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A qualitative analysis of trust and distrust within patient-clinician interactions

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ABSTRACT

Objectives: Trust represents a key quality of strong clinician-patient relationships.[1] Many have attempted to assess patient-reported trust. However, most trust measures suffer from ceiling effects, with no variability, making it not possible to examine predictors of trust and distrust. Rather than rely on patient reports, we created a codebook for instances of trust and distrust from actual patient-clinician encounters.
Methods: Three coders conducted a qualitative analysis of audio recordings among patient-cardiologist outpatient encounters.
Results: We identified trust and distrust based on vocal and verbal cues in the interactions. We found consistent patterns that indicated patient trust and distrust.
Conclusion: Overall, this work empirically validates a new more accurate measurement of trust for patient-doctor interactions.
Innovation: We are the first to use audio recordings to identify verbal markers of trust and distrust in patient-clinician interactions. From this work, others can code trust and distrust in recorded encounters rather than rely on self-report measures.

1. Introduction

Trust represents a key quality of strong clinician-patient relationships [1-3]. When patients trust their healthcare clinicians, they experience shared feelings of collaboration, honesty, and respect, and a comfort in communicating with their clinicians [4-7]. In fact, patients who trust their clinicians also report a higher quality of life, increased satisfaction with care, better adherence to treatment, and have better and more sustainable health outcomes.

Moreover, trust might differ for patients based on many qualities. Prior studies have shown that a variety of patient characteristics affect patient trust, such as gender, age, education level, and race [8-10]. Barriers, such as historical injustices and previous negative interactions with clinicians, can cause patients to feel unsafe and reduce trust in their clinicians [11,12]. For instance, some studies have shown that African American patients have less trust in the healthcare system and their clinicians. This lack of trust can exacerbate racial disparities in health outcomes, access, and quality [13,14]. One way to combat racial disparities in healthcare is through better and more thoughtful interpersonal communication between patients and their clinicians [2]. In fact, during the COVID-19 pandemic, trusting relationships with healthcare clinicians helped combat medical distrust especially within Black communities [7]. Relatedly, immigrants and patients who speak a different language from their physician described trustworthiness as *the* defining quality of a good doctor, and those with high clinician trust attended follow-up appointments at an increased rate [12].

Even though trust plays a central role in healthcare encounters, our current measures of trust primarily rely on patient self-report [3,6]. In fact, especially for clinicians who treat serious illnesses, patient self-reported trust often suffers from inherent ceiling effects, which may result from acquiescence bias [1,7]. For example, one study measuring patient trust found over 25% of participants scored in the highest range of the scale and various efforts to reduce these effects, such as increasing anonymous self-report options, did not increase the range reported by patients likely due to issues of social desirability bias [6,7,15].

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Measures such as the Trust in Provider Scale, the Patient Trust Scale, and the Health Care Relationship Trust Scale have produced strong interpretations of trust, yet are prone to social desirability biases, making them inaccurate measurements of a critical patient experience [1,7,15]. Further, the measures include generic questions rather than directly observing patient-physician interactions [6,7]. Some scales have incorporated face-to-face interviews, therefore reducing anonymity and increasing the likelihood that patients overstate their treatment adherence [4,5,7,12,15].

These measures result in inaccurate ratings of trust, which limit our ability to effectively analyze patient-clinician trust-related outcomes due to the lack of reliability. Many trust measures were relatively untouched for over a decade, and recent retests did not replicate the same findings [7,16,17]. Medical trust meta-analyses have suggested using more objective qualitative measures to increase both validity and inter-rater reliability [3,6]. Thus, the field needs a more objective way to directly measure trust during a patient-clinician interaction, as it is likely that variation exists in trust particularly among clinicians who treat serious illness. However, without a measure that has sensitivity in accurately measuring trust, we cannot create interventions to increase or improve patient trust in clinicians [3,14].

Few studies have examined trust by observing conversations in patient-clinician dyads, particularly in the context of chronic illnesses [2,4,5,18]. Specifically, the present study seeks to explore verbal and vocal cues that indicate patient trust and distrust using recordings of actual outpatient cardiology encounters. Coding for verbal cues will provide a more objective approach through a standardized qualitative measure of trust [6,12,19].

2. Methods

We randomly selected 35 recordings from a larger intervention, randomized control trial [20]. We qualitatively coded these audio recordings (n = 20 female, 15 male; $Mage$ = 59.27, SD = 15.97; 66% had a bachelor's degree or higher) and their corresponding transcriptions of both white patient (n = 13), white cardiologist interactions and Black patient (n = 22), white cardiologist interactions in an academic medical center.

2.1. Qualitative analysis

A group of three student researchers were trained as qualitative coders and used inductive coding to identify instances of patient trust and distrust among the audio-recorded encounters. The coders were all female, one identifying as Black, another as Black/white biracial, and one as white. Before they began coding, the coders reviewed existing literature and had multiple group training sessions to standardize their interpretations of examples of physician-patient trust and distrust by reviewing the transcripts and listening to the recordings of a few participants. Once agreement was obtained through these training sessions, each individual rater coded the recordings separately and later held subsequent meetings to discuss their codes. Any disagreements (>5% of all ratings) were discussed until there was agreement.

Following previous literature, signals of trust were defined as "a patient's reassuring feeling of confidence or reliance in the physician and the physician's intent to do what is best for the patient," and signals of distrust was defined as the lack of a patient's feeling of confidence in a physician and their intent to do what's best for their patient [16,19]. Coders noted both the content of the interaction (i.e., a patient seeking medical recommendations from their physician stating, "*You think I should exercise on a bike? You think that'll work?*") and vocal cues (i.e., tone/pitch with low, calm pitches connoting trust and higher pitch more rapid tone connoting distrust) [19]. Analysis of the content of the conversations focused on the types of questions that patients asked that could signal trust when asking for an opinion. In addition, analysis focused on signals of patient distrust, observing whether patients repeated questions which could show that they did not like prior answers. Collectively, coders listened to recordings and coded independently to identify instances of trust and distrust. The coding team held weekly meetings where they discussed these definitions and examples of trust and distrust, and reviewed all audio recordings until they reached saturation, meaning they did not find any new examples of trust or distrust to add to their results. After coding was complete, the coders worked together to reach a consensus following discussions on what should be deemed signals of trust or distrust and what should not. Disagreements were rare (approximately 5% of codings) and were discussed as a group until there was agreement by the entire coding team.

To provide another form of validation of the identified codes, a team of five African-American patient advocates with gender and age diversity were selected from our institution's Community Advisory Council. They were chosen because they also had a serious illness, as did the patients in the audio-recordings of patient-physician encounters. The advocates reviewed a sample of codes and correctly identified them as examples of trust and distrust with 100% accuracy. Thus, this patient advocate feedback supports the face validity of these codes, providing converging evidence for these signals of trust and distrust that were identified.

3. Results

Coders found a variety of signals of trust and distrust in the audio-recorded encounters. These signals of trust and distrust have been grouped into distinct themes. We provide specific examples (see Tables 1, 2 and 3 for quote examples) and discuss ways for how clinicians might best facilitate patient trust.

3.1. Signals of trust

3.1.1. Asking for medical opinions/recommendations

Coders agreed that patients conveyed trust when they asked their cardiologist for their personal advice or medical opinion on various diagnoses, medical procedures, and treatment plans. More specifically, coders noted that when patients asked their question with a neutral tone, this counted as trust. Coders differentiated patients asking their physicians for

Table 1
Patient signals of physician trust.

PATIENT SIGNS OF TRUST	EXAMPLE PATIENT QUOTES
Requesting Recommendations	*"So, you think I should get [my defibrillator] taken out?"*
	"So let's say that my parents do tell me that they have high cholesterol in their 40s or 50s. Does that change at all what I need to do?"
	"So, you don't think it's my carotid [causing my headaches]?"
	"You think I should exercise on a bike? You think that'll work?"
	"So, you think that's the reason why I'm going to this doctor [on the sleep apnea team]?"
	"I told [the nurses] I'll go with whatever you [the physician] say."
Discussing Personal matters (e.g. problems, fears, etc.)	*"I know. Because of this, uh, diseases, I'm afraid to go in the hospital. 'cause I had a girlfriend that was going to visit her brother and she wind up catching it."*
	"I already [walk] two miles a day because of going to my parents but I need to do more, but I am, uh, I can tell that I've been depressed with [patient's pet] gone, because every afternoon, I go to bed and just cry"
	"I'm just a little hard on myself…"

Table 2
Patient signals of physician distrust.

PATIENT SIGNS OF DISTRUST	EXAMPLE PATIENT QUOTES
Repeated Self-Advocacy	*"Nobody [referring to healthcare professionals] tells me anything."*
	"Why don't you send [a type of medicine] just to be sure?"
Disagreeing with Recommendations	*"Yeah. But I didn't understand why I wasn't given the machine 'cause I went through the procedure, I did everything I was asked to."*
	"I, you know, I think I'm gonna go back to the Crestor and be a witness on it and see if that'll work."

Table 3
Physicians signaling patient trust.

PHYSICIAN SIGNS OF TRUST	EXAMPLES PHYSICIAN QUOTES
Validation and Praise	*"This is looking good. This is definitely better than before. So, that's a good thing. So, I love your experiment that you did. Good work"*
	"Exactly, no, you're doing it perfectly right. So, you, exactly, you wake up, use the restroom, take off your clothes, weigh yourself. If you notice that your weight increases by two to three pounds in two to three days, that's not fat, that's fluid. So, exactly what you said. You just said three pounds. That was exactly right."
	"You do it by the scale - perfect, that's exactly what you should be. You're doing it exactly right."
Personal Relatability	*"Well, you and everybody else. I'm telling you, like, and myself included. There's not a single person I know that hasn't gained weight during COVID"*

information from patients asking their physicians for advice. Being curious and gathering information did not cross the threshold for indicating trust. Instead, patients needed to ask for a specific recommendation or seek specific advice from their physician to be counted as showing trust. This distinction was made to ensure the content was explicitly measuring a patient's trust for their physician's intent to provide good medical care to improve their health outcomes (see Table 1).

3.1.2. Agreeing with recommendations

Patients agreeing with their physicians' course of action on their medical care also fit into our definition of patient trust as they believed that their physician's medical plans were the right ones for them. This signal of trust was found throughout the audio recordings, but the most blatant version was a patient stating: *"I told [the nurses] I'll go with whatever you [the physician] say."* Importantly though, tone mattered. Coders counted patient agreeing when their pitch was not too high or too low indicating patients providing a socially desirable answer and acquiescing when they do not actually agree.

3.1.3. Bringing attention to problems, fears, and personal matters

Another indicator of trust was when patients divulged their feelings or talked about personal matters with their physician.

3.2. Signals of distrust

3.2.1. Repeatedly advocating for their own care

Coders noted distrust when patients repeatedly asked their physician a question or advocated for the care they think would be best suited for them. Coders felt that repeating questions indicated that patients felt their needs and concerns were being dismissed or not heard. Patients advocating for themselves may be done when they do not believe their physicians are advocating for their best interests. In one instance, a patient seemed frustrated with their current physician and other healthcare professionals and stated in an upset tone: "*Nobody [referring to healthcare professionals] tells me anything."* This patient's frustrations were voiced after their cardiologist asked about the patient's upcoming procedure with the sleep apnea team. Another patient continuously questioned their cardiologist's judgement on whether or not he should have a specific medication throughout their interaction and blatantly said, *"Why don't you send [a type of medicine] just to be sure?"* which indicated the patient's lack of trust in their physician's intent to benefit them. As with trust, vocal cues determined whether patients were stating a preference (neutral tone) or showing distrust (stronger tone or questioning tone).

3.2.2. Disagreeing with medical recommendations

Patients showed distrust by adamantly disagreeing with their physician's medical recommendations for the care or treatment. An example of this can be seen through two patients saying these quotes to their cardiologist (see Table 2) Also tones, such as an edgier or more suspicious sounding tone, were counted as distrust.

3.3. Physician facilitation of trust

Physicians helped to show their patients that they have their best interests in mind when they addressed and validated their patients and showed them they trusted them by praising their efforts (see Table 3). Additionally, cardiologists within this study helped facilitate a more trusting environment by expressing empathy and relating to them on either a personal or medical level. The following figure (Table 3) shows quotes from cardiologists that indicate this.

4. Discussion and conclusion

4.1. Discussion

The aim of this study was to examine the verbal and vocal cues in patient-physician interactions to provide an objective way to measure trust. Our coders consistently identified instances where the patient expressed that their physician was competent, empathic, and doing things that benefited their medical and personal needs [12,16]. These excerpts from the audio-recorded encounters correspond to the previous literature that defines patient trust in two domains: interpersonal aspects and technical competence [6,12,18,19]. Conversely, the prominent signs of distrust included patients feeling the need to repeatedly advocate for their own care and questioning or disagreeing with their physician's medical recommendations. It was important to not just read the transcripts but also to listen to the audio recordings as the vocal cues played a crucial role. Some vocal cues of trust were sounding at ease or comfortable compared to sounding anxious or uncomfortable that were noted as signs of distrust. This standardized qualitative measure addressed a common gap in the literature by providing a measure that is more objective than patient self-report data, which as reviewed previously, are subject to social desirability biases and ceiling and floor effects [6].

We also identified some behaviors from clinicians that facilitated trust [5,7]. The two main themes that resulted from this analysis were physicians validating patients and praising them showing their trust in them. The other theme was empathizing with patients [12,21]. This possibility is

supported by the evidence shown from previous literature that has shown physicians who address their patients clearly and concisely along with showing empathy helps improve the patient-clinician relationship [1,6,12,21]. Thus, the present study establishes a new medical trust measure that examines several key indicators of trust that are crucial to train doctors in empathetic communication with all of their patients, so people of all backgrounds have access to quality healthcare.

4.2. Innovation

The current findings present a novel method that advocates for using a more holistic assessment of patients' feelings during interactions with clinicians—verbal cues of trust and distrust. Few studies have directly observed patient-clinician dyads for trust research and have thus relied merely on self-report surveys after clinician visits. Here, we are the first to document distinct verbal and non-verbal cues from audio-recorded clinician-patient dyads that signal trust and distrust, which we argue can be used for future trainings on what cues clinicians can listen for when treating patients. Analyzing vocal and verbal cues is a more objective measure with higher accuracy than the current standard of self-report because it removes likelihood for the social desirability and acquiescence biases common in previous trust measures [5-7,12]. By addressing the need for more qualitative methods in health research, we propose this new alternative that could improve patient-clinician relationships and in turn health outcomes.

Moreover, these data show promising results for improving quality of care for patients from multiple backgrounds. Training doctors to be attentive to vocal cues from patients, as well as learning ways they can encourage their clients, would help patients feel supported, increasing their treatment adherence [2,12]. We believe this new perspective and option for considering patient-clinician trust can positively shift medical interactions to significantly advance health outcomes for patients, especially those with chronic illnesses.

5. Conclusion

5.1. Limitations & future directions

This study looked at patient-physician interactions; however, the physicians included in this study were all white cardiologists. Thus, the results of this study might not be generalizable when considering patient interactions with other clinicians, including nurses and physician assistants, or interactions with clinicians from other racial backgrounds. Future studies should include a more diverse set of clinicians to test for other identity-based intersectionality issues that may shift levels of experienced trust (i.e., being a Black female with a white male doctor compared to being a Black male with a white male doctor). Due to sample size limitations, we were unable to assess differences based on specific patient characteristics, such as sex and race. Future work should use these same analyses across a larger more diverse sample to create a larger codebook to quantitatively assess and document trust and distrust for both majority and minority group members since there may be cultural differences in what is considered trust.

5.2. Practice implications and conclusion

In sum, we are among the first to qualitatively identify signals of trust and distrust in audio-recorded patient-physician encounters. These findings represent the primary step in providing health care providers new approaches in considering levels of trust while providing treatment. Specifically, the essential behavioral and vocal cues that increase and decrease patient trust identified here, we argue are the building blocks for clinicians to consider going forward. With existing self-report measures suffering from ceiling effects, clinicians and healthcare professionals need other options to effectively measure patient outcomes and treatment. We encourage the present set of results to be translated into a larger codebook that can assess the prevalence of trust and whether trust differs based on patient characteristics. With larger samples, whether there are culturally specific markers of trust can be verified which will strengthen training programs clinicians and healthcare providers complete on improving patient outcomes.

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Declaration of Competing Interest

The authors have no conflicts of interest to disclose.

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