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Three Types of Ambiguity in Coding Empathic Interactions in Primary Care Visits: Implications for Research and Practice

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Abstract

Objective—To describe three methodological challenges experienced in studying patients' expressions of emotion in a sample of routine ambulatory medical visits, and the research and practice implications of these challenges.

Methods—Qualitative analysis of empathic cues in audio-taped and transcribed periodic health examinations of adult patients (n=322) in an integrated delivery system. The empathic and potential empathic opportunities methodology was used.

Results—Identifying emotional cues that constitute "empathic opportunities" is a complex task. Three types of ambiguities made this task particularly challenging: 1) presentations of emotional cues can be "fuzzy" and varied; 2) expressions of illness can be emotionally laden in the absence of explicit "emotion words"; and 3) empathic opportunities vary in length and intensity.

Conclusion—Interactional ambiguities pose a challenge to researchers attempting to document emotional cues with a binary coding scheme that indicates only whether an empathic opportunity is present or absent. Additional efforts to refine the methodological approach for studying empathy in medical interactions are needed.

Practice Implications—The challenges discussed likely represent the same types of situations physicians find themselves in when talking with patients. Highlighting these ambiguities may aid physicians in better recognizing and meeting the emotional needs of their patients.

Keywords

empathic opportunities; emotional cues; patient-physician communication

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1. Introduction

In 1930, literary critic and poet William Empson published Seven Types of Ambiguity [1], which is now recognized as a classic analysis of the complex meanings written language can have depending on the context and relationship of a reader to a text, or in the case of spoken language, a speaker to a listener. Empson defined ambiguity as, “any verbal nuance, however slight, which gives room for alternative reactions to the same piece of language.” Ambiguity in language has not been a central feature in studies of medical discourse, especially in the literature that focuses on coding clinical interactions. Assigning codes that “stand for” discourse phenomena is a task that typically renders language unambiguous and dichotomous. For example, questions are coded as being either open-ended or closed-ended and utilize methods such as triangulation and inter-rater reliability to reduce variation and strengthen confidence in the results.

In the course of using similar strategies to code empathic interactions between doctors and patients, we repeatedly found ourselves unable to come to consensus on what patients meant by some of their statements. Over time we began to recognize, as had Empson, that we were locked in an impossible task; that the language we were trying to code was, in a word, ambiguous. We report on three types of ambiguity that we found and comment on their methodological and clinical implications.

We start with the meaning of the term *empathy* which was coined in the late nineteenth century [2]. Many different definitions of empathy exist but almost all include an element of caring and feeling cared for [3]. For this study we defined “empathy” as a two step interactional sequence beginning with an explicit negative emotional expression, or empathic opportunity, from the patient followed by an empathic response from the physician. [4]

The quality of empathy between doctor and patient is a significant determinant of the strength of therapeutic alliance [5]— marked by mutual trust, coordinated and continuous health care, and the patient’s perception of feeling respected and cared for— and is an important pathway through which communication leads to improved health [6], clinical outcomes [7], and patient satisfaction [8].

Researchers have noted a continuum of verbal emotional expressions ranging from explicit emotion words, such as “scared”, to indirect cues and clues to emotion like the statement, “I’m thinking of getting divorced,” which does not contain a direct expression of emotion, but potentially hints at the emotions involved in a significant life change. In this paper, we report some lessons learned from coding patients’ expressions of emotion in a sample of periodical health exams.

Despite applying a validated methodology [9], we encountered remarkable difficulty in identifying patient expressions that might prompt an empathic physician response. Others have attempted to address similar challenges [10–12]; in particular, the Verona Coding Scheme for Emotional Sequence (VR-CoDES) touches on some of the same ambiguities we describe [10]. The convergence of findings from this and other studies suggest that emotional expression may be far more complex and subtle than once thought. The fact that trained researchers from a variety of backgrounds and language communities have experienced difficulty in accurately identifying the pre-requisite for empathy (the expression of a negative emotion) suggests that clinicians may experience similar difficulties underscoring the need for a “kinder, gentler and more caring approach to the study of clinical empathy” [4].

2. Methods

2.1 Data

Audio recordings of 322 routine encounters with 59 primary care physicians from 2007–2009 are the study data. Patients were 50–80 years old and were insured. More details of the data and study setting have been described elsewhere [13].

2.2 Studying empathic cues: the E-PE-O method

In 2010, when this project began, the communication research literature contained several methodological approaches to studying empathic communication. Several models for coding emotional cues [11, 14, 15] and empathy-specific scales had been reported [16–18]. We chose the empathic and potential empathic opportunity (E-PE-O) method developed by Suchman, Markakis, Beckman, and Frankel [19] and validated by Eide and colleagues [9], to capture patients' expressions of verbal emotion. Since that time, a more elaborated approach to coding emotion, the VR-CoDES scheme, has appeared in the literature [10]. One of its authors, Eide, was involved in validating the E-PE-O framework. We compare the two approaches in the discussion section of this paper.

The E-PE-O method codes patients' verbal utterances containing explicit expressions of emotion and those in which an emotion is hinted at. An *empathic opportunity* is defined as "a direct and explicit expression of an emotion by a patient" and creates the opportunity for an *empathic response* [19]. Recognizing that patients frequently introduce emotion-laden topics with indirect statements that hint at the presence of an emotion rather than explicitly stating them, Suchman et al. also coded what they termed *potential empathic opportunities* (PEOs) — statements "from which a clinician might infer an underlying emotion that has not been explicitly expressed" In validating the E-PE-O method against a "gold standard" for coding PEOs registered partly as concerns and partly as medical information, representing "both a clinical and a methodological challenge [9]".

2.3. Applying the E-PE-O approach

The E-PE-O approach is deceptively simple. Nevertheless, we experienced difficulties in reaching acceptable inter-rater reliabilities in coding PEOs and EOs. Considerable ambiguity emerged as we tried to determine the presence of emotions in patients' statements, particularly in differentiating empathic opportunities from potential empathic opportunities and non-emotional statements. We first coded ten visits according to the E-PE-O criteria [19] and met regularly to address challenges encountered in the coding process—particularly the identification of verbal expressions of emotion that did not explicitly fit the E-PE-O methodology that were nonetheless felt by multiple coders to be opportunities for the physician to express empathy. Despite extensive training in the methodology by one of its developers (RMF), we still had difficulty establishing inter-rater reliability for PEOs after test coding ten visits.

For EOs, we were able to achieve 80% inter-rater reliability. Nevertheless, our inter-rater reliability results for PEOs—although comparable with what has been reported in the literature [9]— were below 60% and led us to only code EOs in subsequent work. To minimize coder drift, we did inter-rater reliability checks on 10% of visits and intra-rater reliability checks on 5% of visits after batches of 30 had been coded. Attempting to reconcile inter-coder differences, we discovered explicit expressions of emotions were not as obvious as we had assumed; there were gradations in how patients expressed emotions to physicians. This gray area motivated us to describe three ambiguities we discovered, below.

3. Results

3.1 Ambiguity Type #1: Presentation of emotional words can be fuzzy and varied

Even with a firm rule for coding empathy using "explicit emotional words," we still encountered difficulties with "explicit emotion words" that registered as empathic opportunities. For example, patients often used proxies for explicit emotion words, including emotional phrases, stock expressions, metaphors, interjections, and slang.

Interjections like "oh my goodness" or "oh no," while not traditional emotion words, still conveyed emotion (typically surprise) [20]. In one visit, the physician told a patient with a history of noncancerous colon polyps that follow-up was recommended every eight to ten years. The patient replied, "Whew. Eight years?" His response and tone of voice suggested surprise (and perhaps concern) about the recommended interval for follow-up colonoscopy. We did not code this as an empathic opportunity (EO) because the statement was not an *explicitly* expressed emotion [9]. To code this statement as an EO would be replacing a coding rule based on observation (explicit evidence of emotion in a patient statement) with one based on interpretation (the coder's assignment of an emotion based on inference). Assigning "arbitrary" thresholds for explicitness is one way to preserve methodological integrity and rely more heavily upon observations rather than interpretations. Following this route, we found that our inter-rater reliability improved. Nevertheless, it might have come at the expense of under-estimating some empathic opportunities.

Many patients used slang and metaphors to describe their emotional states, as illustrated below:

> "I'm starting to snap, I'm starting to a little bit snap now. You know what I'm saying?"

The patient in this visit clearly verbalized an unpleasant emotional state [21] without explicitly saying, "I'm nervous" or "I'm upset." Expressions like "I'm starting to snap" are commonly recognized indicators of negative emotion and, as such, we coded this utterance as an EO. Ekman [20] has identified 15 distinct emotions based on facial expression, and suggests "that there are probably more emotional words than there are emotions, terms which refer not only to the emotion but features of the eliciting situation, of differential response to that situation, etc." This is consistent with our experience and led us to broaden our EO criteria to include statements with commonly accepted emotional meaning or force in the absence of a pre-defined set of "emotion words."

3.2 Ambiguity Type #2: Expressions of illness experience can be emotionally laden, even without explicit emotional words

Another challenge in recognizing and responding to patients' verbal expressions of emotion is the baseline distress produced by symptoms or illness. According to Menninger [22], "Every physical chief complaint is accompanied by a corresponding emotional component or emotional chief complaint." Patients sometimes explicitly verbalized an emotional response to a physical condition, such as:

> "… the blood afterwards, I was like, really concerned because I had bad, um, bad, you know, bowels before where I was constipated but when I used the bathroom, I just used it. There was no blood at all…And then this one had blood and then it, it had bleeding afterwards. That's what scared me."

We coded this statement as an EO since the patient mentioned that she was "scared". In contrast, another patient told her physician about a recent illness:

> "This pain was not going all the way around so I got to [hospital name] and I said, they took my blood pressure. My blood pressure was 53/30 something… I was just shaking and… I guess I was going into shock."

The implied emotion here is fear, but the patient did not say, "I was shaking, I was so scared." No explicit emotion words were used in this part of the visit, and as a result we did not code this as an EO. The patient's tone of voice indicated she might have been trying to communicate her fear and distress to the physician but, unaware of her intention, we erred on the side of what we observed, not our interpretation of what it might have meant. As a result, our approach could potentially under-represent the frequency of empathic opportunities offered in a visit.

Likewise, physical pain and discomfort are frequently discussed in the visits with ambiguous word choices that could indicate emotions [23]. After several iterative rounds of independent coding and group meetings, we decided that the expression of physical discomfort does not always constitute an EO. To be considered an EO, a patient's expression of pain or discomfort—despite severity—had to be accompanied by an explicit emotion associated with the physical symptoms. Again, good inter-rater reliability (>80%) was attained using this approach.

Just as talking about one's own health and illness can bring forth emotions, talking about others' illnesses and deaths can also be emotionally charged. We found ourselves in the position of assigning emotional values to certain events. For example, patients can describe someone's death with a level of personal attachment that has obvious, if not explicit, emotional import. The conversation below occurred a family history:

> PT: I had one little boy that died of cancer.
>
> MD: How old was he?
>
> PT: He was four.
>
> MD: Four years old?
>
> PT: Mm-hmm.
>
> MD: Okay, I'm sorry to hear that. It's always sad when you hear about little people, isn't it?
>
> PT: Yeah. Yeah.
>
> MD: It just don't seem right. It doesn't, it doesn't seem right.
>
> PT: No. They, they shouldn't go. No. They're too little.

In this exchange, the patient did not explicitly use emotion words to describe her young son's death. After using what linguists call a contingent question, "How old was he?" to obtain a bit more information, the physician responded empathically. It is, however, a case of an empathic response following directly after an early hint about emotion through the patient's sad tone of voice rather than the use of an emotion word. The distinctive catch in her voice qualified her statement as an explicit statement of emotion, and we thus classified it as an EO.

3.3 Ambiguity #3: Empathic opportunities can vary in length and intensity

Another difficulty we encountered was the length and quantity of empathic opportunities. We classified brief physician utterances (such as "mhmm" or "yeah") as empathic "continuers" [19], a class of utterances that encourages the other person to keep speaking. However, determining where an EO ends and space for an empathic response begins can be

unclear. Rather than counting each emotion-containing statement or phrase as an EO, we treated a prolonged exchange as one EO if the content of the patient's expressions did not change and was facilitated by the physician's use of continuers.

One generally unambiguous emotional expression that makes identifying the beginning and end points of EOs challenging is crying. Crying has long been viewed as a universal communicator of distress [24] and a signal soliciting the help of others [25]. Based upon these characteristics, we made a coding decision to treat a patient's crying as an *explicit* expression of emotion. Often emotion words were not used and crying would not be detected without listening to the audio or referring to a research observer's field notes of the visit. Consider the following example a patient crying during the family history:

> MD: And other cancers in your family?
>
> PT: My mom.
>
> MD: What kind of cancer was it?
>
> PT: Um, ovarian.

The patient does not say anything more about her mother. If we had relied on the transcript only, this exchange would appear unemotional. The audio recording, however, revealed that the patient cried, indicating great depth of emotion even though explicit emotion words were absent. As such, we coded this exchange as an EO. In contrast, the patient below cried throughout much of the visit and embarked upon "troubles talk" [26] about various emotional and psychosocial difficulties:

> PT: I'm really anxious. I have a lot, a lot of anxiety. I've been really depressed. I don't know a lot, I think I've taken on, I think I've finally hit my rock bottom, doctor…
>
> MD: Okay.
>
> PT: …and just so much has happened in this last year. My daughter was in a really bad car accident =
>
> MD: Yeah.
>
> PT: I went in the hospital. I'm sure that's what triggered mine, I don't know… And I just want to be happy again. Cause I'm not happy…I'm trying to make different steps and I was doing really good with my not smoking and then this depression it just started up again…and when she took my blood pressure she said it was 161, my God!
>
> MD: Yeah, don't worry, we'll re- don't worry about it…We'll just redo it.
>
> PT: And I worry about every little thing…sometimes I feel why don't I just dig a hole… And I knew as soon as I saw you I would start to cry.
>
> MD: That's okay. Now's your chance.

In this example, the combination of pressured speech and crying were facilitated by the physician's use of continuers, allowing the patient to "empty her cup." Suchman et al. [19] called this "accumulated string of empathic opportunities with a single empathic response" the lasso effect. Branch [27] has characterized the same phenomenon as a "window of opportunity". We coded the entire sequence as a single EO.

4. Discussion and Conclusion

4.1. Discussion

Despite calls to increase or improve physician empathy [8, 28–35], there is little evidence of improvement [36]. Part of the issue may be the result of focusing on throughput and a perceived lack of time; another factor may be the lack of training physicians receive in this area. Our findings suggest another possible explanation for the low rates of empathy noted by others [19, 31, 37]: the ambiguity physicians experience in detecting empathic opportunities.

From a research perspective, empathy is a challenging area to study, with no singular theoretical approach or definition [38, 39]. Depending on one's theoretical and methodological orientation, empathy could be construed to be a state, trait, or a way of being that defies empirical description [40]. Similarly, empathy can be quantified as being present or absent irrespective of antecedent or subsequent events, and it can be considered an interactional achievement of two interlocutors using language to communicate in time and space [41].

The VR-CoDES [10] for emotions doaccount for the lack of explicit emotional words (Ambiguity Type 2) we observed to some degree, particularly in cue categories *a* ("Words or phrases in which the patient uses vague or unspecified words to describe his/her emotions") and *b* ("Verbal hints to hidden concerns"). However, the characterization of such statements as opportunities to express empathy—which is the interactional significance of studying patients' expressions—remains unclear.

Furthermore, the VR-CoDES system [10] accounts for the "physiological or cognitive correlates" (cue category *c*) emphasized in patients' expressions like being weak, restless, or having poor concentration. We find this categorization to be a useful addition to the literature, because patients suffering from mental health issues often present their concerns as physical symptoms—for example, gastrointestinal symptoms as an initial presentation of patients with a history of childhood sexual abuse [42–46]. A related issue pertains to the treatment of patient's crying during office visits. We treat this behavior as an explicit sign of distress, i.e., an empathic opportunity, rather than a cue (cue *f*, "Non-verbal expressions of emotion") as found in VR-CoDES [10].

Determining the unit of analysis—where an empathic opportunity ended and opportunity for a response began— was another issue that underscored the inherent ambiguity in detecting emotional cues. The VR-CoDES classify turns by the presence of one cue or concern offered by a patient [10]. However, the frequency of "troubles talk" by patients makes discrete turns of talk difficult to identify and quantify.

Our intent in this paper is not to judge which approaches to studying empathic opportunities are better or worse, but rather to explore some of the hidden complexities in studying a phenomenon such as emotional cues— even when we thought we had established a "concrete" way of identifying the more explicit EOs. For example, we chose the E-PEO method because it is based on an empirical definition of empathy and because of its tie to clinical communication and education. However, like the tale of the three men and the elephant, different approaches to studying empathy are likely to reveal different aspects of the phenomenon [47]. What is important from a research perspective is to be clear about the assumptions one is making and the rules that define how any analysis is being conducted. In quantitative research this is known as reliability; in qualitative research it is known as trustworthiness.

We sought to make explicit the criteria by which verbal expressions of emotion could be coded into a validated framework with a particular (interactional) focus. As work on over 300 transcripts progressed, we realized that there were many more shades of gray in making coding decisions than we had imagined or expected. This led us quite naturally to want to define the limits of a deceptively simple binary coding scheme, the E-PE-O method—a task that first unearthed a great deal of ambiguity around exactly what constituted a hint or cue about patients' emotions, and similar challenges in trying to define what an explicit expression of emotion was. Because we could not reach an acceptable inter-rater reliability coding subtle cues (PEOs) with the usual practice of doing ten iterative coding trials, we decided to focus on more explicit expressions of emotion. The latter proved to have its own challenges, three of which we described in the body of the paper.

Taking our initial cue from Empson's writing on ambiguities in literary texts [1], we found similar challenges in trying to code what might be characterized as "interactional ambiguities," in the expression of emotions. The interactional ambiguities we encountered are not unique to researchers trying to code transcripts for research purposes. They may well represent the same types of situations physicians find themselves in when talking with patients. From an interactional perspective there may be one or several types of ambiguity that make it difficult for a physician to know how to respond empathically. Much of this ambiguity may be lost in coding schemes that treat empathic opportunities as binary phenomena, i.e., either the behavior is present or absent. And while other coding schemes, like VR-CoDES, further elaborate and categorize expressions of emotion, they maintain a binary approach to coding. This runs the risk of producing results based on the "fallacy of false concreteness" as we have experienced firsthand in our effort to document emotional expressions with binary variables. Findings may appear to be definitive but actually are the product of forced choices that are built into the coding scheme. We suggest broadening interpretations of what constitutes an explicit emotional expression by considering the interactional contexts in which patients express or hint at emotions and leaving room for coding categories such as "ambiguous".

4.2. Conclusion

Research has consistently shown that physicians' use of empathy in medical encounters is beneficial for both relationship-building and clinical outcomes of patients [7, 8, 14, 48] but physicians often miss or choose not to acknowledge and respond to their patients' expressions of emotion, leaving some critics wondering if physicians are lacking in emotional intelligence or are simply hard-hearted [19, 30, 49, 50]. Accrediting bodies, policy makers, health communication researchers, and the public have all called for physicians to demonstrate more empathy toward their patients [19, 51–53]. Yet, practicing physicians may perceive the complexities of empathic communication as unpredictable and time-consuming [31, 49, 54–56], preferring instead to focus on the need to assess and treat biomedical concerns.

In to respond empathically one must first recognize the opportunity that is being offered. Our research efforts to recognize emotional expressions revealed that emotional cues involve ambiguities regardless of the coding scheme employed. The research literature is relatively silent on how patients' concerns are understood by physicians [36]. We conclude that the gap between theory and practice in recognizing and responding to patients' emotions, in all their forms, offers a great opportunity for improvement and skills development for physicians, and an equally exciting opportunity for researchers to develop more nuanced methodologies in studying clinical empathy.

4.3 Practice Implications

Empathy skills of physicians can and should be improved. Using audio or videotape review, physicians see and hear how they inadvertently terminate hints at emotion and explicit empathic opportunities [19, 57]. Several studies on communication training programs [58–62] suggest the ability to communicate empathically—beginning with the ability to recognize patients' empathic opportunities—is indeed a necessary and teachable clinical skill [52]. Regarding the fears that some physicians may have about the time cost for responding to emotions, there is evidence that, with training, visits do not take substantially more time than those that are biomedically focused and disease specific [63]. Like any other clinical skill, learning to use empathy effectively requires practice and feedback, both of which require an investment of time and effort.

Finally, learning the skill of responding appropriately in ambiguous interactional circumstances may represent an opportunity for improvement for medical educators as well as trainees and practicing physicians. A good basketball player can see an open player and pass the ball successfully; a great player can anticipate where a player will be and pass the ball without even looking. Likewise, a physician with good empathic skills can detect and respond to explicit expressions of emotion; a great physician can read subtle clues to emotion, encourage their expression and leave the patient feeling known and understood. In this pursuit, we can all aspire to go from good to great.

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