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# Nonverbal immediacy cues and impression formation in video therapy

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**Abstract**
The increased use of video-mediated communication (VMC) due to the COVID-19 pandemic has led to widespread acceptance of mediated healthcare appointments. Mental health care is one area in which researchers might examine the effects of VMC. Therefore, the current study employed an experiment to test the relative influence of video therapists' eye contact and gesture on a patient. Each participant was assigned to one of the four possible video conditions using a 2 (Gestures present versus absent) x 2 (Eye contact present versus absent) factorial design. Study participants (n= 359) rated actors portraying themselves as video therapists on items related to impression formation (i.e. likable, warm, understanding). Findings suggest that participants in the eye contact condition reported more positive impressions than in the no eye contact condition. Similarly, participants in the gesture condition reported more positive impressions than in the no gesture condition. However, gestures had a larger effect on impression formation than eye contact, and there was no interaction effect considering the combined impact of gestures and eye contact. These results contribute to understanding how nonverbal cues impact health outcomes in VMC. .

**Keywords**
Nonverbal immediacy; eye contact; gestures; impression formation; video therapy

## Video therapy and nonverbal immediacy cues

During the COVID-19 pandemic, in-person mental health care became almost impossible. Providers and patients had no choice but to use video-mediated communication (VMC) apps like Zoom, Skype, Facetime, or Attend Anywhere to continue therapy and treatment. Many patients and providers were surprised to find VMC was effective for psychotherapy and had benefits people found helpful. For example, patients who feel stigmatized by counseling may seek help online if they want to avoid the potential anxiety or shame associated with being in the therapist's office or waiting room (Rochlen, Zack, & Speyer, 2004). Furthermore, such patients might feel more comfortable showing emotions during remote therapy sessions (Himle et al., 2006) or opening up about sensitive topics (Stubbings, Rees, & Roberts, 2015). The scholarly research on video therapy has found similar results regarding the benefits of video therapy (Ertelt et al., 2011; Fernández et al., 2021; Guinart, Marcy, Hauser, Dwyer, & Kane, 2021; Martinez, Seager van Dyk, Kroll, Emerson, & Bursch, 2021; Porcari et al., 2009; Simpson, Richardson, Pietrabissa,

Castelnuovo, & Reid, 2020; Tse et al., 2021). In one recent review, Stefan et al. (2021) concluded that "remote psychotherapy can be a credible and trustworthy alternative to in-person treatment" (p. 1). Similarly, experimental research has found no significant differences between in-person and videoconferencing conditions for cognitive behavioral therapy (Stubbings, Rees, Roberts, & Kane, 2013). In the future, video therapy will likely remain a widespread practice and an essential topic of health communication research.

Some communication scholars argue that as technology becomes closer to simulating in-person experience, studying channel differences (e.g. face-to-face vs. video) is less important than theories and research exploring how communication dynamics work *within* given channels (Carr, 2020; Croes, Antheunis, Schouten, & Krahmer, 2018; Parks, 2009). Researchers need to move forward beyond comparing in-person and video-mediated health care and begin understanding *why* some video interactions are more successful than others.

The current study used an experiment to test how nonverbal cues influence a person's initial impression of a video therapist. The sections below explain that nonverbal cues are critical for therapists to convey immediacy and develop a meaningful connection. Nonverbal immediacy refers to gestures and behaviors that communicate warmth, closeness, involvement, and engagement (Andersen, 1985, 2008; Hildenbrand, 2022; Prager, 2000). Common examples of immediacy behaviors include gestures, direct eye contact, leaning forward, head nods, tone of voice, and mirroring (synchronizing) a partner's nonverbal cues (Andersen, 2008). In VMC, immediacy cues are challenging because of the need to look at one's camera and the limited ability to convey and observe gestures. The argument advanced in the current study is that effective video therapy involves successfully using the nonverbal cues that convey immediacy. The present study tested the hypothesis that participants would form more positive impressions of a video therapist who used nonverbal immediacy cues than a therapist who used fewer cues.

### *Prior research on video therapy*

Prior studies demonstrate patients and providers using video therapy can cultivate meaningful therapeutic relationships (Ertelt et al., 2011; Fernández et al., 2021; Porcari et al., 2009). Researchers have consistently reported video therapy is an effective alternative to in-person therapy (Backhaus et al., 2012; Cataldo, Chang, Mendoza, & Buchanan, 2021; Ekberg et al., 2015; Ertelt et al., 2011; Fernández et al., 2021; Himle et al., 2006; Tam, Cafazzo, Seto, Salenieks, & Rossos, 2007). Patients report high satisfaction with video therapy (Porcari et al., 2009). They can bond with video therapists (Ertelt et al., 2011) and find video therapy appealing due to its convenience and reduced cost (Backhaus et al., 2012; Connolly, Miller, Lindsay, & Bauer, 2020; Corrigan, Druss, & Perlick, 2014; Porcari et al., 2009; Simpson et al., 2020). Clients may feel less stigma and greater satisfaction with video therapy than in-person meetings. For example, videotherapy may reduce perceived stigma because clients avoid a therapist's physical presence. Video therapy also eliminates the potential embarrassment of sitting in a waiting room (Rochlen et al., 2004). Additionally, some scholars argue that video therapy allows clients to hide signs of distress (Himle et al., 2006). Simpson et al. (2020) argued video therapy

presents a unique opportunity for clients to "experience enhanced self-expression, connection, and intimacy, with a potentially greater sense of agency over their therapeutic journey" (p. 2).

### *Nonverbal immediacy and health communication*

Prior research on nonverbal immediacy in health communication helps explain why some video therapists may be more effective than others. Studies of in-person contexts consistently find that *therapists' nonverbal immediacy* contributes to the therapeutic alliance, which predicts positive health outcomes (Davis & Hadiks, 1994; Del Giacco, Salcuni, & Anguera, 2020; Dowell & Berman, 2013; Simpson et al., 2020). Similarly, research on medical doctors also identified links between physician nonverbal immediacy and patient satisfaction (Conlee, Olvera, & Vagim, 2009). The studies summarized above offer compelling evidence that nonverbal immediacy is vital for developing a therapeutic alliance and facilitating effective therapeutic communication.

Given the importance of nonverbal immediacy in traditional face-to-face therapy, it is reasonable to expect immediacy will play a similarly pivotal role in video therapy. Nonverbal immediacy should also influence the quality of video therapy outcomes (Geller, 2020; Grondin, Lomanowska, Bekes, & Jackson, 2020; Grondin, Lomanowska, & Jackson, 2019; Simpson et al., 2020). However, establishing immediacy in VMC is particularly challenging. As the next section elaborates, some of the features of VMC may interfere with conveying and perceiving nonverbal immediacy cues.

### *The nonverbal challenges of video therapy technology*

Video therapy presents nonverbal challenges for therapists trying to convey immediacy and establish a therapeutic alliance. In VMC, people struggle with eye contact, keeping gestures in the frame, monitoring their partner's nonverbal cues, negotiating turn-taking, interruptions, and overlapping audio (Cataldo et al., 2021; Fernández et al., 2021; Tam et al., 2007). Some recent research has suggested VMC increases cognitive demand and stress, or "Zoom fatigue" (Fauville, Luo, Queiroz, Bailenson, & Hancock, 2021; Oducado et al., 2021; Ratan, Miller, & Bailenson, 2022; Wiederhold, 2020). Although video therapists have little control over technical glitches, they may try to attend to gaze and gesture cues.

#### *Eye contact and the gaze angle problem*

Eye contact is an important indicator of immediacy, empathy, and credibility (Dowell & Berman, 2013; Grondin et al., 2020; Mast, 2007). A central nonverbal dilemma in VMC is the *gaze angle problem* (Grondin et al., 2020): looking at one's partner while simultaneously making them *feel* seen is difficult. The gaze angle problem occurs because when a user looks at their partner on the screen rather than at the camera, their gaze appears to look away from their partner (Connolly et al., 2020; Fauville et al., 2021; Sucala, Schnur, Brackman, Constantino, & Montgomery, 2013; Tam et al., 2007; Waller et al., 2019). Moreover, when a person attempts to convey eye contact by looking into their camera, they can no longer see their partner on the screen. The gaze angle problem is especially challenging for video therapists trying to convey immediacy (Mast, 2007), develop a therapeutic alliance (Grondin

et al., 2020), and establish their credibility (Dowell & Berman, 2013; Grondin et al., 2019). Managing gaze angle becomes especially important when a video therapist tries to monitor or exert control over suicidal patients (Poletti et al., 2020).

### *Gestures*

A second challenge to nonverbal immediacy in video therapy is difficulty using meaningful gestures. Research also suggests gestures and body movements are a good measure of therapeutic rapport (Del Giacco et al., 2020). The research on nonverbal immediacy suggests body positions and gestures assist conversation partners in synchronizing their behaviors in a conversation (Davis & Hadiks, 1994). In VMC, people's images often crop out their lower torso, arms, and hands. Thus although gestures are essential for conveying nonverbal immediacy to a therapy client, using gestures is challenging in video contexts.

## *The current study*

The current study sought to test the effects of video therapists' *strategic efforts to counteract* some of the cue-reducing features of VMC. Given the importance of nonverbal immediacy for effective therapy and the unique nonverbal challenges of VMC, we might expect that video therapy patients will respond more favorably to therapists who purposely use eye contact and gesture than to therapists who do not. The literature reviewed above demonstrates the importance of NV immediacy to the therapeutic process and highlights the non-verbal challenges of the VMC. Consequently, we propose that people will form more positive impressions of video therapists who use eye contact and gestures and even more positive impressions of those who use a combination of both eye contact and gestures.

H1: People will form more positive impressions of video therapists who purposefully use eye contact than therapists who neglect eye contact.

H2: People will form more positive impressions of video therapists who purposefully use gestures than therapists who neglect gestures.

Prior research also indicates people tend to process and interpret nonverbal behaviors holistically (Andersen, 1985; Del Giacco et al., 2020). Additionally, recent research on gaze and impression formation in VMC found eye contact interacted with social distance to affect measures of liking (Fauville, Queiroz, Luo, Hancock, & Bailenson, 2022). In other words, "faces closer to the camera and maintaining direct gaze were rated as more socially present" (Fauville et al., 2022, p. 1). Studies also suggest gaze and gestures work together to facilitate turn-taking and other interaction patterns (Koole & Tschacher, 2016; Morán et al., 2016). Thus, we also predict that when a video therapist displays a combination of eye contact and gesture, clients will form more favorable impressions than when a therapist only shows one of these cues on its own.

H3: There is an interaction between eye contact and gestures on impressions in which their combined presence will have a more substantial effect on impression positivity than either cue on its own.

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Despite earlier studies emphasizing the importance of gaze and gesture in video therapy, no studies have compared the relative strength of influence of these types of nonverbal cues. Thus, the current study also sought to answer the following research question:

RQ1: Which has a stronger relative impact on impression formation, a therapist's eye contact, or gestures?

## Methods

The current study used an experiment to address the research question and hypotheses above. Participants watched a brief video of an actor portraying a therapist introducing themselves in the experiment. Using a 2 × 2 factorial design, the experiment manipulated the video's eye contact (present vs. absent) and gestures (present vs. absent) in the videos. After viewing the video therapist introduction, participants completed a measure indicating their impression of the therapist.

### *Procedure and experimental design*

The experiment used a 2 (Therapist gestures present/absent) x 2 (Therapist eye contact present/absent) factorial design where each participant was assigned to one of the four possible video conditions. To create the videos, researchers trained two female actors to portray therapists. The actors recorded 30-second videos introducing themselves to a hypothetical client. We selected two female actors with similar characteristics to control confounding demographic variables like age, race, and gender. The actors sat two feet from the computer screen, framed to include their face, torso, and arms. Although the stimuli videos were brief, the design is similar to previous studies. For example, Fauville et al. (2022) conducted an experiment where participants rated their impressions of actors appearing in video conferencing screenshots. Fauville et al.'s experiment manipulated actors' portrayal of different nonverbal cue and gaze configurations in the various screenshots.

The verbal script was identical in all conditions; the only variations were changes in the two nonverbal behaviors of interest: therapist eye contact and gestures. The scripts included the typical elements of a therapist's introduction, including identifying the type of therapy used and explaining what the client should expect (Knox, 2019; Poletti et al., 2020). The actor looked directly at the camera for the eye contact present condition. In the eye contact absent condition, therapists gazed at the corner of their computer screen where the client's image typically shows. In the gesture present condition, the actors used arm, torso, and head movements and followed the same verbal script. In the gesture-absent condition, the actors kept arm and torso movement to a minimum. In summary, each actor recorded four videos, one for each possible experimental condition: eye contact absent/gestures absent, eye contact present /gestures absent, eye contact absent/gestures present, and both eye contact and gestures present.[1]

## *Pilot study*

A pilot study served to check the experimental manipulations. The pilot study sought to determine if participants noticed the therapist's use of nonverbal cues in teletherapy. A small pilot sample of undergraduate students ($n$= 87) participated for course credit after receiving IRB approval (approval number: 1,699,910–1) and inclusion of informed consent. They were randomly assigned to one of the four experimental conditions and presented with one video stimulus. After watching the video, participants completed brief measures that asked about the amount of eye contact or gesturing displayed in the video. Consistent with the planned experimental manipulation, participants who viewed the high eye contact condition reported greater eye contact than those in the low eye contact condition ($F$ = 57.91, $p$= .001, $df$ = 1, 86). Similarly, consistent with the intended manipulation, participants who viewed the high gesture condition reported more gestures than those in the low gesture condition ($F$ = 27.44, $p$= .001, $df$ = 1, 86). The pilot study results indicate that the experimental manipulations worked as intended. In other words, viewers notice differences in nonverbal cues in teletherapy.

## *Main study*

### *Sample*

An a priori power analysis indicated that the study needed a sample of at least 210 people to detect medium-size effects in a 2 × 2 factorial design. The final sample consisted of n = 359 undergraduate students, and the sample was predominantly female (73.3%). Most participants were white (77.8%), followed by Asian (7.9%), Hispanic (5.3%), two or more races (3.4%), and Black (2.8%). After receiving IRB approval from the University of Delaware (approval number: 1,699,910–3) and agreeing to informed consent, students received course credit for participating in the study.

Participants (n = 359) in the main study were randomly assigned to one of the four experimental conditions. The survey system automatically kept experimental group sample sizes relatively equivalent. After viewing the video, participants completed a measure of their impressions of the actor in the video.

### *Measurement*

Given the unique nature of the study, we needed to create an original measure of participants' impressions of the therapist. We selected 11 items from two scales previously used to study impression formation in health communication: the Working Alliance Inventory (Horvath, 1994) and Trust in Physician Scale (Anderson & Dedrick, 1990). The 11 items included asking participants to rate the extent to which they agreed that the therapist in the video was warm, sympathetic, caring, understanding, concerned, pleasant, likable, personable, engaged, interested and focused. All items were rated using a scale ranging from 1 = *strongly disagree* and 5 = *strongly agree*.

An exploratory factor analysis with orthogonal rotation suggested the 11 items captured a single dimension of impression positivity. The single factor explained 67% of the variance. Therefore, we treated the measure as unidimensional and used the sum of these 11 items as the dependent variable, impression positivity. The scale demonstrated good reliability ($a$ = .95).

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**Table 1.** Two-Way ANOVA with impression positivity as the dependent variable.

| Source | *F*(1,355) | $\eta^2$ | Observed Power |
|---|---|---|---|
| Eye Contact | 16.50** | .04 | .982 |
| Gestures | 43.99*** | .11 | 1.00 |
| Eyes Contact x Gestures | 0.93 | .00 | .161 |

** $p < .01$, *** $p < .001$, adjusted $R^2 = .14$

## Results

The current study posed two hypotheses and two research questions about the relationship between therapists who use eye contact and gestures during video therapy and the client's corresponding impression of the therapist. We tested all hypotheses and research questions with 2 × 2 ANOVA, where impression positivity was the dependent variable and eye contact, gestures, and gestures x eye contact interaction were the independent variables.

Table 1 presents a summary of the ANOVA results. The model accounted for 14% of the variance in impression ratings. The first hypothesis predicted that present eye contact would lead to participants forming a more positive impression of the therapist. There was a significant difference between eye contact conditions regarding positive impressions of the therapist. Participants in the eye contact present condition reported more positive impressions ($n$= 173, $M$= 40.67, $SD$ = 9.48) than participants in the no eye contact condition ($n$= 185, $M$= 36.55, $SD$ = 10.79). Thus, hypothesis one is supported; eye contact produced more positive impression formation.

The second hypothesis predicted that enhanced gestures would lead to a more positive impression of the therapist. There was a significant difference between gesture conditions regarding positive impressions of the therapist. Participants in the gesture-present condition reported more positive impressions ($n$= 179, $M$= 41.97, $SD$ = 8.25) than those in the no gesture condition ($n$= 179, $M$= 35.24, $SD$ = 11.17). Thus, hypothesis two is supported; gesturing led to more positive impression formation compared to not gesturing.

The third hypothesis predicted an interaction between eye contact and gestures, which would have a greater effect on impression formation than the presence of either eye contact or gestures alone. There was no significant difference regarding the interaction effect $F(1, 355) = .93$, $p$= .33. Therefore, eye contact and gestures did not interact to affect impression formation.

Finally, the first research question asked whether eye contact or gestures had a more substantial effect on impression formation. Based on the effect sizes, gestures ($\eta^2 = .11$) had a more considerable impact on impression formation than eye contact ($\eta^2 = .04$). Thus, gestures explained more variance in impression positivity than eye contact did.

## Discussion

This study investigated the relationship between nonverbal communication and impression formation among video therapists. Specifically, the study questioned whether video therapists who use eye contact or gestures are perceived more positively than those who do not use nonverbal cues. The present study aimed to advance theory regarding

nonverbal cues in VMC video therapy. Drawing on theory and research about nonverbal immediacy, the current study examined whether nonverbal immediacy cues are noticed and how they affect impression formation. Given the similarities between in-person therapy and video therapy, including the reintroduction of visual cues, this study sought to clarify whether people notice nonverbal cues in video therapy and, if so, how nonverbal immediacy influences impressions people form of video therapists (Del Giacco et al., 2020; Mast, 2007).

One hypothesis tested in the current paper expected that participants exposed to conditions with eye contact would form more positive impressions of video therapists than those not exposed to eye contact. A second hypothesis predicted the therapists would be perceived more favorably when they used gestures than when they used no gestures. The data supported both hypotheses.

These findings are consistent with the theoretical rationale presented earlier, which argued that therapists' use of nonverbal immediacy cues would positively influence impressions people formed of them. The findings also indicate that nonverbal immediacy is likely to play a vital role in successful video therapy. The immediacy hypothesis presented in this paper provides a conceptual foundation for future research to build on. Although the current study only examined impression formations based on brief video introductions, the fact that eye contact and gestures had significant impacts on viewer perception suggests people notice immediacy cues from video therapists and that those cues contribute positively to the encounter. Future research might examine how real therapists convey immediacy cues in actual video therapy interactions and if those behaviors predict patient treatment outcomes.

The study also had two findings that raised more questions than answers. First, the study did not support the hypothesized interaction effect between eye contact and gestures on impression positivity. The observed lack of a significant interaction effect is somewhat surprising and suggests that the effects of the cues were independent of each other. Future studies must consider how nonverbal cues might work together to have a cumulative impact on impressions and treatment outcomes.

One possible explanation for the lack of interaction effect is the dramatic difference in magnitude between the impact of eye contact and the effect of gestures. Gestures were almost three times more powerful than eye contact in influencing viewers' impressions. One explanation may be that gestures matter more than eye contact regarding immediacy. Gestures might matter more than eye contact because clients already expect eye contact deficiencies given the technology and gaze angle. Yet, the prior research reviewed early strongly suggests that, in face-to-face settings, eye contact is a vital component of a therapist's nonverbal immediacy and effectiveness. Gestures are less common in VMC since peoples' faces and gaze are always visible to the camera while their arms and hands may be cropped out (Geller, 2020; Grondin et al., 2019; Martinez et al., 2021). Thus, it may be that using gestures in the video introductions was more easily noticed and perhaps less expected than eye contact. If people noticed eye contact less or experienced greater expectation violations when they saw gestures, researchers should study how people perceive nonverbal cues in VMC. Given the exploratory nature of the current study, there are many questions for future researchers to consider.

### *Practical implications*

The study also offers some practical implications for video therapists. First, while eye contact is important, the current results suggest emphasizing gestures in VMC is also important. The importance of gestures in this study may indicate that the gaze angle problem is not a significant limitation for VMC. Perhaps people expect problems with eye contact in VMC and thus rely on gestures for interpreting the interaction. The second significant implication involves the importance of mental health care providers using gestures that are visible to their patients. Previous research suggests that we often forget to appropriately frame ourselves using videoconferencing technology, removing necessary nonverbal cues (Geller, 2020; Grondin et al., 2019; Martinez et al., 2021). If nonverbal cues are important for impression formation, more research is needed to understand how video therapists might properly frame their bodies in VMC.

### *Limitations and future directions*

The current study had several limitations. First, the sample was predominately white, college-aged females. Without greater diversity in the sample, it was difficult to examine any potential demographic confounds or differences. The exclusion of male therapists also limited the findings as it is possible that the expectations of male therapists might differ from female therapists. For example, Landes, Burton, King, and Sullivan (2013) found that women are more comfortable disclosing information to and thus prefer female therapists.

Furthermore, this study could not address cultural differences related to nonverbal communication. For example, future studies might explore the effects of cultural differences on impression formation in video therapy among international students, immigration counseling, or trauma victims. Future research should also expand on what types of patients are better suited for video therapy. For example, those with extreme anxiety or autism spectrum disorders might be less overwhelmed by videoconferencing, whereas patients with psychotic issues might find online treatment more difficult or taxing. Specifically, if nonverbal cues are more important than eye contact, populations with disabilities such as autism spectrum disorders might struggle to leverage teletherapy options.

Second, the study's use of actors and pre-recorded 30-second introduction videos limit its external validity. Perhaps impressions change or develop over several sessions, especially in intense psychotherapy sessions, rather than a short introduction. Additionally, the content discussed by the patient and provider might have greater effects than nonverbal cues. For example, asking the right questions could further develop the therapeutic relationship. In other words, nonverbal cues are not the only factor that impacts impression formation. Future research might question how impressions change and evolve throughout telehealth appointments.

The manipulation check items may raise another potential limitation. It is possible the manipulation check questions influenced participants' ratings of the actors and instructed them to focus on nonverbal cues in the videos. However, since all participants received

the manipulation check questions, any effect was distributed randomly across everyone in all conditions. Consequently, any observed differences between experimental conditions are still likely due to the experimental manipulations.

Another limitation of using actors and recorded videos is an inability to study turn-taking. Future research might investigate more detailed and nuanced aspects of nonverbal exchanges, including pauses, interruptions, and nonverbal synchronization (i.e. mirroring). Similarly, turn-taking and real-time conversations would allow researchers also to study the impact of the client's nonverbal communication on the therapist. Recording actual sessions would also enable researchers to track the times a therapist looks at the camera to simulate eye gaze and examine rapport as an outcome. Finally, future researchers should consider investigating how nonverbal immediacy and impression formation predicts actual treatment outcomes.

## Conclusion

This paper aimed to understand the relationship between nonverbal communication and impression formation in the context of video therapy. In terms of theoretical implications, this study urges scholars to develop more contemporary theories that acknowledge VMC in health care as a space where users must use their nonverbal behaviors to accommodate clients' needs. Results also suggest that although experimental conditions that used gestures or eye contact resulted in more positive impressions, they had no additive effect when combined. As videoconferencing in health care increasingly becomes the norm, providers should use nonverbal communication to build positive relationships with their patients.

## Disclosure statement

No potential conflict of interest was reported by the author(s).

## Notes on contributors

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