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The Role of Nonverbal Communication Behaviors in Clinical Trial and Research Study Recruitment

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ABSTRACT

Few studies have examined the communication behaviors of those who recruit for clinical trials and research studies, particularly of nonmedical professionals who often do the bulk of recruiting. This focus-group study of 63 recruiters analyzes the ways in which nonverbal communication behaviors support the process of recruitment, using the lens of communication accommodation theory. Results indicate that recruiters first "read" potential study participants' nonverbal communication for clues about their state of mind, then use nonverbal communication to achieve a sense of convergence. Specific nonverbal communication behaviors were discussed by recruiters, including smiling, variations in the use of voice, adjusting body position, the appropriate use of physical touch, the management of eye contact, and the effect of clothing and physical appearance. Implications for recruitment practice are discussed.

It is difficult to overstate the importance of research study and clinical trial accrual. Nearly 40% of clinical trials focusing on cancer are closed because of insufficient enrollment (Dilts, Cheng, & Crites, 2010), which means potentially important new treatments for a variety of diseases or approaches to disease management go untested (Albrecht et al., 2008; Denicoff et al., 2013; Friedman et al., 2014; Jenkins, Fallowfield, Souhami, & Sawtell, 1999; Jenkins et al., 2013). While much attention has been given to the reasons why patients turn down opportunities to enroll, a larger problem is that most patients are never even offered these opportunities. For cancer clinical trials, for example, only 20% of patients are told about available trials for which they might qualify (Eggly et al., 2008), which may be due to physicians' own lack of awareness of trials, poor reimbursement of the expenses associated with enrolling patients, discomfort with discussing trials, and a lack of time (Denicoff et al., 2013; Roberts, Waddy, & Kaufmann, 2012). In fact, it appears that much of the "heavy lifting" associated with clinical trial and research study recruitment is actually done by nonphysician staff members, including study nurses, research coordinators, and full-time recruiters who are trained to discuss the details of a wide variety of studies with potential participants (Fedor, Cola, & Pierre, 2006; Heller et al., 2014). In spite of the large amount of recruiting activity being performed by these professionals (and the fact that they may be more successful than physicians at enrolling participants; see Heller et al., 2014), little attention has been given to recruiters' activities, including the specific communication behaviors that support recruitment processes. Morgan and Mouton's (2015) model (Figure 1)Figure 1 highlights the need for attention to communication behaviors related to recruitment, as communication skills and behaviors directly impact recruitment and whether or not a patient enrolls. In this study, we explore the role of nonverbal communication in recruiters' discussions with patients and participants and how they relate to successful recruitment. By identifying these behaviors, we believe that both nonmedical and medical professionals (including physicians) can improve communication practices and ultimately improve accrual rates.

Nonverbal Communication and Recruitment

In the literature on the role of communication in the process of research study and clinical trial recruitment, nonverbal communication has received very little attention scholars have focused on what should be said rather than how it should be said. Only some of the nonverbal aspects of speech have been attended to by researchers. For example, studies have reported that using a respectful tone of voice may be helpful to the recruitment process (Harrigan et al., 2014; McSweeney, Pettey, Fischer, & Spellman, 2009). Other nonverbal communication variables (including facial expressions, body orientation, eye contact, and physical appearance) have not been examined in previous studies.

However, researchers do offer more global prescriptions about the type of nonverbal communication cues that providers should exhibit when discussing clinical trials with patients in order to create and maintain a positive relationship. For example, previous research has discussed the importance of affective communication, which appears to lead to greater comprehension of treatment details and increased

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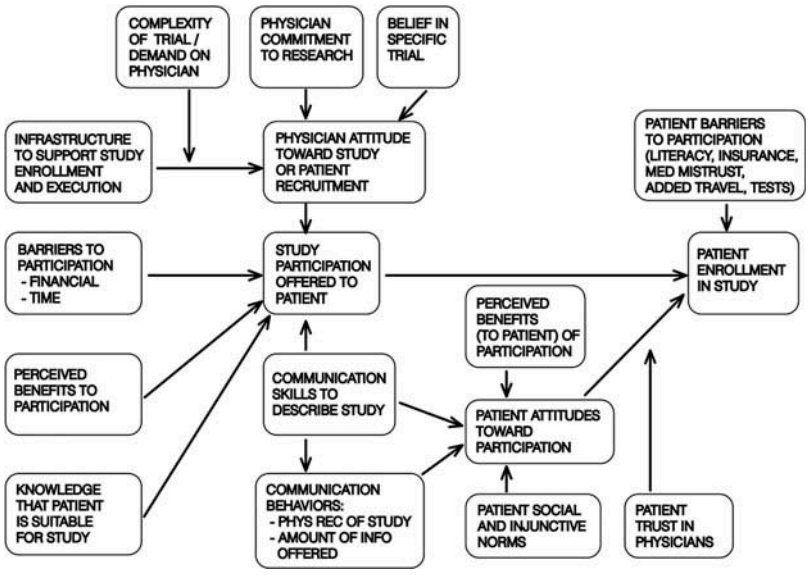

Figure 1. Clinical trial accrual model.

satisfaction with care (Grant, Cissna, & Rosenfeld, 2000; Siminoff, Zhang, Colabianchi, Sturm, & Shen, 2000). Similarly, researchers also report that being friendly, relaxed, attentive, respectful, and talkative with patients/participants is important (Grant et al., 2000; Otado et al., 2015). Moreover, maintaining eye contact has been linked to an increase in the patient's trust in the information presented (Hillen et al., 2015). It stands to reason that "Improving [recruiters'] communication skills when explaining trials has the potential to … increase the likelihood of [patients'] participation" (Ford et al., 2011, p. 1535).

One theoretical framework that helps to explain the role of nonverbal communication behaviors on the quality of the interaction between individuals is communication accommodation theory. This theory serves as a foundation for the present study.

Communication Accommodation Theory (CAT)

A central tenet of communication accommodation theory (CAT) is that verbal and nonverbal communication is used (largely unconsciously) to signal affiliation with a conversational partner (Giles, 2008). Depending on whether the interaction is defined in intergroup or interpersonal terms, a process of convergence or divergence ensues (Giles, 2008; Giles, Coupland, & Coupland, 1991). Convergence can be a function of attraction, perceived similarity, and approval, as well as a desire to communicate within a set of positive social norms and expectations (Giles et al., 1991). Convergence is characterized by nonverbal mirroring, where rate and tone of speech may become similar and even body posture may reflect the orientation of the other person. Verbally, conversational participants may use a similar style of speech or engage in reciprocal self-disclosures (Bourhis, Roth, & MacQueen, 1989). Conversely, divergence is characterized by an exaggeration of differences in style of speech as a way to create greater social distance, which generally indicates that one or both conversational partners are experiencing the encounter in terms of group membership (e.g., social class, ethnicity), particularly when one group is perceived as a member of a less valued outgroup (Giles et al., 1991). There is, of course, the danger of overaccommodation, which can be experienced as patronizing and insincere, even when intentions are benign (Farzadnia & Giles, 2015; Giles, 2008; Williams & Nussbaum, 2001). This is a particular problem when actors engage in accommodation based on their (potentially inaccurate) stereotypes of the communication style of groups to which their conversational partner belongs (Duggan, Bradshaw, Swergold, & Altman, 2011; Giles, 2008).

CAT has been applied to many contexts, including health care (Bourhis et al., 1989; Farzadnia & Giles, 2015; Giles, 2008; Hannawa, 2011; Sparks, Bevan, & Rogers, 2012; Street, 1991; Watson & Gallois, 1998, 1999). In some instances, the use of CAT has exposed where physicians have used convergence to manipulate patients (Farzadnia & Giles, 2015), a clear indication that ethics are an important consideration in the application of CAT principles. On the other hand, studies of health care professionals and patients demonstrated that patients were more satisfied with encounters when they were characterized by accommodation; such encounters were perceived as being more informative, empathetic, and responsive to patient concerns (Jones, Woodhouse, & Rowe, 2007; Watson & Gallois, 1998, 1999).

In encounters in a health care context, a guiding principle is not merely to converge, however, but rather to exhibit an appropriate level of verbal and nonverbal response (Duggan et al., 2011). As an example, Farzadnia and Giles (2015) found that emotional convergence is not always desired; rather, appropriate emotional convergence and divergence enabled physicians to meet their patients' needs more effectively. Thus, it is important for communicators to be able to participate in what can be a potentially complicated dance of conveying social approval and affiliation while also adhering to communicative norms socially dictated for a specific type of situation.

The study is premised on the principle that before we can improve practice, we need to know what current practice is;

thus, we are interested in how recruiters view their engagement and use of communication during the process of recruiting. While we use a communication accommodation framework as a starting point for our study, we are interested in all nonverbal forms of communication used during the recruitment process. As such, the following research question guides our study:

RQ1: What types of nonverbal communication behaviors do recruiters report using when communicating with potential participants?

Methods

Sites and Recruitment Procedures

Clinical trial and research study recruiters in Indianapolis, IN, and Miami, FL, were selected as the target population for this study. The two sites are similar in that they are in metropolitan areas with a significant population of underserved patients. However, Miami has fewer non-Hispanic Whites (about 12% of the population in Miami, compared to approximately 62% in Indianapolis, according to the 2010 U.S. Census), with a greater proportion of Hispanics in Miami than in Indianapolis (about 70% vs. 9%, respectively). However, Indianapolis has a higher population of Blacks/African Americans than Miami (approximately 28% vs. 19%, respectively).

Following approval from institutional review boards at each location, recruitment for focus-group participants was done via administrators who managed groups of recruiters. The managers or administrators of groups of recruiters forwarded an e-mail describing the study, eligibility criteria, and incentives for participation.

Participants

In total, 63 recruiters participated in our 11 focus groups. Of the 11 focus groups, 3 were conducted in Indianapolis with recruiters working in the ResNet system, a practice-based research network that is affiliated with Indiana University School of Medicine (for more details see Kho, Zafar, & Tierney, 2007), while the remaining 8 were conducted with recruiters working across the University of Miami as well as the University of Miami Health and Jackson Memorial Health hospital systems. All focus-group participants recruit (or have recruited) patients or potential research study participants who represent minority or underserved populations living in a diverse metropolitan area.

The size of the focus groups ranged from three to nine, with an average of six recruiters per group. Participants in these focus groups were required to have study recruitment as a part of their formal job duties and to have recruited at least 35 patients/participants in the last year. Recruiters were predominantly female (92%) and ranged in age from 20 to 63 years (M = 37.8). Most were Hispanic (53.3%), followed by White, non-Hispanic (28.3%) and Black/African American (18.3%). Participants were highly educated, with the majority indicating they had a graduate degree (66.7%) The remaining reported some graduate education (10.4%) or having a college degree (18.8%) or some college (4.1%). Years of experience with research study recruitment ranged from 6 months to 24 years, with a mean of 7.48 years.

Procedure

The first author facilitated all focus groups. All participants were given lunch or snacks as well as $60 each in exchange for their participation. Participants first completed the consent form as well as a brief demographics form. The purpose of the focus group was explained as a study that was designed to increase knowledge about the recruitment process and that would eventually help improve accrual rates to studies and clinical trials. After introducing the research team members present and then asking the participants to introduce themselves, participants were asked four broad questions about the characteristics of patients and studies that enhanced or inhibited recruitment, and about the verbal strategies recruiters used to describe difficult research concepts. The questions pertinent to the current study were: "Are there other things that you do to try to enhance the quality of your interactions with patients as you explain a clinical trial? Are there certain ways that you use nonverbal communication that you find helpful?" Follow-up questions were asked, as needed. Focus groups lasted between 1.5 and 2 hours. Each focus group was video recorded (with an audio back up) to facilitate the transcription process.

Data Analysis

Transcripts were uploaded into NVivo 10.0 for Mac for coding and analysis. Coding proceeded using a constant comparative method, as described by Corbin and Strauss (2008). At least six iterations of the coding scheme were developed by the authors, with coding categories being further refined into more specific subcategories or redefined as transcripts were coded and then discussed in detail during weekly meetings. Transcripts were recoded after each revision to reflect changes in specific categories. Categories were not orthogonal; a single utterance might be an example of multiple coding categories. The final coding categories relevant to the present study include aspects of verbal communication, relationship building, and nonverbal communication. Because CAT was selected as an interpretive theoretical framework only as results emerged, codes for specific theoretical constructs were not developed or applied. The codes with the greatest number of entries (both in terms of number of focus groups mentioning and number of participants discussing) are presented here. All participants' names have been changed. A member check of the findings has been part of our process.

Results

In this section, we refer to both patients and participants. For the purposes of this study, patients are individuals who are receiving medical treatment at the point when they are asked to join a study or a clinical trial. Participants are individuals who are not necessarily receiving medical treatment but are being asked to join a research study.

RQ1 asked about the types of nonverbal communication behaviors recruiters used when approaching patients and potential participants about research study and clinical trial participation. The most frequently mentioned nonverbal communication behaviors included "reading" potential participants' nonverbal cues in order to adapt their own communication behaviors, mirroring potential participants' nonverbal behaviors, and the use of specific nonverbal communication behaviors that promote perceptions of credibility.

"Reading" Potential Participants

The ability to accurately assess a patient's or potential participant's state of mind is an important ability used by the virtually all recruiters. This ability allowed them to determine the timing of their approach as well as the appropriateness of their other nonverbal communication behaviors. Recruiters believed that their adaptability to patients' communication needs determined, in large part, their success as study recruiters. One recruiter summed it up this way:

Zena: [T]here's a way to approach them … Someone who's … a lot more timid, you have to … present yourself in a way where they'll open up to you and they'll feel comfortable with you.
Susan: And how do you do that?
Zena: It depends on the person- you have to read them basically. Because [it is] based on how they react and how they look at you. You really have to pay attention to their nonverbals.

A sense of appropriate timing for a request to participate in a research study or clinical trial is also an important part of reading patients or potential participants.

Randi: well if everyone's in tears it's probably not a good time to talk to them, right? And body language is important to understand how engaged they are or how happy they are to see you.

While recruiters do not agree on whether the ability to read people is something that is learned or an innate trait of a good recruiter, they do agree that the ability to both read people and adapt to their preferences is important to the study recruitment process.

Stefania: [It takes] a lot of practice because each person is different. Some people just want the facts, like don't waste my time … Some other people wants to tell you their story, and you have then to adjust to that.
Susan: How can you tell when the patient expects you to do one versus the other?
Stefania: … [J]ust reading their mannerisms, you know. [Some] are laid back to their presentation and very calm, and everything else you can just kind of mimic their mannerisms, and if they are nervous or appear nervous just make sure you try to address those issues … and adjust accordingly.

Thus, recruiters talked about the importance of both reading and adapting to the nonverbal communication of potential participants. The adaptation process is often characterized by mimicking mannerisms. This is also termed "mirroring" in the literature on communication accommodation, and is an important behavior for recruiters who seek to establish a connection with patients and potential study participants.

Mirroring Nonverbal Behaviors

Recruiters report that mirroring the nonverbal behaviors of potential participants is a way of gaining insight into their state of mind.

Lillian: I like to mimic their tone. It's kind of like speaking another language … You can tell what they're feeling the moment they say something. Like, I'm bouncy all the time, and that annoys a lot of people. … [S]o the moment I walk into the room and I'm like, this isn't one of those people, I'm just like, calm down, keep a straight face, and you just adapt. But if you don't, it's incredibly important you do. It's like speaking another language. … [I]f you don't mimic it, they're not going to respond.

Mirroring or converging with a potential participant's nonverbal behaviors is also a way for recruiters to foster a sense of acceptance, or, at the very least, to minimize any possible annoyance.

Allie: [W]hen I'm talking on the phone, like if they like they're talking really quiet, like they just woke up or like not in [a] good mood, sometimes I'll try to tone it down too, so I don't seem, like, annoying. I change my voice a lot.

Clearly, mirroring is seen as an important way to establish a sense of connection with patients and potential participants. Mirroring is central to the process of convergence, as described by CAT. Thus, it is not surprising that recruiters seem to sense that a failure to converge with potential participants would be more likely to result in rejection of an offer to participate in a trial or study.

Specific Nonverbal Communication Behaviors

In addition to developing a positive relationship with patients and potential participants, recruiters discussed the role of specific nonverbal behaviors in the recruiting process. A number of behaviors appear to enhance the willingness of patients/participants to learn about and consider enrolling in studies. These include smiling, voice, body position, touch, eye contact, and the use of physical appearance to promote perceptions of credibility. Many of these behaviors are framed in terms of convergence with conversational partners or a desire to conform to cultural expectations.

Smiling/Friendliness

Recruiters emphasized the importance of maintaining a "positive attitude" and being kind, empathetic, and friendly. Most of the time, recruiters anticipate that this goodwill will be

reciprocated; if not, this failure to converge does not bode well for participant enrollment in a study.

Euphrates: I smile in general but I probably do it a little bit more.
Genevieve: Extra wattage [laughs]. Or I find something to compliment them on. I'm like "I really like your shoes."
Euphrates: Yeah, yeah.
Georgia: "I like your outfit."
Euphrates: If they're like "thanks" [short] that means that this isn't going to work.

It may seem obvious that in-person encounters should be characterized by this type of warmth, but a number of recruiters say that phone recruitment is also more successful when they have a "smile in their voice." Sophia uses the analogy of a *locutore*, a radio announcer, to explain the importance of projecting a smile with her voice.

Sophia: When you recruit by phone … how to say locutore the radio?
Erina: Radio announcers.
Sophia: [W]e have Sundays and we have Mondays too, and you have to explain to them with a smile. You sound different. And then there are days when you are really mad … You have to call but also to feel different … even if you are so sad, or whatever, or mad, you know? You don't want to translate to your voice. You have to smile and talk to them smiling, and the voice will [sound] completely different, and they will answer you differently.

Of course, when recruiters are confronted with potential participants who have just been confronted with a serious or life-threatening diagnosis, recruiters adopt facial expressions that are appropriate for the situation. In general, however, recruiters exhibit warmth and friendliness with the expectation that potential participants will converge, which is consistent with the principles of CAT.

Voice

Recruiters are also careful to adapt the rate, volume, and tone of their voices when they talk to potential study participants to perceived expectations. This type of behavior is also a way to express empathy, and encourages a sense of connection, as we have seen from previous examples in the section on mirroring.

Jack: Well, I have the recruitment voice. I change my entire speaking pattern. I have such a low, drowning voice… When I [talk on] the phone, I have to sound at least halfway happy [laughs]. I'm happy all the time, but I don't sound that way on the phone.

The volume of a recruiter's voice can also be lowered to enhance a sense of privacy when talking through study details in a clinic waiting room. Recruiters also use their voices to signal a sense of equipoise by removing emotional tone. Interestingly, recruiters use a vocal monotone to indicate a lack of conviction in a study, as one exchange between recruiters illustrates:

Veronica: [Describes study.] That [study] was the worst in my opinion, and I just read off the paper because I didn't have any heartfelt [support for the study]. … And I was like reading off the paper like this: [Drones].
Helen: Like, "IT'S TOTALLY VOLUNTARY!" [Laughs.]
Veronica: That's the only one that I haven't felt really comfortable with. Oh, it was very tough, it was hard for me to fake it. I was like … But people say yes. Oh my gosh.

This last example should prove to be something of a wake-up call for study investigators. Although recruiters are hired to help enroll patients or participants, few investigators take the time to talk to these important staff members about their studies and why their investigations represent potentially important advances that could improve health and well-being. When recruiters believe in a study, they convey this to patients (probably mostly unconsciously) through their nonverbal behaviors. Interestingly, this is also yet another instance in which recruiters may be hoping to drive a process of convergence from listeners; if recruiters elicit convergence from potential participants, the opportunity to join the study would be declined, which would be in accordance with the opinion of the recruiter.

Body Position

Body orientation can communicate a wide variety of messages that can affect perceptions of personal affiliation or liking. Recruiters are careful to use nonverbal behaviors to communicate positive messages to patients and potential participants by orienting their bodies in socially appropriate ways.

> Dana: How you're sitting, where you're sitting … They'll sit somewhere on a chair over there and I'll say, "You can come sit next to me, I don't bite." I want them to see what I'm doing. And you know, they'll laugh when they sit next to me and [that] makes them more comfortable, you know … So I think a little bit of that closeness that helps in terms of bringing that comfort level, in terms of the questions you're asking and make it a conversation.

Of course, there are variations in how individuals use nonverbal cues, and recruiters need to be able to accurately interpret the meanings of these cues.

Euphrates: [Y]ou go on the patient's level, you sit in a way that you're not so dominant, or you know, sitting down in front of the patient, not being so stiff, you know. You want to be able to relax in front of them and go, "This is the deal, this is what we're doing, do you want to be a part of it?" And being able to see if they are really understanding, [using] you know, those nonverbal cues.

Recruiters universally believe that whenever possible, it is important to position themselves on the same level as patients or their families. Standing above potential participants signals authority, which does not create the kind of interpersonal dynamic that supports recruitment. As with other forms of

convergence described by CAT, body position is another way that recruiters can indicate in-group affiliation.

Touch

The use of touch can be challenging for recruiters. On one hand, touch can signal warmth and affiliation, and convey a recruiter's humanity. However, there are no rules about the type or extent of touch that would be welcome by all potential study participants, which means that recruiters have to adapt to each individual.

Anita: You can sense it, you can feel it, you can tell from the beginning, when you walk in, they reach out, they wanna [be] shaking [your hand], whether they want to hug you or not. You can feel it, you can sense it. … You know? Then you know how to conduct yourself.
Ella: Right. And you change for each person.

However, touch can be complicated, as Lillian's account illustrates.

Lillian: But the reaction to … touch is important too, because you're in a closed room with somebody and so, if they hug you for a gift card that's one thing, but I had this one guy who got this close to my face and he was interested in the study and maybe that's just how his personality is. It was not okay with me, but we were in this closed room and I was just very, very uncomfortable. … I've never touched somebody unless they touched first, and usually it's just a hug or a handshake or something to show gratitude for the gift card.

Thus, while incorporating appropriate types of touch in recruiters' interactions with potential study participants is important, determining patient motives for certain behaviors can be quite difficult. In fact, because touch can be used to signal sexual attraction, it is an example of a nonverbal behavior where recruiters are sometimes careful to diverge from the behaviors of potential research participants. This divergence functions to create a greater psychological distance, which is in accordance with the principles of CAT.

Eye Contact

Eye contact is a very important nonverbal communication behavior for recruiters. It is a cue they use to read the state of mind of potential participants or to assess their comprehension of study information.

Georgia: I look at people's eyes, like if they're comprehending, like the patients that come for the Alzheimer's drug. I know they are understanding why I'm drawing their blood or not, so you can kind of tell with Alzheimer's patients if they are registering what you are saying with their eyes.

Additionally, recruiters frequently (and not surprisingly) use eye contact to signal that they "have nothing to hide." At the same time, breaking eye contact can help make potential participants more comfortable, as this interaction among several focus group participants illustrates:

Lillian: [E]ye contact is key [but] sometimes I look away. If I'm doing paperwork or something, I look down and it gives them a chance to let their eyes wander, but if they're talking to me, if they don't break it, I don't break it ….
Jack: I use the consent as a way to kind of break eye contact.
Georgia: Yeah, that's what I do.
Jack: Even, I mean we've all gone through consent how many times, we all know what it says, but I like to use it as a way to say, "Okay now, if you look at page 4, this section" and I physically look at it so that they will go and look at it.
Susan: And so the function of that is to make sure that they understand the study?
All: Mm hmm.

As with paralinguistic cues, eye contact is another example of when a recruiter can initiate an attempt to drive the mirroring process on the part of potential participants, rather than recruiters mimicking their conversational partners as would be predicted by CAT. Recruiters break eye contact and look down at the consent form as a way to encourage potential participants to do the same thing (i.e., mirroring). Thus, eye contact and its management serve multiple functions, including as a tool for reading individuals, a way to assess comprehension of study information, a sign of openness, a means to reduce the intensity of connection, and a way to direct attention to important information.

Physical Appearance/Clothing

There is disagreement among recruiters about what constitutes a credible physical appearance. Many recruiters simply had no choice; their employer requires them to wear a lab coat with the institution's name embroidered on it. However, some feel strongly about presenting signs of the authority and credibility that are associated with the institution they represent, whereas other recruiters believe that patients are suspicious of people who exhibit signs of authority and that they are more successful in the recruitment process when they wear normal (albeit "nice") street clothes as a way to minimize group differentiation, a process that CAT specifies would lead to divergence.

Ann Marie: With the HIV studies you wear that, and the badge, and the [coat] … We were recruiting injecting drug users [and] it's just another authority figure going to tell them, tell them no. … One of the things that they were trying to avoid was to see around cops.
Tallia: So it always depends on the population.

Still other recruiters have mixed feelings about wearing lab coats because they sometimes lead to misunderstandings about their position in the institution:

Doris: That's why I never wear it in the community because I don't want to be behind the front of any sort of institution like that, with a certain [implication] of expertise … So it's a whole question of authority, it

> has multiple semiotic implications. I feel that it's dishonest to wear it in the community. By [the hospital's] rules I have to, so I'll play the game, but I know that the game is there. We all do, right?

This indicates that while a white lab coat can confer credibility, it can also be symbolic of potential distance between recruiter and patient and thus has the potential to interfere with the recruiting process. The desire of recruiters to exhibit credibility cues that are consistent with the norms of the recruited population as a way to minimize activating stereotypes of outgroup membership (particularly during community recruiting with particularly marginalized populations) further reflects the principles outlined by CAT.

Discussion

While there are many factors that impact clinical trial and research study accrual that are well beyond the control of recruiters and social scientists, it is possible to identify key practices by recruiters that enhance accrual. At the heart of effective study recruitment is staff members' ability to develop a sense of interpersonal connection. The development of this relationship is signaled by a variety of nonverbal behaviors and cues, as well as an ability to adapt their own rate and tone of speech, touch, and eye contact to potential participants' own behaviors or cultural preferences, which, viewed holistically, reflect a core strategy of convergence, as described by CAT. In other words, recruiters both mimic potential participants' own communication behaviors and express themselves in ways that make them more easily understood by their audience. These accommodating behaviors are consistent with those practiced by health care providers in other contexts (Farzadnia & Giles, 2015; Janssen & MacLeod, 2010). It should be emphasized that most recruiters do not think of these behaviors as being intentionally persuasive, much less manipulative; rather, these behaviors are often part and parcel of how they establish a sense of connection with patients and potential participants.

In fact, the adaptive communication behaviors that recruiters seem to gravitate toward are designed not only to bridge social distance and produce positive affect but appear to function to help potential participants more clearly understand information that is relevant to clinical trial participation. Indeed, one of the core principles of CAT is that accommodation processes facilitate coherent interaction and should result in measurable improvements in the comprehensibility of messages (Dragojevic, Gasiorek, & Giles, 2015). In other words, the communication of complex information is likely to be enhanced by a sense of connection between the source of information about a study (in this case, the recruiter) and its recipient (potential study participant).

The findings of this study point to the importance of training research study and clinical trial recruiters to convey social approval and affiliation with potential participants in ways that are socially and culturally appropriate. While this seems to be a fairly natural set of skills among people who consider themselves "people persons," the justification for developing these skills further might be enhanced by citing empirical evidence (in the form of these study findings). Among recruiters who underperform on recruiting tasks, supervisors may want to observe the types of nonverbal communication exhibited by employees to check whether affiliative behaviors are being exhibited. Specifically, this study would indicate that recruiters are more effective when they sustain moderate but not excessive eye contact; adopt a body position that is on the same physical level as a potential participant's; use touch sparingly as a way to indicate compassion when appropriate or when this behavior represents a widely accepted cultural norm; use a tone of voice that reflects the mood or state of mind of a potential participant; smile frequently and warmly; and adopt appearance cues that promote perceptions of credibility appropriate for their recruiting environment and population type. While recommendations of this level of specificity do not appear in the literature on CAT and communication in health care environments, we believe that these recommendations are warranted, given the applied nature of this research and the urgency of the issue of clinical trial and research study accrual.

There are several limitations to this study that are worth noting. First, what recruiters say they do may not be what they actually do; further, recruiters' communication behaviors may or may not reflect practices that are the most effective. Second, as with much qualitative research, the generalizability of our findings can be questioned. Recruitment behaviors in two cities may not be reflective of practices in other cities, even those as large and diverse as those in our study. Certainly, our findings may not be reflective of the practices in more homogeneous cities with large White populations or patient populations that are more affluent and/or educated. Third, our study is deliberately inclusive of all types of study recruitment contexts (in clinics, via phone, community-based) and study types (both therapeutic and non-therapeutic). We would expect that there are recruitment practices that are very specific to certain types of trials; future research should explore these practices.

While no single study is likely to impact clinical trial and research study practice, the current study is a step toward identifying communication best practices. Future research should identify recruiters who are particularly successful (as determined not only by recruitment rates but by participant evaluations of satisfaction with the recruitment and research process) and conduct systematic observations of communication practice, probably with standardized patients. Such research should attempt to involve a wide range of types of recruiting practice (i.e., types of studies recruited for) and settings (e.g., clinics, community-based contexts) as a way to ensure generalizability. Additionally, future research on communication within study recruitment contexts should pay particular attention to instances where interpersonal communication becomes a process of intercultural interaction, as it so often is when recruiters approach minority and underserved populations. The enrollment of members of minority and underserved populations is often described as a matter of social justice (Burke, 2014) because clinical trials represent access to the latest medical innovations; however, communication about research is likely to be fraught with

additional difficulties whenever cultural boundaries must be bridged (Gallois, Ogay, & Giles, 2005). Here, too, however, we believe that CAT offers great promise as a framework for both investigation and the development of additional recommendations for communication practice in the recruiting environment.

Conclusion

In this study, we have explored how clinical trial recruiters navigate the complexities of patient/potential participant interactions around clinical trials and research studies. Recruiters report that they engage in a wide variety of nonverbal communication behaviors as part of the recruitment process, including "reading" potential participants' nonverbal behaviors and then mirroring their nonverbal behaviors. While we use the framework of communication accommodation theory as a starting point for our analysis, our inquiry includes a wide variety of nonverbal communication practices and strategies, including touch, body position, smiling, voice, eye contact, and appearance. In particular, recruiters focus on the importance of being able to accurately read others' state of mind through their nonverbal communication behaviors; further, the willingness to adapt their communication to mirror that of others appears to be central for successful recruiting. Indeed, as Dragojevic and colleagues (2015) point out, cognitive motivations for convergence include a facilitation of comprehension and improving the efficacy of communication. However, it should be noted that many of the issues that affect accrual to clinical trials and research studies go well beyond communication issues. Unfortunately, many of these factors (particularly structural or systems-based issues) are outside of the control of recruiters and physicians. Communication behaviors like those described in this study, on the other hand, are more easily modifiable and may very well lead to more successful accrual.

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