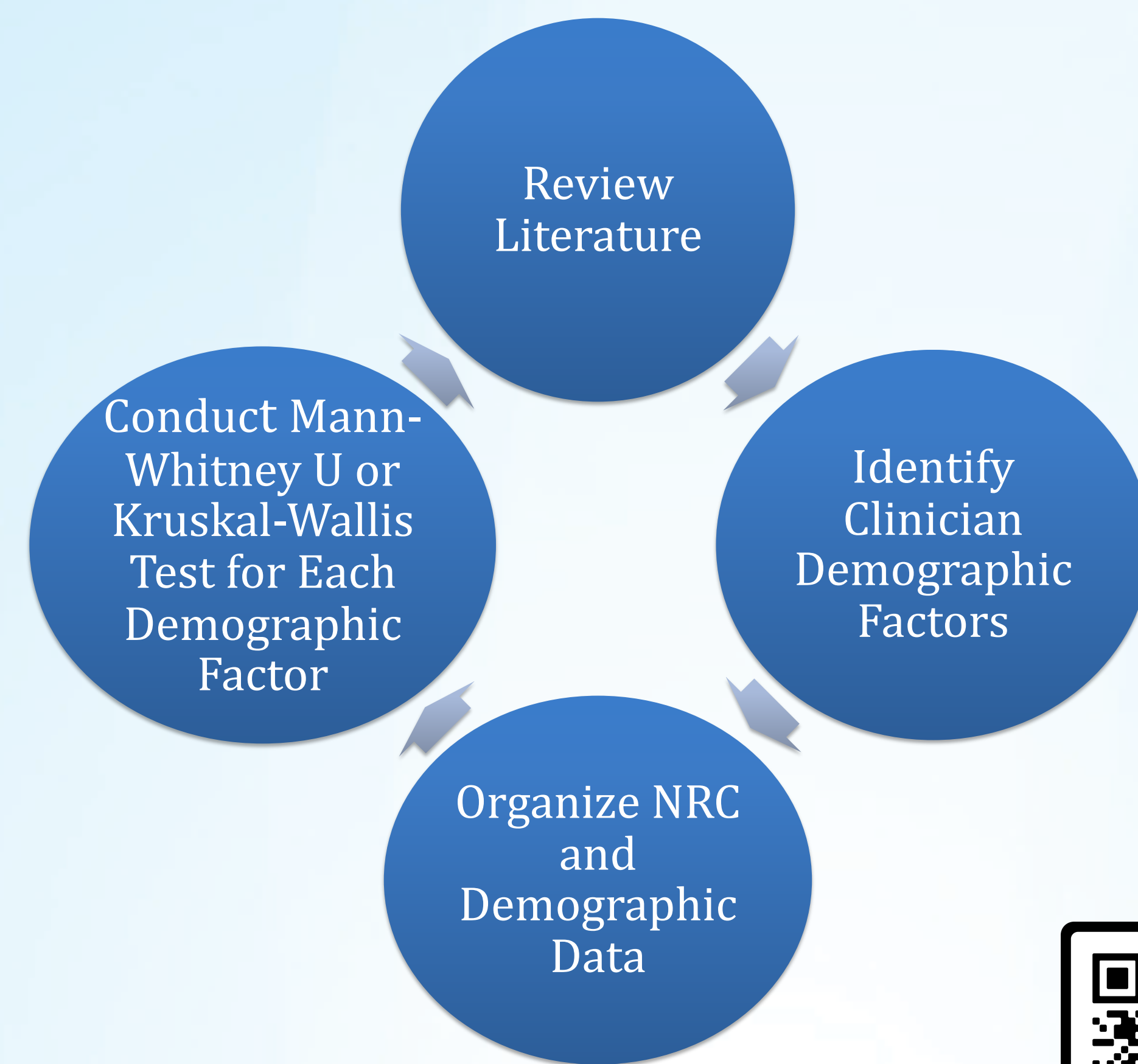
Department of Family Medicine

Lehigh Valley Health Network, Allentown, Pennsylvania

## Introduction & Objectives

- NRC (National Resource Corporation) Health collects Lehigh Valley Health Network (LVHN) consumer data through a standardized patient satisfaction survey.<sup>1</sup>
- LVHN uses the Net Promoter Score (NPS) from NRC data as one component of the Value Incentive Plan (VIP) compensation payment to clinicians.
- Previous studies show that implicit bias negatively impacts clinicians' patient satisfaction performance.<sup>2</sup>
- This project aims to evaluate NRC data from 140 clinicians within the LVHN Family Medicine Department for potential bias.

## Methods



SCAN ME

For more information, please scan the following QR code:

## Results

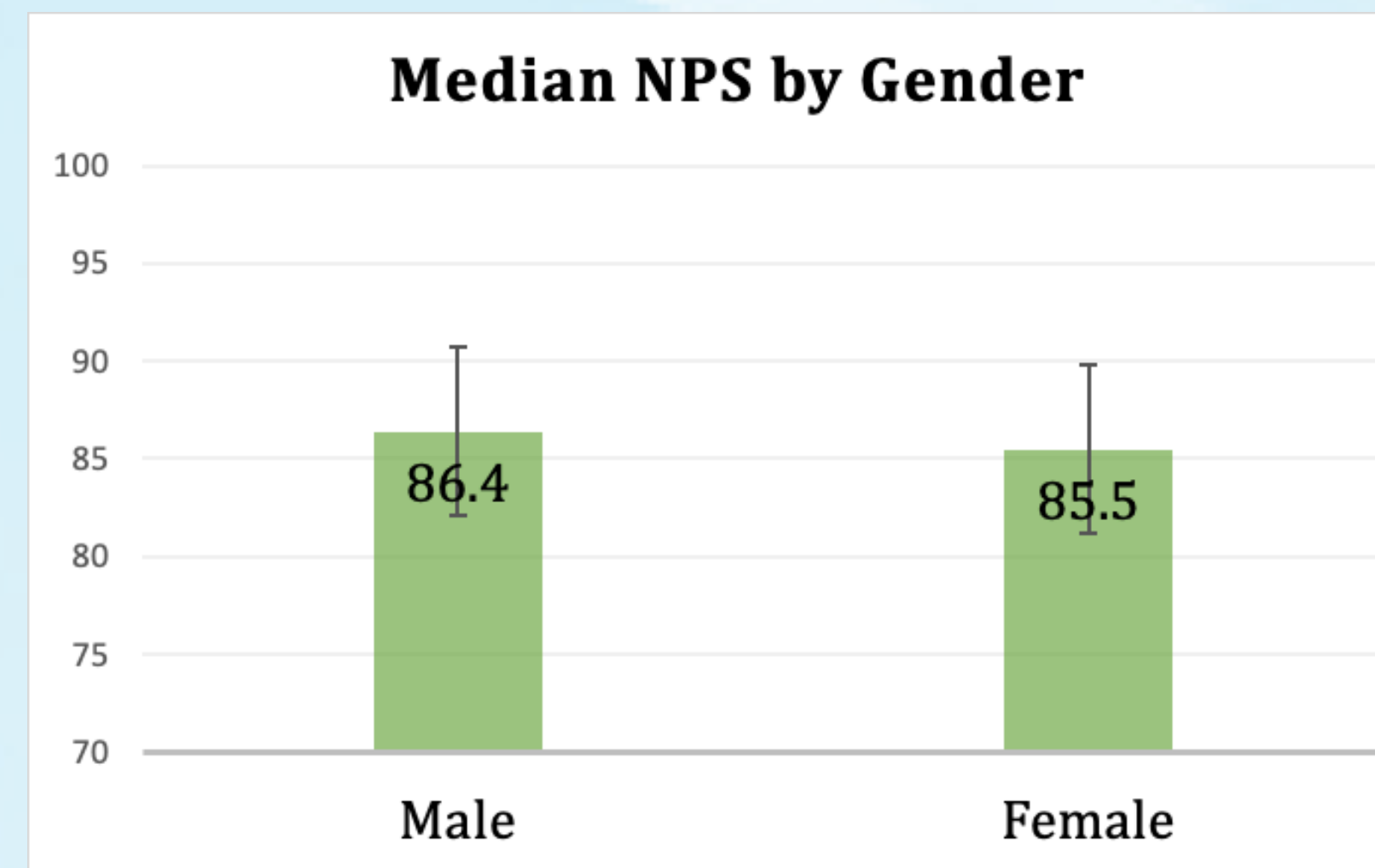


Figure 1: Median NPS by Gender Calculated Using Mann-Whitney U Test

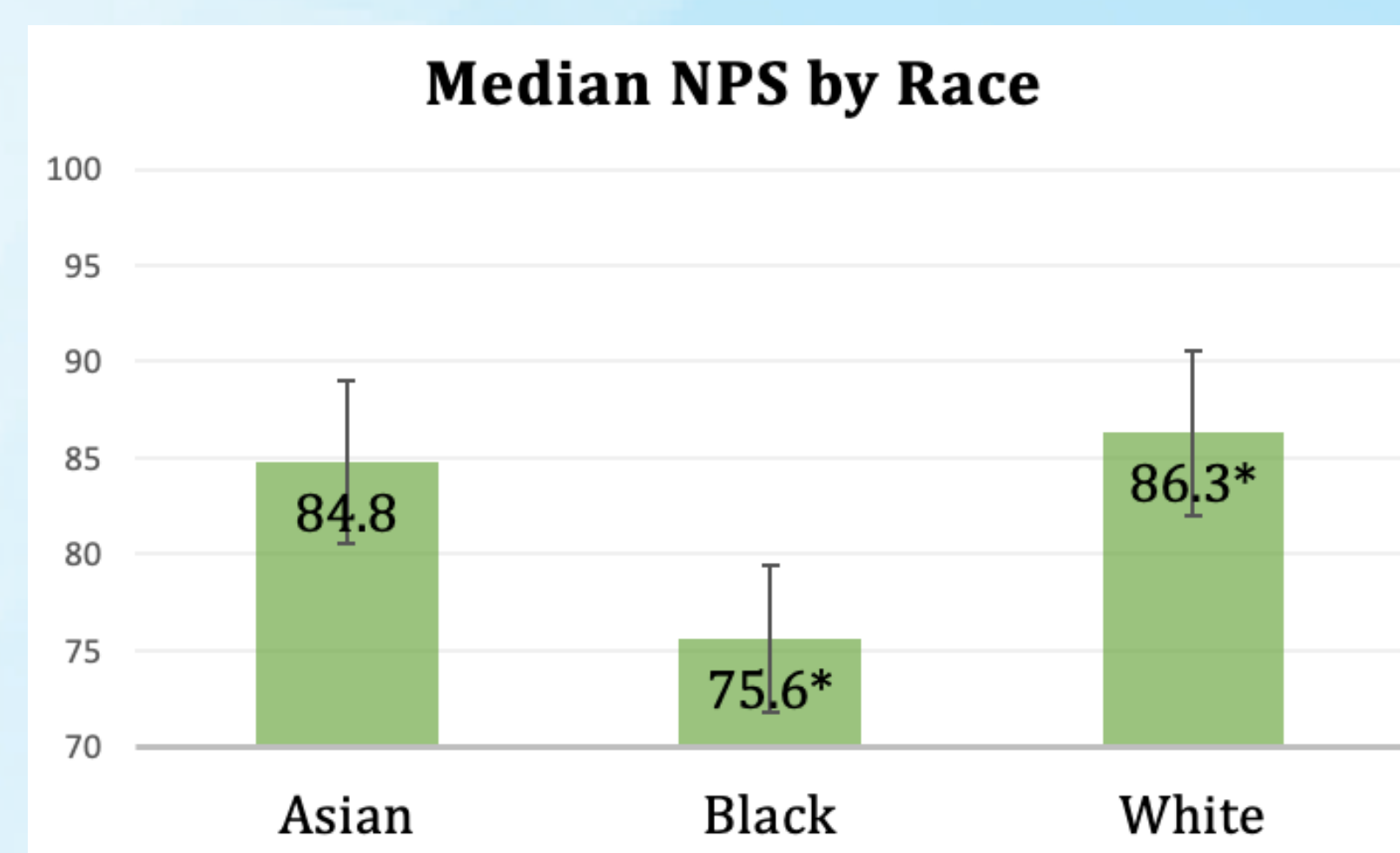


Figure 2: Median NPS by Race Calculated Using Kruskal-Wallis Test

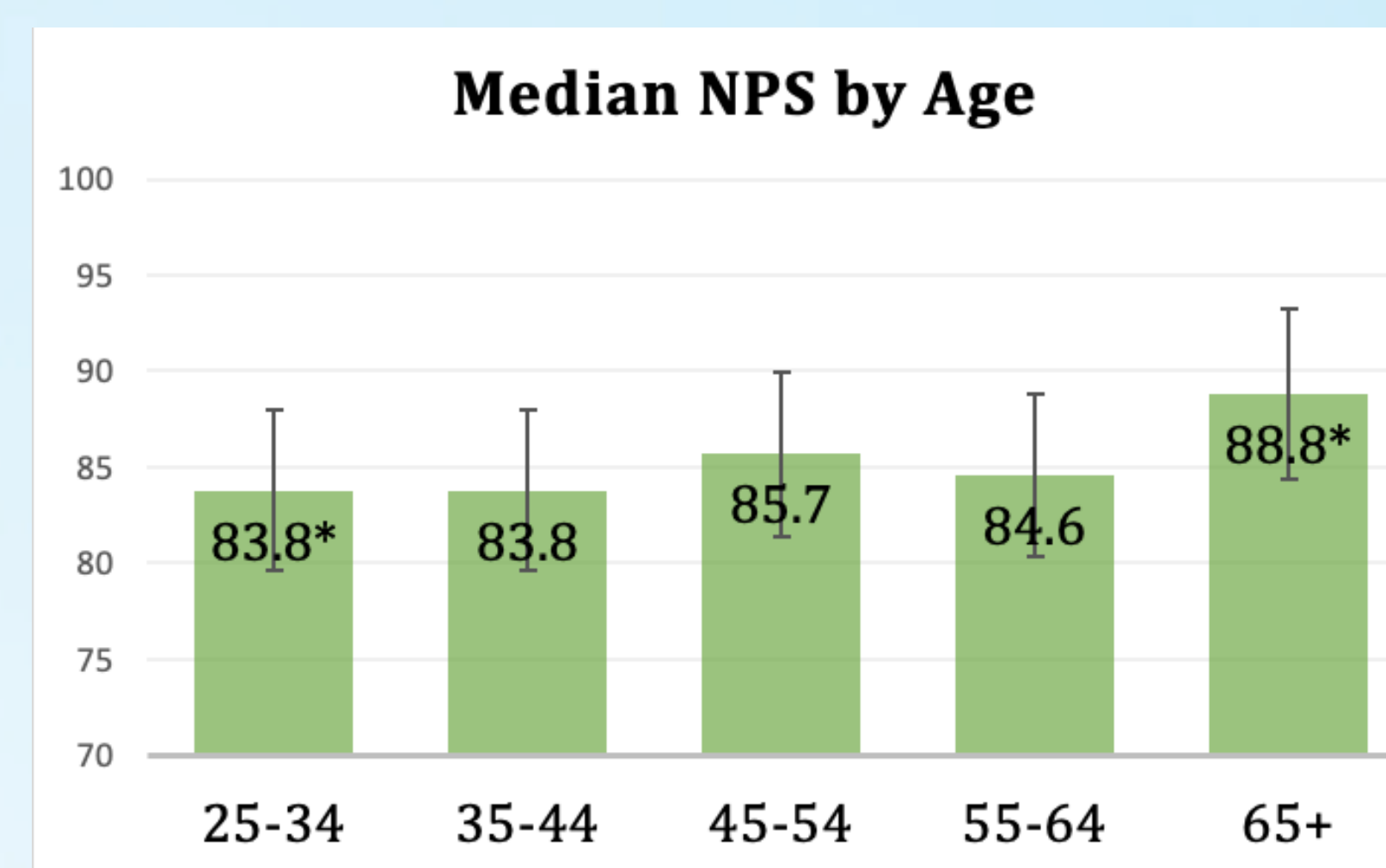


Figure 3: Median NPS by Age Calculated Using Kruskal-Wallis Test

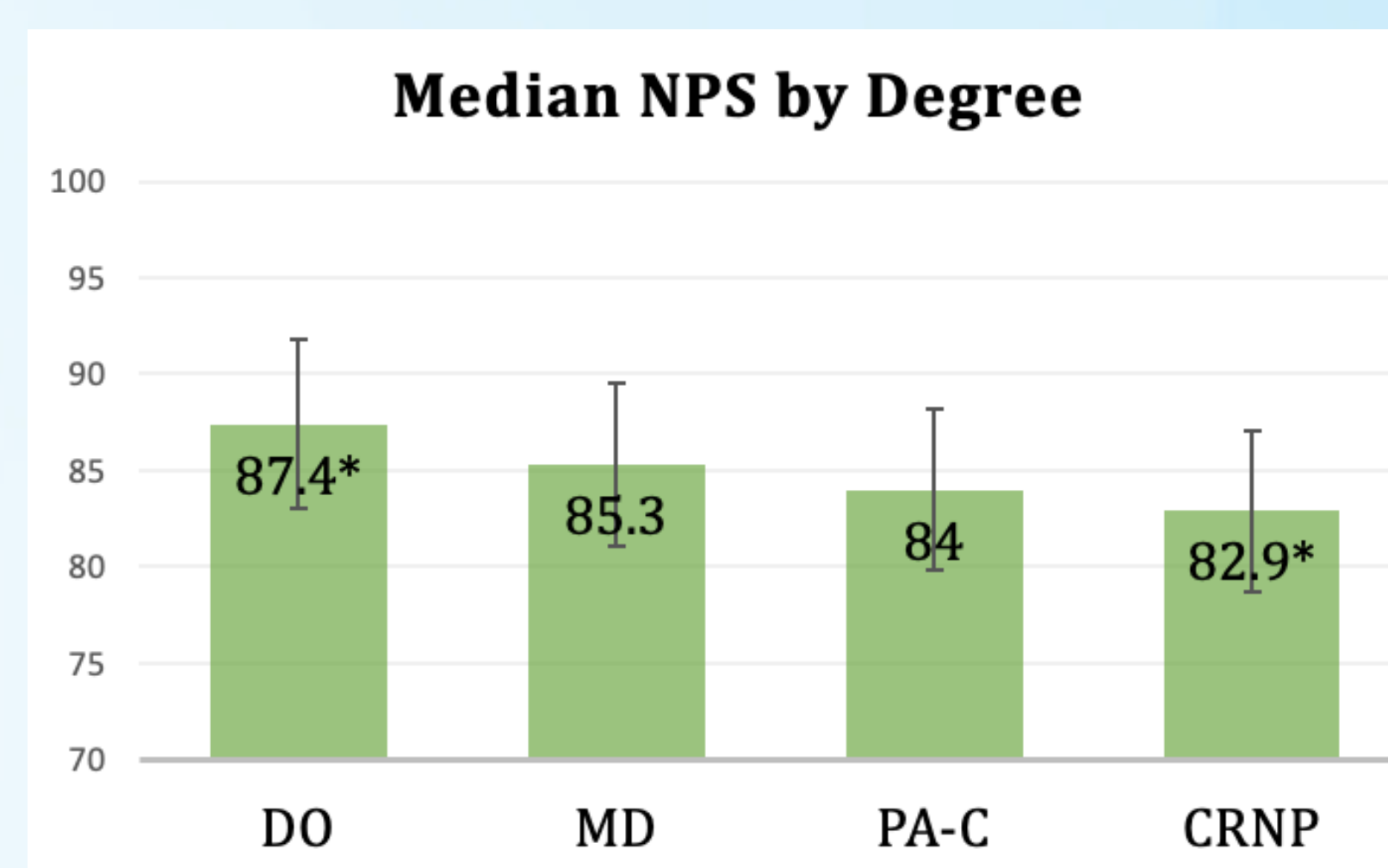


Figure 4: Median NPS by Degree Calculated Using Kruskal-Wallis Test

\*Contains a statistically detectable pairwise comparison calculated by Kruskal-Wallis test and Dunn's procedure with a Bonferroni correction for multiple comparisons

## Conclusions

- The distribution of NPS was not the same across categories of clinician's race, age, and degree. However, the distribution of NPS was the same across categories of gender.
- Non-white clinicians receive a lower NPS than white clinicians.
- Younger clinicians receive a lower NPS than older clinicians.
- Nurses and nurse practitioners receive a lower NPS than doctors.

## Future Directions

- Create an adjustment factor to standardize clinicians' scores across demographic categories.
- Develop a countermeasure for biases mitigation within LVHN, for both patients and clinicians.
- Evaluate the consistency of bias across networks to potentially advocate for large-scale change in discriminatory laws and federal policies.<sup>3</sup>

## Limitations

- Further research needs to be conducted while controlling for confounders, such as continuity of care and location of visit.
- The NRC dataset was limited, taken from July 2020 to April 2021.

References:  
 1. Lehigh Valley Health Network. "About Our Survey." (Available from: <https://www.lvhn.org/about-our-survey>). Accessed 17 June 2021.  
 2. Frederick M. Chen, George E. Fryer, Robert L. Phillips, Elisabeth Wilson, Donald E. Pathman. Patients' Beliefs About Racism, Preferences for Physician Race, and Satisfaction With Care. *The Annals of Family Medicine* Mar 2005, 3 (2) 138-143; DOI: 10.1370/afm.282.  
 Chen, J. G., Zou, B., & Shuster, J. (2017). Relationship Between Patient Satisfaction And Physician Characteristics. *Journal of patient experience*, 4(4), 177-184. (Available from: <https://doi.org/10.1177/237437351714483>). Accessed 10 June 2021.  
 Schmittl, J., Grumbach, K., Selby, J.V. et al. Effect of physician and patient gender concordance on patient satisfaction and preventive care practices. *J GEN INTERN MED* 15, 761-769 (2000). (Available from: <https://doi.org/10.1046/j.1525-1497.2000.91156.x>). Accessed 24 June 2021.  
 3. Kay Van Whey. Unequal Access to Healthcare: The More Things Change, the More They Stay the Same. *The National Law Review* Aug 2020, 11 (190). (Available from: <https://www.natlawreview.com/article/unequal-access-to-healthcare-more-things-change-more-things-stay-same>). Accessed 1 July 2021.  
 Alexander v. Sandoval. (n.d.). Oyez. (Available from: <https://www.oyez.org/cases/2000/95-1906>). 1 July 2021.