Patient Experience Diagnosis: Using Telemed Simulation to Assess Health Care Provider Verbal and Nonverbal Communication Issues to Prescribe Potential Interventions

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ABSTRACT

Patient experience contributes to health outcomes, and a host of healthcare organization success factors, including profitability. Often applied and academic analysis of patient experience applies macro-level approaches to defining issues and suggesting improvements. Guided by the theoretical framework of provider-patient communication during telemedicine, this study used a simulation to measure impacts of provider behaviors that might be improved through communication training to positively impact outcomes on both sides of patient care. The study employed between-subject experimental design to investigate impacts of provider verbal and nonverbal communication on patient satisfaction during telemedicine consultations. Participants, randomly assigned to one of eight experimental conditions, watched a recorded telemedicine “consultation” with either a male or female provider that displayed either high- or low-immediacy nonverbal cues. Participants imagined being the patient and completed a survey regarding perceptions of provider communication and evaluation of the experience. Results suggest a healthcare provider’s verbal and nonverbal communication represents a significant predictor of patient satisfaction, even during telemedicine. The findings provide empirical evidence for Miller’s model and point to the importance and potential of improving providers’ verbal and nonverbal communication skills through communication training on specific interpersonal skills.

Keywords: Patient experience, Telemedicine, Provider-patient communication, Nonverbal immediacy

1. Introduction

This study considers a specific kind of patient touchpoint: the telemedicine provider consultation, acknowledging that in any patient-provider interaction, both parties retain vested interests in that experience being positive. As telemedicine continued its unprecedented increase during and immediately after the pandemic, improving patience experience within telemedicine becomes imperative. However, much of the knowledge about how to improve patient healthcare experience took place through in-person appointments. Additionally, much of the data used by organizations to manage positive change in patient experience leans heavily on lagging data and operational solutions. Therefore, the purpose of this research is to examine the impact of telemedicine providers’ verbal and nonverbal behaviors on patient experience through a simulation, offering the prospect of provider training to ultimately improve patient experience and health outcomes.

This study follows Miller’s\textsuperscript{1} theoretical model which specifies the direct impact of provider’s verbal and
nonverbal communication on patient health outcome during telemedicine. Specifically, we focus on how providers’ verbal and nonverbal communication during a simulated audiovisual telemedicine appointment influences patient satisfaction, which is a part of patient health outcome, according to Miller. This premise also assumes that the communication cues studied in this context will likely represent a somewhat limited impact compared to perceptions during an in-person consultation.

2. Background

According to the 2022 PX Pulse Report from The Beryl Institute, the importance to people of having a “good experience as a patient” remained steady through the pandemic at around 95% in quarterly panels of 1000 representative US patients each from December 2019-January 2022. The report attributes that to a number of other steady factors ranked in the survey, led by “My health and wellbeing are important to me”, but followed closely by three provider specific aspects: physical needs being taken seriously; good experience leads to better outcomes; and the desire to be treated with respect.

In addition to the value to patients, healthcare consulting firm Press Ganey noted in a 2023 blog that Star Ratings of providers and organizations (used to set reimbursements from insurers) were historically based on clinical care and health outcomes. The post details that patient experience represents 34% of a health plan’s rating based on scores from the Consumer Assessment of Healthcare Providers and Systems (CAHPS) survey because: “happy engaged members are more willing to get preventive care, visit their healthcare provider, self-manage chronic illnesses, take medications as prescribed, and stay enrolled in the health plan” The post goes on to detail examples of how improvement of as little as half a point on the Star rating scale can translate into millions more dollars in reimbursement for delivering the same care. The blogger also notes that identification of “key drivers” of patient experience, like provider interactions, represents a critical use of internal data on patient experience.

2.1. Changing perceptions of telemedicine

Prior to the COVID-19 pandemic, views of telemedicine remained generally mixed as: being convenient but costly (i.e., lack of insurance coverage); both patients and providers reported varying degrees of discomfort with technology, which contributed to the slow development of telemedicine and low trial rates as recently as 2019. By late 2020, trial rates had increased to about a third of U.S. citizens. Much of that increased use of telemedicine was driven by the pandemic. One study of over 400 participants with telemedicine experience prior to or during COVID-19 showed relative satisfaction with past or recent experience.

Another study showed the global pandemic increased telehealth visits in the U.S. about 50% across 75,000 weekly encounters in the first quarter of 2020 compared to the same period in 2019. Most of the increase took place during the last three weeks of March 2020.

Medical practitioners, organizations, and policy makers predicted and advocated for global telemedicine expansion not only during the COVID-19 pandemic, but afterward. The certainty of telemedicine expansion in the health care industry contrasts patients’ uncertainty about telemedicine quality, suggesting health care providers improve the quality of telemedicine overall. Although telehealth visits began declining in January-March 2021 as new COVID-19 cases slacked off, the volume of telehealth visits in March 2021 alone remained approximately 10 times more than the same period in 2020. A 2022 Medical Group Management Association survey showed that over 70% of 572 U.S. medical practitioners polled expect either an increase or no change in telemedicine demand among patients in the year of 2023.

2.2. Context for telehealth simulation

Hospitals and clinics in the U.S. commonly used telemedicine prior to the pandemic, but the rapid demand for contact-less service due to COVID-19, and anticipated expansion of non-essential medical appointments post-pandemic, pressured healthcare institutions to address the quality of telemedicine practice. In practice, Bohmer et al found that during first months of the pandemic patients showed statistically significant increase in “likelihood to recommend” provider after telehealth than in-person during COVID-19. But it appeared that in comparison to one another, before and during the early pandemic, no significant differences between telehealth and in-person on the central Star scale and Net Promoter Score (NPS) rating of “likelihood to recommend.”

For this study, these factors suggested that a significant number of potential study participants would likely have experience with telemedicine consultations, allowing a fresh window into an otherwise cloudy arena. By simulating a patient/provider
experience using videos that closely mimic telemedicine consultations, participants could easily imagine themselves as patient.

This study uses that framing to focus on how providers’ verbal and nonverbal communication during a simulated audiovisual telemedicine appointment specifically influences patient experience and ultimately patient satisfaction. This premise also assumes that the communication cues studied in this context will likely represent a somewhat limited impact compared to perceptions during an in-person consultation.

2.3. Provider verbal and nonverbal immediacy communication

Most research conducted on provider communication with patients employs the context of in-person, face-to-face appointments rather than through remote technology. Evans argued that relying on technology depersonalizes patients and providers, nibbling away at the humanistic elements central to relationship building between the two parties. Agha et al. noted that telemedicine is fundamentally different from in-person appointments due to physical separation and decreased nonverbal communication, which could limit provider-patient communication and impact patient outcomes negatively.

Although telemedicine differs from in-person appointments, building patient relationships remains the same for providers during telemedicine. Miller proposed a theoretical framework of provider-patient communication during telemedicine which explained providers’ verbal and nonverbal communication serve instrumental, affective, and social purposes during telemedicine, mirroring in-person provider-patient communication. To achieve this, providers need to engage in patient-centered communication to fulfill both task-based and emotional functions. Bartlett Ellis et al. stated that provider’s verbal and nonverbal communication which aim to convey closeness and warmth are considered as immediacy behaviors, central to provider’s patient-centered communication. Beck et al. mapped out domains of provider-patient nonverbal affective communication to achieve nonverbal immediacy such as in vocal intonation, proximity, position and movement of head and body. Similarly, Bartlett Ellis et al. agreed that eye contact, gestures,

Verbal communication might not be severely affected using remote technology, while nonverbal immediacy behaviors might be. For example, when engaging in virtual audiovisual interactions during telemedicine, providers’ nonverbal communication is limited by physical barriers that establish proximity with patients through touching or body movement. Although prior research leans toward convergence regarding impact of verbal immediacy in provider-patient communication between telemedicine and in-person appointments, less clarity exists on the extent to which providers’ nonverbal behaviors affect patient outcomes during telemedicine. Beck et al. mapped out domains of provider-patient nonverbal affective communication to achieve nonverbal immediacy such as in vocal intonation, proximity, position and movement of head and body. Similarly, Bartlett Ellis et al. agreed that eye contact, gestures,
tone of voice, facial expression, proximity, and touch represent essential aspects of nonverbal immediacy behaviors. While these nonverbal behaviors are observed during in-person appointments, it becomes an empirical question whether and how they apply during telemedicine. Gordon et al. found some telemedicine patients felt neglected during the visit and speculated the reason as a lack of eye contact from providers, since over half of the emotion of providers and patients during virtual appointments was expressed through their eye contact, facial expression, and upper body posture. This suggests further empirical evidence be gathered regarding specific nonverbal cues count as providers’ nonverbal immediacy during telemedicine and its impact on patient outcome, leading to:

**H2a.** Providers who employ direct eye contact, regular head movement, positive facial expression, calming intonation, and leaning-in posture during telemedicine will be considered as high immediacy nonverbal communication than those who do not.

**H2b.** Providers’ nonverbal immediacy communication behaviors during telemedicine will be positively associated with patient satisfaction.

During the pandemic, health care providers consistently wore surgical face masks during in-person visits, even for non-COVID-19-related appointments, in contrast to appointments prior to the pandemic. Face masks cover one’s mouth and nose, which could impair patient ability to detect provider facial expressions. Although optional during telemedicine, mask wearing can be considered another provider characteristic during telemedicine. Little research has been conducted to examine whether wearing mask would increase patients’ difficulty to detect providers’ nonverbal communication or has any negative impacts on provider-patient communication and patient outcome. This research considers:

**RQ:** Will providers’ mask wearing during telemedicine affect patients’ perceptions of providers’ verbal and nonverbal communication and patient satisfaction?

### 4. Method

#### 4.1. Design

This study employed a 2 (provider’s high- vs. low-nonverbal immediacy) x 2 (male vs. female provider) x 2 (provider wearing mask vs. not wearing mask) between-subject factorial design, resulting in eight experimental conditions and each participant only experiences one condition of the study. The choice of design is to compare the impacts of such key variables as provider’s level of nonverbal immediacy, provider’s gender, and provider’s wearing mask or not on patient experience. The study received the IRB approval from the authors’ affiliated institution.

#### 4.1.1. Participants

A total of 389 participants ($M_{age} = 40.03, \ SD = 14.38, \ range = 18–82$) were included in the final analysis. While gender split evenly, participant ethnicity included: 72% European American; 14% African American; 5% Hispanic/Latina American; and 4% Asian American. About 25% of participants had a four-year bachelor’s degree, followed by 24% received a high school diploma. The median annual household income was $50, 000-59,999.

#### 4.2. Stimulus material and manipulation check

Due to the difficulty in accessing actual telemedicine patients to meet the experimental conditions, the current study asked participants to watch a medical consultation through a scripted video recording. This design simulates a telemedicine appointment as the provider talks to the participant, who was asked to imagine being the patient in the encounter. Although watching a pre-recorded video of telemedicine is different from experiencing telemedicine in real time, such design choice ensures effective manipulation of stimulus material; ample sample size in experimental conditions; and has been used in past medical research. For the videos used in the current study, a health care provider, played by a White professional actor or actress between their late twenties and mid-thirties in age, spoke to the camera as if giving a medical consultation to a patient during a live audiovisual appointment over remote technology. The patient’s responses appeared on the screen next to the provider (see Fig. 1). The verbal script was the same across all eight versions and was developed based on one of the author’s recent experiences during telemedicine. In the high nonverbal immediacy version, the actors look directly at the camera as much as possible, use a calming tone, lean into the camera, nod from time to time, and display positive facial expressions, but not in the low immediacy version. In general, the manipulation of nonverbal behavior proved effective: the high-immediacy version ($n = 180, M = 6.06,$
SD = 0.89) received a significantly higher score for the providers’ nonverbal communication than the low-immediacy version (n = 209, M = 5.44, SD = 1.41), t(387) = 5.12, p < .001, η² = .25.

4.3. Instrument and procedure

Initially, 400 participants were randomly recruited by Qualtrics from its United States representative Research Participant Panel between September and November 2020. Participants were randomly sent a weblink to the survey questionnaire where one of the eight pre-recorded videos (each represents one of the eight experimental condition) was embedded. Upon clicking the link, participants were asked to sign the informed consent (see Table 1 for participants demographics of each condition). Once consenting, participants are asked to imagine being the patient of a telemedicine appointment before watching the simulation video. Upon examining the data, we removed some participants’ responses due to incompleteness and poor data quality, which results in the final sample size of 389. Following the video, participants answered questions about perceptions of the provider’s verbal and nonverbal communication, as well as perceived overall satisfaction with the provider. The end of the questionnaire gathered participants demographic information. Upon completion, participants received monetary compensation according to the Qualtrics participant reimbursement guidelines.

4.4. Measures

All variable measurements used 7-point Likert type scales (1 = strongly disagree, and 7 = strongly agree).
Table 1. Participant demographics in experimental conditions.

<table>
<thead>
<tr>
<th>Condition*</th>
<th>Sample size</th>
<th>Mean Age (SD)</th>
<th>Male/female ratio</th>
<th>Race and ethnicity#</th>
<th>Median Education</th>
<th>Median Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>50</td>
<td>39.94 (14.14)</td>
<td>50/50</td>
<td>80/20</td>
<td>Bachelor's</td>
<td>$50,000-59,999</td>
</tr>
<tr>
<td>2</td>
<td>49</td>
<td>33.43 (11.80)</td>
<td>47/53</td>
<td>55/41</td>
<td>Bachelor's</td>
<td>$50,000-59,999</td>
</tr>
<tr>
<td>3</td>
<td>48</td>
<td>49.77 (16.68)</td>
<td>43/57</td>
<td>77/23</td>
<td>Associate</td>
<td>$40,000-49,999</td>
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<td>4</td>
<td>48</td>
<td>39.33 (13.51)</td>
<td>56/42</td>
<td>72/28</td>
<td>Bachelor's</td>
<td>$60,000-69,999</td>
</tr>
<tr>
<td>5</td>
<td>51</td>
<td>38.00 (10.57)</td>
<td>51/46</td>
<td>73/27</td>
<td>Some college</td>
<td>$70,000-79,999</td>
</tr>
<tr>
<td>6</td>
<td>58</td>
<td>38.91 (13.72)</td>
<td>53/46</td>
<td>69/29</td>
<td>Associate</td>
<td>$50,000-59,999</td>
</tr>
<tr>
<td>7</td>
<td>40</td>
<td>42.75 (14.70)</td>
<td>50/50</td>
<td>80/18</td>
<td>Some college</td>
<td>$50,000-59,999</td>
</tr>
<tr>
<td>8</td>
<td>54</td>
<td>39.44 (13.50)</td>
<td>50/50</td>
<td>69/25</td>
<td>Some college</td>
<td>$30,000-39,999</td>
</tr>
</tbody>
</table>

Notes:
Sample size reported here is before adjusting for missing values.
*Condition 1 = Male provider + High immediacy + No mask; 2 = Male provider + Low immediacy + No mask; 3 = Male provider + High immediacy + Mask; 4 = Male provider + Low immediacy + No mask; 5 = Female provider + High immediacy + No mask; 6 = Female provider + Low immediacy + Mask; 7 = Female provider + High immediacy + Mask; and 8 = Female provider + Low immediacy + Mask
#Race and ethnicity: White/BIPOC ratio ("prefer not to answer" is not included)

See Table 2 for means, standard deviations, correlations, and reliabilities.

4.4.1. Realism

To ensure the videos portrayed a realistic and relatable scenario for participants, the instrument included two items to measure realism of the video, such as “I can imagine what I saw in the video happening to me.” A one-sample t-test was conducted on the scale mid-point (i.e., 4 indicating neutrality), and the realism score ($M = 6.01$, $SD = 1.22$) was significantly higher than the scale mid-point, which shows the video was highly realistic and relatable to the participants, $t(388) = 32.33$, $p < .001$, $\eta^2 = .85$.

4.4.2. Nonverbal immediacy

Measurement of providers’ nonverbal communication was adapted from Richmond et al.’s\textsuperscript{26} Nonverbal Immediacy Scale. A total of six items measured providers’ eye contact, positive facial expression, posture, tone of voice, and nodding. An exploratory factor analysis (EFA) showed the six items loaded onto one factor (eigenvalue = 4.33 with 72.14% variance explained, and factor loadings ranged from .75 to .90).

4.4.3. Patient-centered verbal communication

Patient-centered verbal communication was operationalized as providers’ instrumental talk (i.e., giving and seeking medical information) measured by six questions; social talk (i.e., social conversation to establish rapport and affinity) measured by three questions; and affective talk (e.g., empathizing to address patient’s emotional need) measured by four questions. An EFA showed that all the 13 items loaded onto one factor (eigenvalue = 8.26 with 63.52% variance explained, and factor loadings ranged from .71 to .85).

4.4.4. Provider and patient characteristics

Provider characteristics were manipulated in the experimental conditions with the provider’s gender and mask wearing. Patient characteristics were operationalized as demographic background (i.e., age, gender, race and ethnicity, education, and income level). Age measurement used a ratio scale, and race and ethnicity with a categorical scale, whereas education and annual household income used ordinal scales. Because of the small sample size in all categories, age (younger: 18-39, versus older: 40-82), education (lower education: equal or less than an associate degree, versus higher education: higher than an associate degree), and annual household income (lower income: < $50,000 - 59,999, versus higher income: >= $50,000 - 59,999) were recoded with only two categories using median split-half. Race and ethnicity were re-coded in two categories: White versus BIPOC.

4.4.5. Satisfaction

Patient outcome was operationalized as patient satisfaction with the provider and measured by three items created for this study. An EFA showed that the three items loaded onto one factor (eigenvalue = 2.71 with 90.27% variance explained, and factor loadings ranged between .94 to .96).
**Table 2.** Means, standard deviations, correlations, and reliabilities \((N=389)\).

<table>
<thead>
<tr>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<th>12</th>
<th>13</th>
<th>14</th>
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<td>1.24</td>
<td>92*</td>
<td>76*</td>
<td>88*</td>
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<td>78*</td>
<td>94*</td>
<td>88*</td>
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<td>Eye-contact</td>
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<td>1.30</td>
<td>92*</td>
<td>76*</td>
<td>88*</td>
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<td>78*</td>
<td>94*</td>
<td>88*</td>
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<td>3.</td>
<td>Face expression</td>
<td>5.65</td>
<td>1.56</td>
<td>82*</td>
<td>74*</td>
<td>86*</td>
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<td>75*</td>
<td>88*</td>
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<td>4.</td>
<td>Calming tone</td>
<td>5.81</td>
<td>1.41</td>
<td>87*</td>
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<td>66*</td>
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<td>Nodding</td>
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<td>1.44</td>
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<td>66*</td>
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<td>6.</td>
<td>Leaning in</td>
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<td>82*</td>
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<td>Open posture</td>
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<td>89*</td>
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<td>8.</td>
<td>Verbal combined</td>
<td>5.76</td>
<td>1.12</td>
<td>90*</td>
<td>74*</td>
<td>65*</td>
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<td>9.</td>
<td>Social talk</td>
<td>5.69</td>
<td>1.33</td>
<td>87*</td>
<td>74*</td>
<td>89*</td>
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<tr>
<td>10.</td>
<td>Instrumental talk</td>
<td>5.80</td>
<td>1.34</td>
<td>87*</td>
<td>74*</td>
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<tr>
<td>11.</td>
<td>A/uniFB00ective talk</td>
<td>5.78</td>
<td>1.34</td>
<td>87*</td>
<td>74*</td>
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<td>12.</td>
<td>Satisfaction</td>
<td>5.69</td>
<td>1.40</td>
<td>82*</td>
<td>66*</td>
<td>71*</td>
<td>76*</td>
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<tr>
<td>13.</td>
<td>Instrumental satisfaction</td>
<td>5.80</td>
<td>1.34</td>
<td>87*</td>
<td>74*</td>
<td>65*</td>
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</tr>
<tr>
<td>14.</td>
<td>Would see again</td>
<td>5.74</td>
<td>1.49</td>
<td>82*</td>
<td>66*</td>
<td>71*</td>
<td>76*</td>
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<tr>
<td>15.</td>
<td>Recommend</td>
<td>5.52</td>
<td>1.64</td>
<td>82*</td>
<td>66*</td>
<td>71*</td>
<td>76*</td>
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<td>77*</td>
<td>77*</td>
<td></td>
</tr>
</tbody>
</table>

Note. Parentheses in diagonal are Cronbach’s \(\alpha\) (i.e., inter-item correlation coefficients); (-) inter-item correlation coefficients unavailable for single-item questions.

5. **Results**

The purpose of this research is to examine the impacts of telemedicine providers’ verbal and nonverbal behaviors on patient experience. All hypotheses were supported. That is, telemedicine provider’s patient-centered verbal communication (H1) and nonverbal immediacy (H2b) are both positive predictors of patient satisfaction. Specifically, the manipulation results show that provider’s eye contact, facial expression, head nodding, posture, and tones constitute the provider’s nonverbal immediacy (H2a). Additionally, telemedicine provider’s wearing the mask or not does not impact patient experience (R). Hypothesis 1 was concerned with the impact of provider’s verbal communication on patient’s satisfaction and H2b was concerned with the impact of provider’s nonverbal immediacy on patient’s satisfaction. To test hypothesis 1 and hypothesis 2b, a stepwise hierarchical regression with SPSS 26 was entered with satisfaction as the dependent variable. Step 1 indicators include dummy variables of patient age (0 = younger, 1 = older), gender (0 = male, 1 = female), race and ethnicity (0 = White, 1 = BIPOC), education (0 = low, 1 = high), and income (0 = low, 1 = high) as control variables. Step 2 indicators include the three experimental conditions of providers (i.e., 0 = no mask, 1 = mask; 0 = high immediacy, 1 = low immediacy; 0 = male, 1 = female), and step 3 includes the continuous variables of providers’ verbal and nonverbal communication. Given that verbal and nonverbal communication are highly correlated with each other (i.e., both VIFs are above 4.0), to reduce multicollinearity, the two were combined and entered the equation as one continuous variable.

After controlling for patients’ demographic background, the results of the hierarchical regression (Table 3) showed that providers’ nonverbal immediacy had a direct impact on patient satisfaction. Effectively, the low nonverbal immediacy version showed a significantly lower level of patient satisfaction than the high nonverbal immediacy version. Additionally, providers’ combined verbal and nonverbal communication formed a significant and positive predictor of patient satisfaction. That is, the higher the level of verbal and nonverbal immediacy patients perceived in the provider, the more satisfied they were with the telemedicine experience. Entering verbal and nonverbal communication in the equation separately revealed the same result pattern on satisfaction as when combined. Therefore, H1 and H2b were both supported.
Table 3. Hierarchical regression results predicting patient satisfaction.

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE</th>
<th>(\beta)</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First-order predictors: Control variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient age</td>
<td>-0.02</td>
<td>0.17</td>
<td>-0.01</td>
<td>-0.11</td>
</tr>
<tr>
<td>Patient gender (male vs. female)</td>
<td>-0.58</td>
<td>0.16</td>
<td>-0.19</td>
<td>-3.59***</td>
</tr>
<tr>
<td>Patient race and ethnicity</td>
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<td>0.18</td>
<td>-0.10</td>
<td>-1.07</td>
</tr>
<tr>
<td>Patient education</td>
<td>0.31</td>
<td>0.18</td>
<td>0.10</td>
<td>1.69</td>
</tr>
<tr>
<td>Patient income</td>
<td>0.07</td>
<td>0.18</td>
<td>0.02</td>
<td>0.41</td>
</tr>
</tbody>
</table>

\[F (5, 365) = 5.95^{***}, \text{adj.} R^2 = .06.\]

| **Second-order predictors: Experimental conditions** |     |     |            |      |
| Provider mask wearing (no mask vs. mask)         | 0.27  | 0.15 | 0.09       | 1.80 |
| Provider gender (male vs. female)                | 0.26  | 0.15 | 0.09       | 1.76 |
| Provider nonverbal immediacy (high vs. low)      | -0.59 | 0.15 | -0.19      | -3.96***|

\[\Delta F(3, 362) = 6.96^{***}, \Delta R^2 = .05\]

| **Third-order predictors** |     |     |            |      |
| Provider verbal and nonverbal communication      | 1.14 | 0.04 | 0.87       | 31.56** |

Overall: \[F (9, 361) = 132.35^{***}, \text{adj.} R^2 = .76.\]

Note: * \(p < .05; ** \(p < .01; *** \(p < .001; \) predictor effect size is reported as unstandardized coefficient B and standardized coefficient \(\beta\).

5.1. Nonverbal immediacy on satisfaction

Hypothesis 2a was concerned with specific nonverbal cues considered as immediacy behaviors. The results show that provider’s direct eye contact, positive facial expression, head nodding, leaning-in posture, and calming intonation constitute the provider’s nonverbal immediacy, which supports H2a. The sum of data presented so far provides context to the links found in this study between specific nonverbal cues exhibited by the providers in the instrument videos and the perceptions of patients regarding overall satisfaction, but more importantly to likelihood to recommend the provider. As noted earlier, both these perceptions contribute significantly to the outcomes for both patients and provider organizations. In particular, provider success measures rely heavily on the core Net Promoter Score attribute of likelihood to recommend.

Table 2 presents shows substantial level of correlation between participant perceptions of the provider’s specific nonverbal cues, such as their eye-contact, nods, calming tone, leaning in and open posture, and patients’ overall satisfaction with the consultation simulated in the video watched. The average coefficient is .69, ranging from .64 to .75. In aggregate, the results of this study highlight the importance of identifiable nonverbal behaviors that may be improved in providers through skills training and other professional development.

6. Discussion

The study examined providers’ verbal and nonverbal communication influences patient satisfaction during telemedicine. Particularly, providers’ high-immediacy nonverbal communication makes a significant impact on patient satisfaction.

At face value, telemedicine represents a fundamentally different experience for the patient, in aspects such as their decreased perception of nonverbal cues because of physical separation. Although limited by the physical distance in the study, patients are still sensitive to the nonverbal cues displayed by the provider through the computer screen. Not only did patients effectively detect differences between providers’ high- and low-immediacy nonverbal conditions, but the change also influenced their satisfaction. Statistically, verbal and nonverbal communication variables are highly correlated with each other, and the factor analysis of the verbal and nonverbal variables shows unidimensionality; whether nonverbal communication was entered the equation alone or combined with verbal communication, it represented a significant and positive predictor of patient satisfaction. This alludes to the interconnectedness of the two types of provider communication behaviors during telemedicine. This also suggests that providers might overcome potential limitations in nonverbal communication due to using remote technology, if providers can maximize the nonverbal immediacy cues allowed by the technology.

Nevertheless, the provider’s verbal exchange remains central to provider-patient communication. The three sub-dimensions of provider verbal communication—instrumental, social, and affect talk—are highly correlated with one another, underlining their interdependence. The results reinforce that providers’ instrumental, affect, and social talk can fulfill patients’
psychological and social needs during telemedicine and directly contributes to patient satisfaction, but they must be considered with an integrated approach.

The findings of the current study over telemedicine converge with the literature on in-person provider-patient communication. That is, relying on remote technology does not fundamentally change the requirements for providers’ communication. Providers’ verbal communication needs to be simultaneously multidimensional, comprising instrumental, social, and affective functions, and providers must manage multiple nonverbal cues to be perceived as effective by their patients. As McConnochie,27 put it, “Real-time video interaction, enabling ‘webside manner,’ should be the default communication mode as telemedicine is increasingly accepted by...all.”

The findings of this study also affirm that mask wearing does not necessarily hinder providers’ verbal and nonverbal communication or negatively impact patient satisfaction during telemedicine. Patients did not perceive providers who were wearing masks as inferior in their verbal or nonverbal communication compared to those who were not.

As the data relate to patient experience, the sum of impact suggested by the verbal and nonverbal cues of providers offer several potential areas for development of communication skills for better clinical consultation. Clearly, these verbal and nonverbal elements of healthcare interactions transcend the barriers presented by telemedicine consultations, meaning the behaviors must have similar if not increased impact in face-to-face interactions. Prior to the 1990s, healthcare managed patient engagement training as part of the apprenticeship approach to clinical consultation. Since that time, according to Deveugele:28

“...teaching students as well as healthcare profession- als a toolkit of basic skills is important to give them the opportunity not only to tackle basic and complex problems, but to incorporate these skills and to be able to use them in a personal and creative way.”

Early in the migration to more formal patient communication training, focus often settled on general “competence” in patient communication skills.29 Over time the evolution expanded to shift provider responsibility in communication to include “Mindfulness”,30 and to acknowledge the divergent challenges of particular patient scenarios and the need for more sophisticated approaches, including interventions of others in the patient/provider consultation to assure understanding.31 In the post-pandemic healthcare environment, the enhanced challenges of delivering patient care while enhancing patient experience drive the need for conversation and presentation of new approaches. Events like Press Ganey’s HX23 Human Experience (HX) Healthcare Conference indicate the increased appetite for help in this area.

As reflected earlier, Table 1 included significant correlations between nonverbal cues and “Satisfaction/Recommendation/Would see again” with the consultation simulated in the video watched. For instance, the data show that even nonverbal actions as simple as “leaning in” correlate to improved patient satisfaction. Note that the prompt for Row 14 in Table 2 was “I would recommend this provider to family and friends.” The correlation represented there aligns directly with how provider recommendation factors into the core of measures like Net Promoter Score (NPS). NPS and similar measures are used not only to track overall patient satisfaction, but often as an impact on the amount of reimbursement paid to those organizations by insurers. The study data provide evidence of a significant link between the nonverbal and verbal cues measured and patient satisfaction specifically measured in likelihood to recommend.

6.1. Practical implications

This study calls further attention to providers’ communication with patients through a live audiovisusal appointment using remote technology. As suggested above, health care institutions should continue to strengthen communication skills training for providers. Whether virtual or in person, providers should actively attempt to engage in nonverbal immediacy behaviors such as projecting direct eye contact toward the viewpoint of patients; nodding their heads to patients from time to time; speaking in a calming tone of voice; displaying positive facial expressions (e.g., smiling); and avoiding leaning away from the camera. These specific behaviors help project an approachable and caring image of the provider, compensating for potential negative impacts due to physical barriers.

Of course, these nonverbal behaviors are not exhaustive. For example, Lawrence et al.32 added that during telemedicine, providers may want to pause a bit longer than they would during in-person contexts to avoid talking over their patients, which could be caused by either a delay of sound transmission or unclear turn-taking signals. Furthermore, nonverbal behaviors should be used in
combination with verbal communication that can appeal to patients’ instrumental, social, and emotional needs. Institutions might want to continue training providers in verbal skills of information seeking through asking open-ended questions, periodically checking to ensure patients’ understanding, acknowledging patients’ feelings and emotions, and sharing the decision-making for treatment options.

Note that these types of behaviors fall within the realm of behaviors and approaches that can realistically be enhanced through training to enhance patient experience and ultimately contribute to both improved health outcomes and increased patient satisfaction measured in Star ratings and Net Promoter Scores for provider organizations. Of equal importance to providers regarding patient experience measures, training on these skills should not be limited to “Providers”. For instance, Streeter et al. considered the transfer of care among members of the healthcare team beyond the core provider. Building provider-patient relationship is a process that involves many factors, and for providers of all genders, the importance of developing skills, such as seeking affinity, demonstrating empathy, and promoting participation cannot be over-emphasized.

Considering the results of patient characteristics on patient outcome, health care institutions might consider specific training to make providers more aware how differences in these factors mitigate service to some patient groups. Training providers will allow them to include these factors in the context of clinical consultation—regardless of whether it takes place in person or online.

6.2. Limitations and future research

The study offers useful insights for enhancing the quality of telemedicine. However, it also has several limitations. First, the study did not use actual telemedicine patients, but recruited participants to watch a simulated video of provider-patient communication and imagine they were the patients when reporting their perceptions and evaluations. Watching a telemedicine appointment is clearly different from experiencing it, which could have impacted the ecological validity of the study, though the experimental design aimed to balance the manipulation of experimental conditions and their translation into real-life experience. (Note however that patient response indicated relative ease in immersing themselves in the tole-play.) With telemedicine’s expansion, future studies should recruit patients who have experienced telemedicine and examine how the experimental conditions affect the outcomes of actual telemedicine patients.

This study was conducted during the first year of the pandemic, when telemedicine offered a significant advantage to ensure safety and health, leaving many patients without the option for in-person visits. As the pandemic has slowly started to get under control, and in-person visits have become more available than before, patients’ motivation to engage in telemedicine might change in the years to come, which could lead to changed perceptions of, attitudes toward, and anticipated experiences with telemedicine. The unique point in history when this study was conducted could have contributed to the results in this study, and future studies conducted after the COVID-19 pandemic could help parse out these situational impacts. The second data set will also allow the authors to consider if and how proximity to the pandemic shaped the data of the first study.

7. Conclusion

This study considered the impacts of verbal and nonverbal communication immediacy on patient experience in telemedicine provider consultation and concluded that both remain essential to improving patients’ satisfaction.

As noted earlier, much of the research on improving patient healthcare experiences examines in-person appointments. On the applied side, most data used by organizations to manage change in patient experience leans on lagging data and operational solutions.

Some scholars argue that telemedicine depersonalizes and/or degrades patient-provider relationship, yet most current literature takes a more pragmatic approach, acknowledging the embedded nature of telemedicine in current practice. Certainly, telemedicine differs from in-person consultation, but building patient relationships that lead to compliance remains the same provider goal. Miller’s theoretical framework of provider-patient communication during telemedicine provides a platform for studies like this one to bridge the two consultation environments.

This investigation of providers’ verbal immediacy impact on patient outcomes is not seminal, but it does attempt to make new links between the kinds of communication and interpersonal skills studied by others into the practical needs of healthcare organizations that rely on positive patient experience ratings. The analysis presented here chips away at
that very specific corner of the gap in literature and inquiry. In addition, it suggests some tangible opportunities for healthcare leaders to effect changes in patient experience and ultimately the patient ratings that impact insurance reimbursements. Whether consultations are virtual or in person, providers and healthcare organizations may benefit from prescribed training to maximize the verbal/nonverbal communication competencies of patient engaged employees.

References


