- 360° visualization
- No time constraints
- Contamination reduced
- Adequate bond strength
- Reduced chair time for doctor and patient

Costs of indirect bonding

- Additional steps
- Tray fabrication/material cost

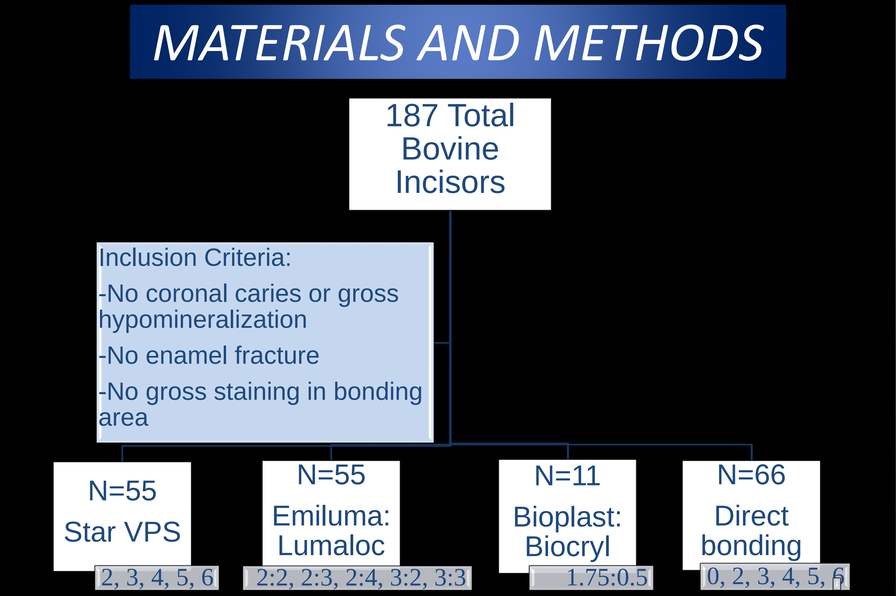
OBJECTIVE & HYPOTHESIS

The aim of this laboratory study was to determine the Shear Bond Strength (SBS) of orthodontic brackets, when attached to teeth using different methods of bonding. Direct bonding was compared to 3 different methods of indirect bonding at different thicknesses.

Null Hypothesis: Varying the thickness and material of the transfer tray will have no impact on SBS.

Specific Hypothesis: Thickness and material of the transfer tray will impact SBS. Specifically, a thicker tray, and a more opaque tray will yield lower SBS.

MATERIALS AND METHODS



All brackets were debonded with the Instron Universal Testing machine and shear bond strength was recorded for each bracket, along with type of bond failure.

Results

Risk of too high bond strength

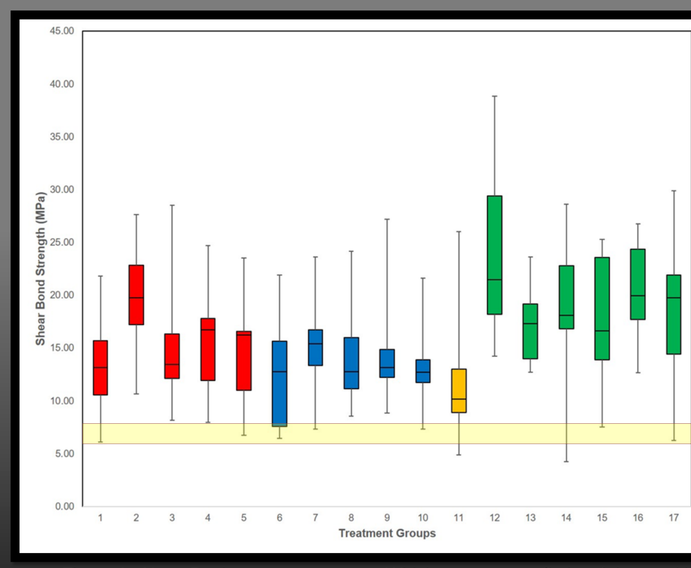


Figure 1: Note. Dash represents mean. Whisker represents limits of data and b
represents 25th to 75th percentile. Yellow box represents Ideal SBS.

[1]Uniformed Services University of the Health Sciences
[2]Tri-Service Orthodontic Residency Program, Air Force Postgraduate Dental School, Joint Base San Antonio-Lackland Air Force Base, Texas
[3]Naval Medical Research Unit, Joint Base San Antonio, Fort Sam Houston, Texas Air Force Base, Texas