



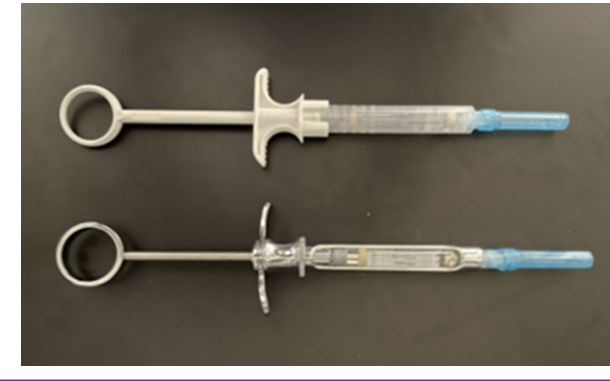
## INTRODUCTION

The 2nd-year dental hygiene students at NYU learn dental anesthesia and administration through an extensive Pain Management Lecture and Lab course. This includes administrations of local anesthesia with typodonts/mannequins, then on each other as live patients.



## OBJECTIVES

The purpose of this research is to evaluate dental hygiene student and faculty perspectives on disposable vs. traditional local anesthetic syringes.



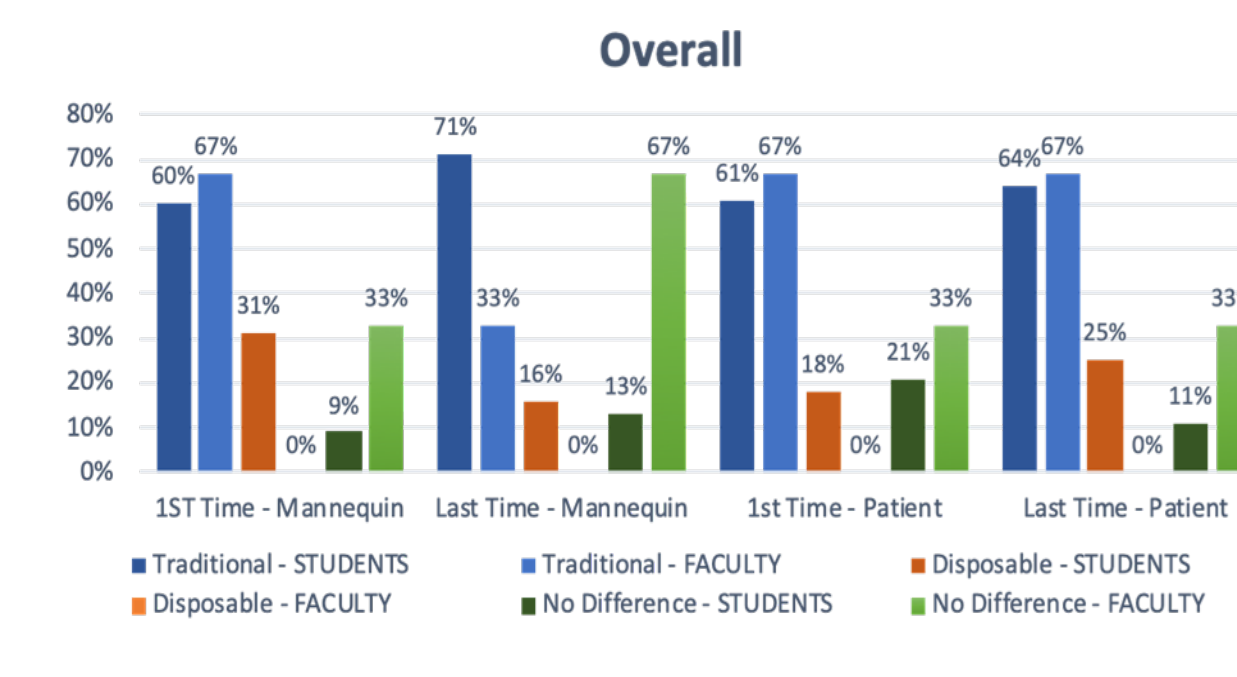
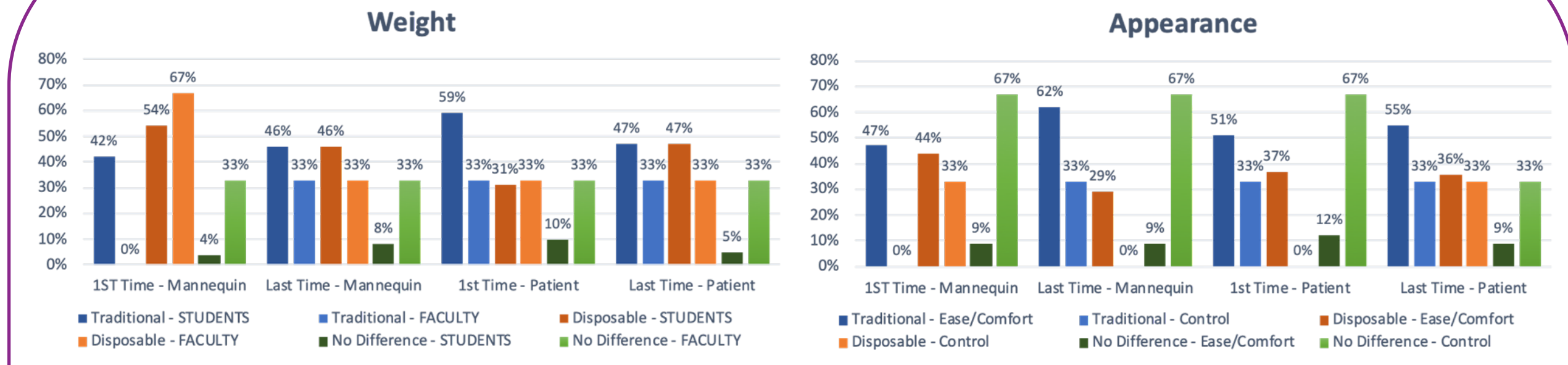
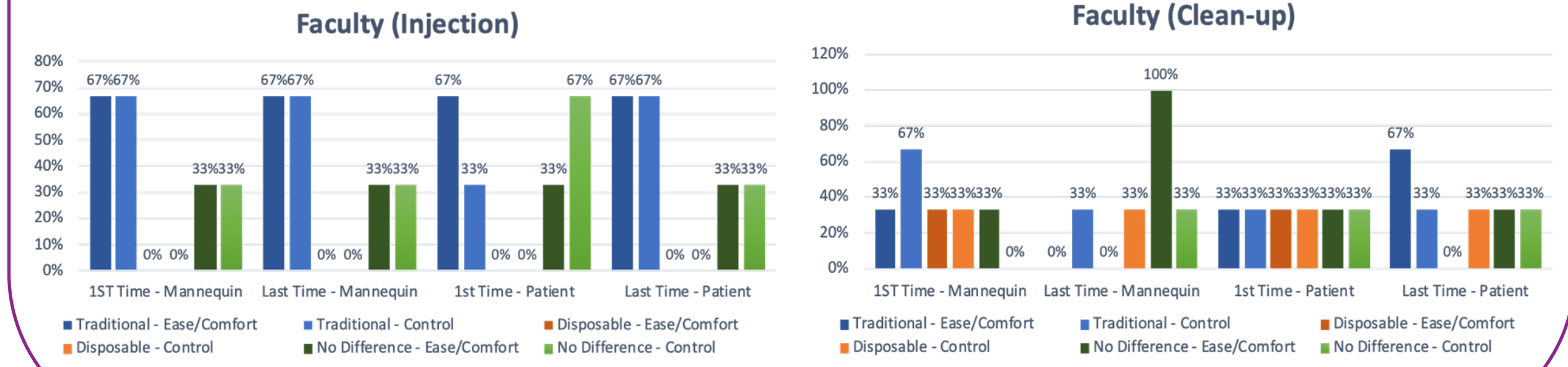
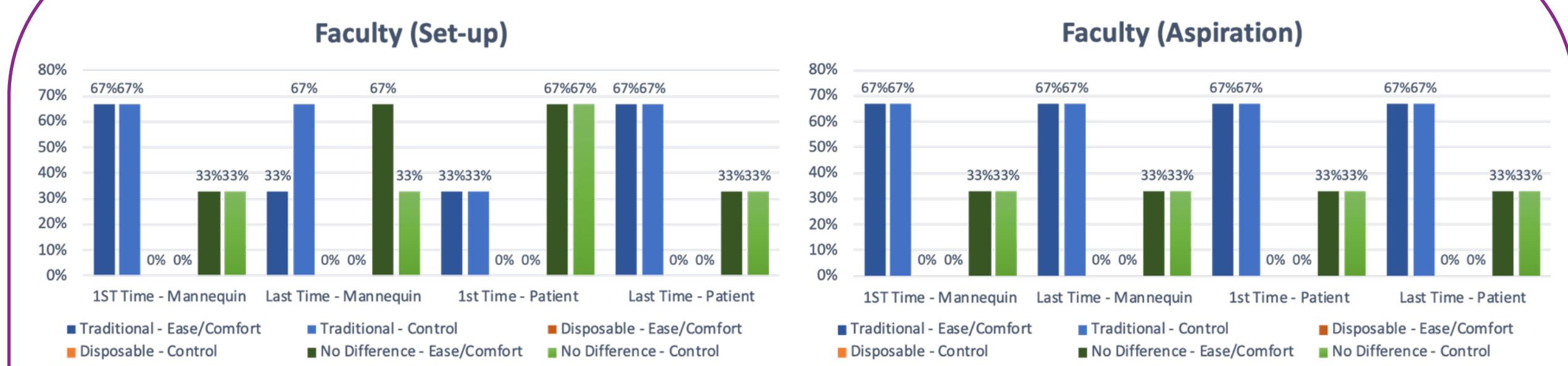
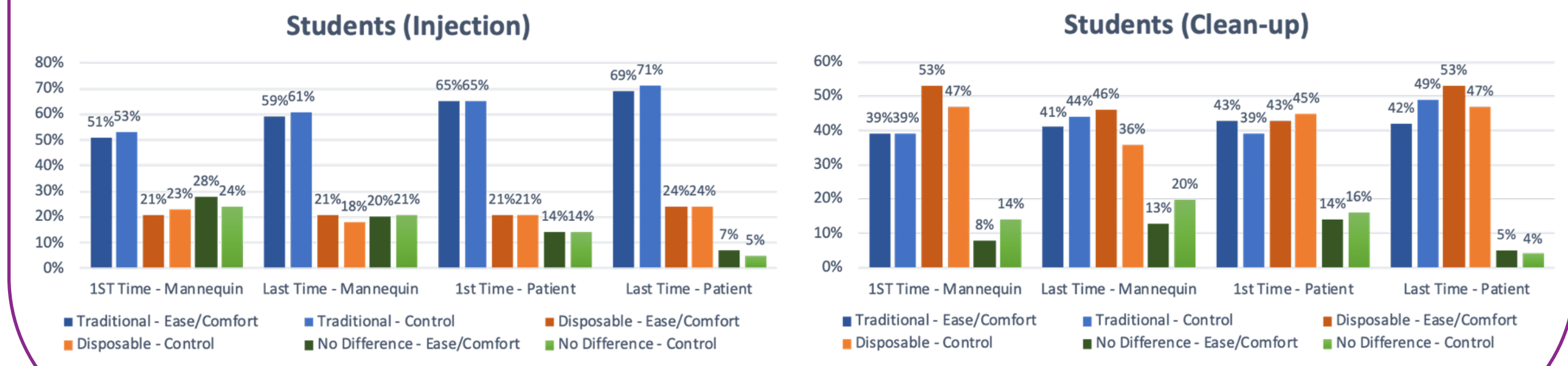
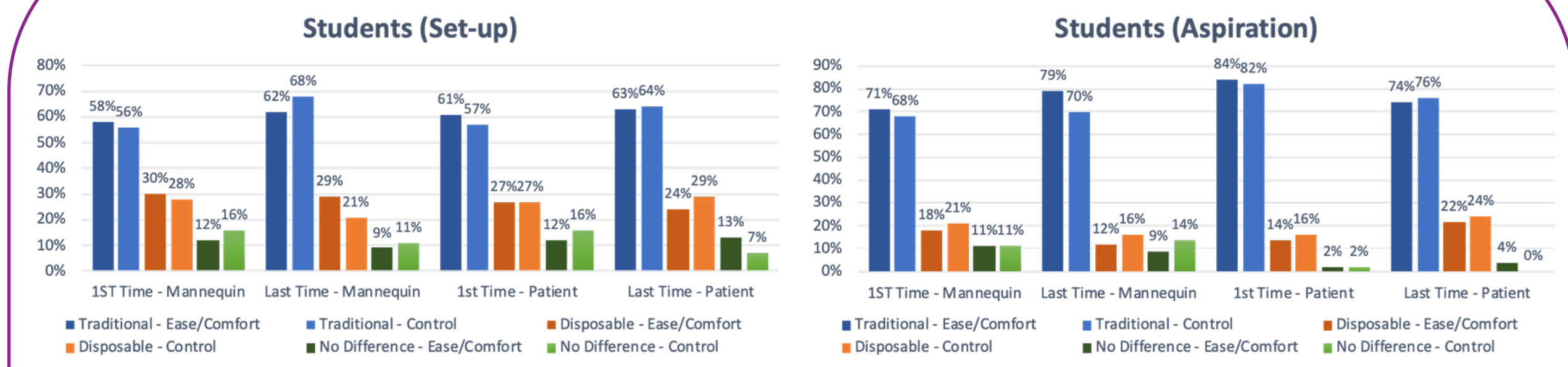
## METHODS & MATERIAL

Data was obtained from the participating dental hygiene students and faculty in this study via an anonymous in-person survey. The survey was distributed to the students and faculty at four different dates during the laboratory portion of their Pain Management course to determine if there were any changes to their opinion depending on the type or number of exposures. During the laboratory portion of Pain Management, students and faculty administered supraperiosteal injections in a laboratory/clinical setting. The faculty and students used both types of syringes and injection sites were evenly, but randomly divided between traditional and disposable syringes. Each student and faculty used both syringes during lab sessions on mannequins in a laboratory setting before they used them on a live patient. They were surveyed on their first exposure and their last exposure on a mannequin and again on their first exposure and last exposure on a live patient. The questionnaire asked about student and faculty perspectives on multiple factors: ease of use/comfort and control of apparatus during setup, aspiration, injection and clean-up, and if there were any preferences in weight, appearance, and overall.

## RESULTS

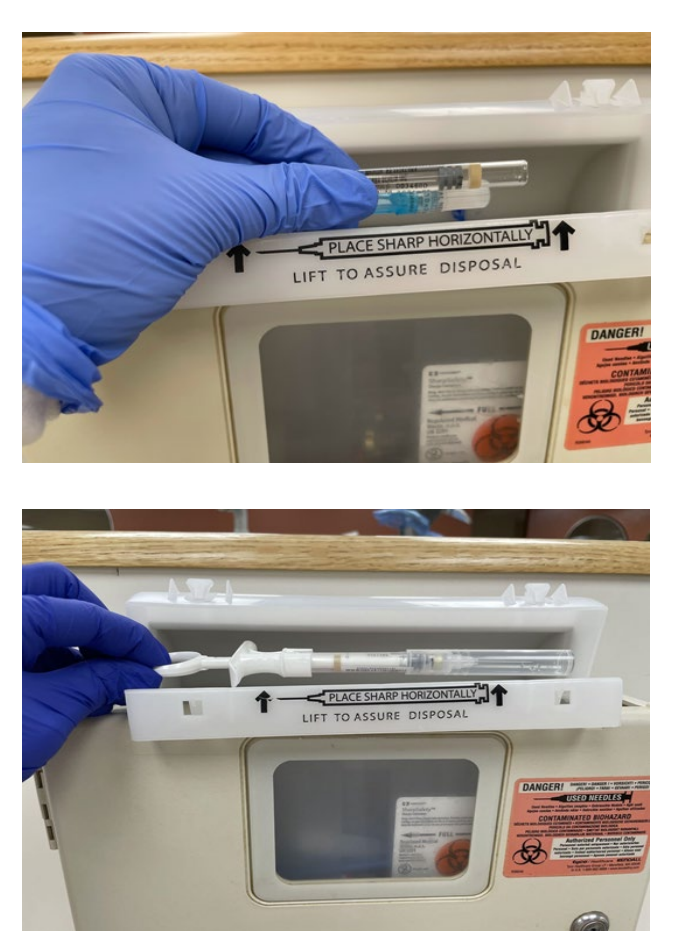
61 students and three clinical faculty participated in the study. Students and faculty preferred the traditional syringe over the disposable syringe for ease of use/comfort and control, with the exception of clean-up. There was a slightly higher preference in the ease of use/comfort among students for the disposable syringes during clean-up at 53% compared to 39% - 42% for traditional metal. However, there was a slight preference for the traditional metal syringe when it related to the control of apparatus with clean-up that grew from 39% to 49% and disposable remaining at 47%. By the final lab session, faculty were evenly split with one having preference for metal, one for disposable, and one indicating no difference between the two when rating ease of use/comfort and control with clean-up. Preferences in weight were relatively the same for both types of syringes. Students preferred the appearance of the traditional metal syringe, while the faculty had more of a preference for the disposable syringe. Overall, both students and faculty preferred the traditional over disposable syringe at 60%-67%.

## RESULTS



## CONCLUSION

Although students were novice users of local anesthesia syringes, they shared a strong preference for traditional metal syringes over disposable syringes as did experienced faculty in nearly all factors surveyed. Future studies are needed to determine if the safety benefits of the disposable syringe outweigh the students and faculty's perceived preference for traditional syringes. Environmental impact should also be considered.



## REFERENCES

- J. M. Zakrzewska J, Boon EC. Use of safety dental syringes in British and Irish dental schools, *British Dental Journal* VOLUME 195 NO. 4 2003.
- Centers for Disease Control and Prevention. National Occupational Research Agenda. Sharps Injuries. Available at: <https://www.cdc.gov/nora/councils/hcsa/stopsticks/sharpsinjuries.html>. Accessed April 21, 2023.
- Gaballah K, Warbuton D, Sihmbly K, Renton T. Needle stick injuries among dental students: risk factors and recommendations for prevention, *Libyan Journal of Medicine*. 2012 7:1, DOI: [10.3402/ljm.v7i0.17507](https://doi.org/10.3402/ljm.v7i0.17507)