

# Nonverbal communication between dental student providers and Spanish speaking patients: A case study



## INTRODUCTION

- The literature demonstrates that provider non-verbal communication (NVC) plays a major role in the clinical setting and is especially important when a language difference is present
- In a subset of data from a pilot study, three providers with varying degrees of Spanish fluency exhibited distinct differences in their NVC scores while treating their monolingual Spanish-speaking patients
- This case analysis highlights that the presence of a language difference in the dental clinic negatively influences providers' NVC
- Convergence strategies can be used to mediate communication barriers
- We aim to promote a greater understanding of NVC in the dental clinic setting to overcome communication gaps and, in turn, inform dental education

## METHODS & MATERIAL

- The case analysis focused on a subset of **three providers** (A, B and C) from a larger observational, retrospective, non-interventional and non-randomized pilot study
  - The pilot study aimed to assess provider NVC in the patient-provider interaction using clinic videos from the Fifth Floor Vanderbilt Clinic (VC5)
  - Recruitment was limited to **new patients** presenting for intake appointments to avoid any confounding variables
- VC5 video footage** was analyzed using an **NVC grading sheet**, scored on a scale from -4 (unfavorable) to +5 (favorable)
- The nonverbal behaviors were adapted from the work of Dr. Albert Mehrabian, categorizing NVC as either *immediacy* (eye contact, body posture and position) or *responsivity* (head nods and hand gestures)
  - Grading for eye contact was adapted from The Preferred Gaze Duration (PGD) principle, which states that gazes lasting from 2.9-4.6 seconds during interaction are most meaningful
  - Behaviors for which a negative counterpart did not exist were graded using a **frequency construct**, an approach that grades behaviors on whether or not they occur
- Videos were scored individually and to ensure consistency and interrater reliability (IRR), each researcher graded the same nonverbal behavior for all the videos
- All three providers received varying NVC scores
- Providers' NVC scores were compared with their level of Spanish fluency determined through their degree of usage of a telephonic interpreter

## RESULTS

- The use of more favorable NVC was consistent in providers who either shared the same language or used convergence techniques with their patients
- Provider A** (bilingual) displayed the most favorable nonverbal behaviors and illustrates that the ability to communicate verbally influences NVC
- Provider B** (English speaker, partial interpreter use) scored higher on the NVC grading than **Provider C** (English speaker, full interpreter use)
  - Provider B** adopted convergence techniques to bridge the communication gap
- The degree of interpreter usage negatively influences *responsivity* more than *immediacy*
  - Providers' B and C** each received deficient scores in one *responsivity* subcategory - hand gestures and head nods, respectively
- Convergence techniques can positively modify nonverbal behaviors in the *immediacy* category
  - Provider B's immediacy** score was favorable across all three subcategories as compared to **Provider C**, who was deficient in eye contact

Table 1.

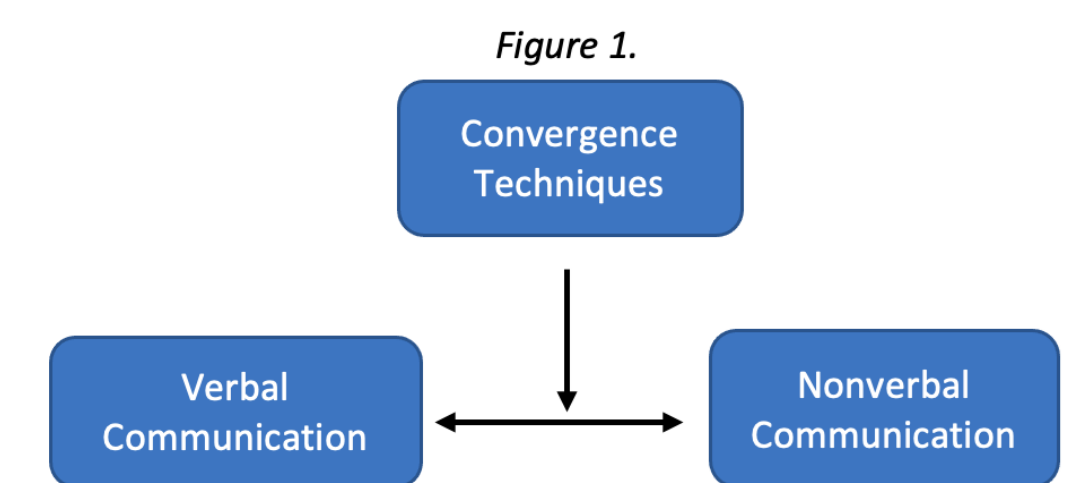
Provider Scoring Criteria
<b>Immediacy</b>
<b>Posture</b>
<ul style="list-style-type: none"> <li>Sitting = + 1</li> <li>Infrequent Posture = 0</li> <li>Standing = - 1</li> </ul>
<b>Position</b>
<ul style="list-style-type: none"> <li>Facing Patient = + 1</li> <li>Facing Away from Patient = - 1</li> </ul>
<b>Eye Contact</b>
<ul style="list-style-type: none"> <li>Eye contact for 2- 5 second intervals 6+ times = +1</li> <li>Eye contact for 2 - 5 second intervals 3-5 times = 0</li> <li>Eye contact for 2-5 second intervals &lt; 2 times = -1</li> </ul>
<b>Responsivity</b>
<b>Nods</b>
<ul style="list-style-type: none"> <li>Head Nods = + 1</li> <li>No Nods = 0</li> </ul>
<b>Hand Gestures</b>
<ul style="list-style-type: none"> <li>Hand Gesticulation = + 1</li> <li>Absence of Gestures = 0</li> <li>Crossing arms = -1</li> </ul>

Table 2.

Provider	Provider Scoring
<b>Provider A</b> Bilingual Spanish speaker with no interpreter	<b>Immediacy</b> <ul style="list-style-type: none"> <li>Posture: +1</li> <li>Position: +1</li> <li>Eye contact: +1</li> </ul> <b>Responsivity</b> <ul style="list-style-type: none"> <li>Nods: +1</li> <li>Hand gestures: +1</li> </ul> <b>Total = 5</b>
<b>Provider B</b> Spanish speaker with partially used interpreter	<b>Immediacy</b> <ul style="list-style-type: none"> <li>Posture: +1</li> <li>Position: +1</li> <li>Eye contact: +1</li> </ul> <b>Responsivity</b> <ul style="list-style-type: none"> <li>Nods: +1</li> <li>Hand gestures: 0</li> </ul> <b>Total = 4</b>
<b>Provider C</b> No Spanish, interpreter	<b>Immediacy</b> <ul style="list-style-type: none"> <li>Posture: +1</li> <li>Position: +1</li> <li>Eye contact: 0</li> </ul> <b>Responsivity:</b> <ul style="list-style-type: none"> <li>Nods: 0</li> <li>Hand gestures: +1</li> </ul> <b>Total = 3</b>

## DISCUSSION & CONCLUSION

- The case analysis highlights the relationship between convergence techniques and communication barriers as well as raises awareness regarding NVC in the context of utilizing a healthcare interpreter
- Providers' NVC scores seemed to be associated with their Spanish-speaking capabilities
- There is a conceivable interconnection between nonverbal behaviors, verbal behaviors, and convergence techniques
- The ability to communicate verbally can directly influence the ability to effectively communicate nonverbally and vice versa
  - Provider B** serves as an example for how to incorporate convergence techniques when treating a monolingual patient as a non-native speaker
- Modifications for future studies include obtaining provider language fluency information rather than relying on telephonic interpreter usage as a surrogate, diversifying the languages studied and increasing the provider sample size
- We seek to set a framework for future studies, which will expand on the findings from this case analysis, guide dental education, and ultimately promote a greater understanding of NVC in the dental clinic setting to overcome communication gaps



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