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Fostering Trust in Public Health Messaging: Tailoring Communication for Rural Parents

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Abstract

Purpose: As pandemic-related mistrust of public health recommendations in rural communities may compound gaps in pediatric immunizations, our team explored parents' perceptions of trustworthiness in messaging.

Design: Qualitative study using 4 virtual focus groups.

Setting: Rural Wisconsin.

Participants: Participants (n = 25) were parents or guardians of children recruited through our contacts with community-based organizations serving rural communities.

Methods: Researchers used task-oriented elicitation techniques to initiate discussion on the trustworthiness of messengers and messages providing health recommendations. Participants were asked to (1) review existing public health messaging on a range of topics and from a range of sponsors; and (2) rank a list of potential messengers in terms of trustworthiness (eg, local health department, Centers for Disease Control). Discussions were recorded, and audio files transcribed, to facilitate a team-based, thematic analysis.

Results: Competency in medical knowledge and parenting experience contributed to estimations of trustworthiness. Participants also responded well to messages and messengers that were able to project recognition of their children's uniqueness and their experience as parents. Participants distrusted messengers who were seen as biased or "one-sided" in their perspectives.

Conclusions: For successful health promotion for rural-living parents, messengers must be recognized as "competent" to provide pediatric health advice and to avoid blanket recommendations that may undermine parents' experience and feelings of being "understood" and affect perceptions of trustworthiness.

Keywords

health promotion, vaccine, pediatric, health communication

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Purpose

During the COVID-19 pandemic, rural communities saw significant vaccine hesitancy.[1-3] As a result, mistrust of health professionals, preventive care and, especially, vaccination may exacerbate health disparities for rural communities now and in the future.[4] 1 specific concern is that vaccine hesitancy could compound gaps in pediatric immunizations caused by delays during the pandemic and pre-pandemic disparities.[4] A principal barrier to health messaging's effectiveness is mistrust of health professionals and the government.[5-7] In this, rural communities have much in common with other groups experiencing health disparities, such as racial and ethnic marginalized communities who may forgo preventive health measures due to mistrust.[5,6]

In low-trust contexts, successful approaches to health communication make use of interpersonal connections and community engaged approaches. For example, the social capital that lay community leaders, the clergy, community health workers, and clinicians hold may help them successfully reassure hesitant people and serve as intermediaries for public health authorities.[8-10] Such approaches make use of interpersonal trust (the type of trust 1 might have in someone that they know personally) and have long been known to produce positive health outcomes in communities experiencing health disparities.[11,12] However, how and why such approaches work is not fully understood. Concepts of trust from other fields have been helpful. For example, in their exploration of the trustworthiness held by community-based organizations (CBO) in the African American community, Shen et al[1] use a model developed in the marketing field that conceptualizes the power of CBOs as messengers comprising both *trust* and *influence*. Trust in this model consists of *integrity* and *competence* as well as agency and results. Shen et al.'s[1] model has some commonalities with the formulation of trust and social capital in the social sciences.[13,14]

Understanding the success of interpersonal, face-to-face public health messaging in low-trust contexts is important but does not address the much larger portion of public health messaging that is impersonal, flowing from institutional messengers such as the Centers for Disease Control (CDC), or state-level health departments. Yet, it is critical that these types of messages and messengers be able to address health equity goals. There has been little critical discussion in this space.[7] An exception is the formulation of institutional trust as described by Twyman,[15] which Jamison et al. applies to the topic of vaccine confidence.[6] These authors see institutional trust as a combination of *trust in motive* and *trust in competence*, which may correspond with Shen et al.'s concepts of *integrity* and *competence*. Finally, the content of messages themselves are even less studied in public health and are often left out of consideration of trust or health promotion.[7]

Design

In this study, our team set out to understand rural parents' and guardians' (hereafter "parents") perceptions regarding public health messages and messengers' trustworthiness in Wisconsin following the COVID-19 pandemic. Researchers conducted 4 groups via Zoom with a total of 25 participants from December 2022 to January 2023. Visual, task-oriented elicitation techniques were used to initiate discussions on health messaging. Specifically, our team was interested in how parents/caregivers estimated the trustworthiness of messengers providing health recommendations affecting the children in their care.

Setting

Participants were recruited through 4 community partners serving rural Wisconsin: Southwestern Wisconsin Community Action Program (SWCAP), Wisconsin Council of Churches (WCC), Wisconsin Head Start Association (WHSA), and University of Wisconsin Division of Extension (Extension). Our partners distributed recruitment materials to parents or guardians using their services. Interested participants then contacted the study team.

Participants

Participants were eligible for participation if they were English speaking, 18 years of age or older, a parent or guardian living with their child at least some of the time and living in a rural area (self-reported). Groups were arranged to keep participants in more or less homogenous groups regarding their self-reported level of vaccine hesitancy for both themselves and their child (ren).

Method

In focus groups, participants were asked to complete 2 group tasks facilitated with the use of a digital whiteboard app (*Mural)*. All discussions were captured in Mural as well as audio recorded. Four research team members supported the groups: 2 trained moderators, 1 Mural operator, and 1 technical assistant. The use of the elicitation techniques in "task" form was designed to ease discomfort around sensitive information and to help participants articulate their views on a complex issue.[16,17]

Task 1: In our first activity, participants were asked to review existing public service announcements (PSAs) promoting a range of public health recommendations, including the "Back to Sleep" and "My Plate" campaigns, as well as PSAs regarding vaccinations (polio and COVID-19; See Figure 1 for an example). Each of these were presented by a specific messenger including those with national (ex. Centers for Disease Control (CDC), United States Department of Agriculture) and local reach (Wisconsin Department of Health Services). In total, participants reviewed 5 PSAs as a group. Moderators inquired about participants' perceptions of the overall message as well as the PSA sponsor or messenger.

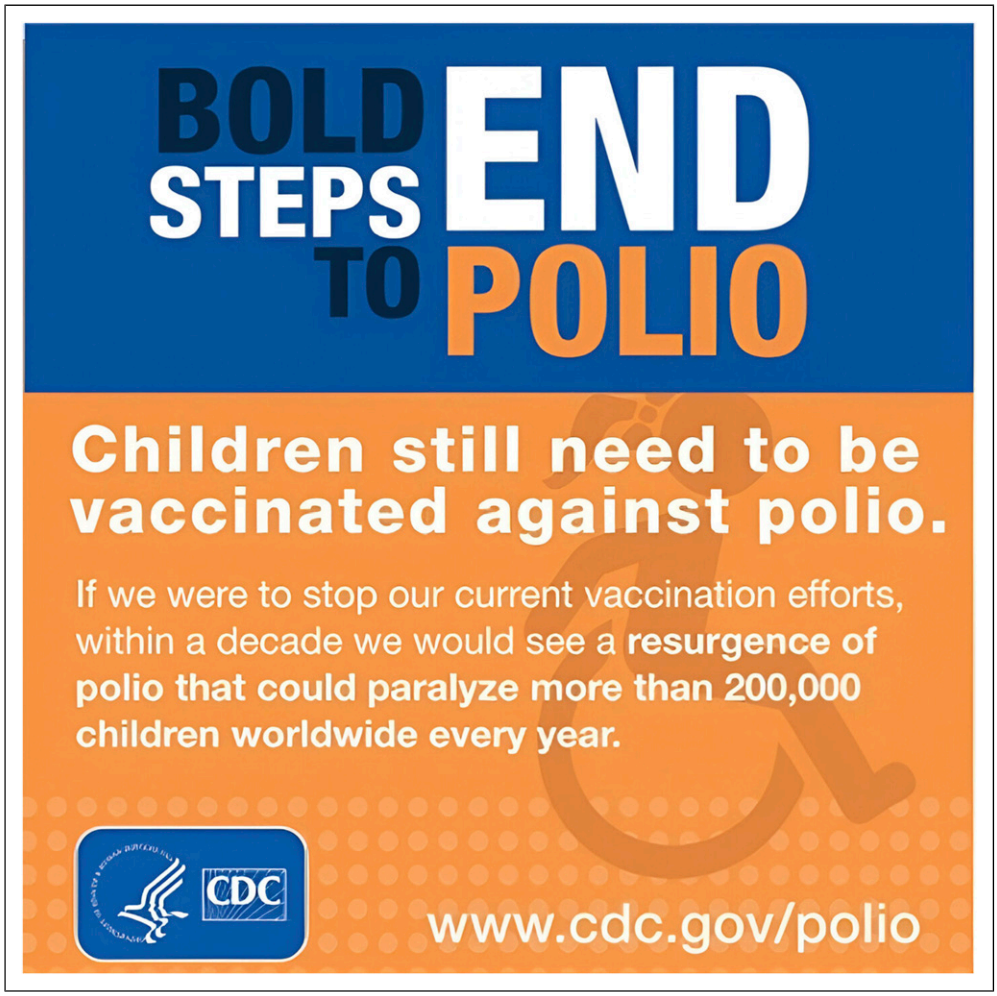

Figure 1. Example of public service announcement reviewed by participants in task 1.

Task 2: The second activity involved asking participants to rank a predetermined set of messengers, including government institutions (eg, CDC, Wisconsin Department of Health Services), personal contacts (eg, family, friends), media (eg, news, parenting blogs), and health professionals. For this task, our team used a "heat map" that ranged in colors from red to yellow to green (See Figure 2). Participants were asked to place messengers on the map based on their "trustworthiness" in the specific context of vaccine information. Least trusted messengers and most trusted messengers were placed in the red area and the green area of the heat map, respectively. The group collectively discussed and ranked messengers, which were then placed on the heat map accordingly (see Figure 3). When participants disagreed on how trustworthy a messenger was, multiple copies of the messenger were placed on the heatmap to account for differing opinions. With each additional messenger, the group discussed the level of trust overall and in relation to other messengers already placed on the heat map. Not all messengers were discussed at all focus groups due to time limitations and participants' preferences. All groups were audio-recorded with participants' permission.

Analysis

Recordings were professionally transcribed to facilitate analysis guided by an iterative coding of the transcripts using NVivo software for data management. The study team took a constructivist approach to the analysis, focusing on how participants made sense of their assessments of health messages and messengers' trustworthiness. Our process followed the six-phase analytical process of thematic analysis Braun and Clark suggested.[18-20] Coding was an iterative process following a period of data immersion. Codes and themes were data driven and developed during immersion and through the coding process. Two team members played an active role in coding and memo writing, but decisions on code and theme development were made through discussions with the wider team. Following coding, initial themes were interpreted from codes and used to develop a thematic map. The map was then

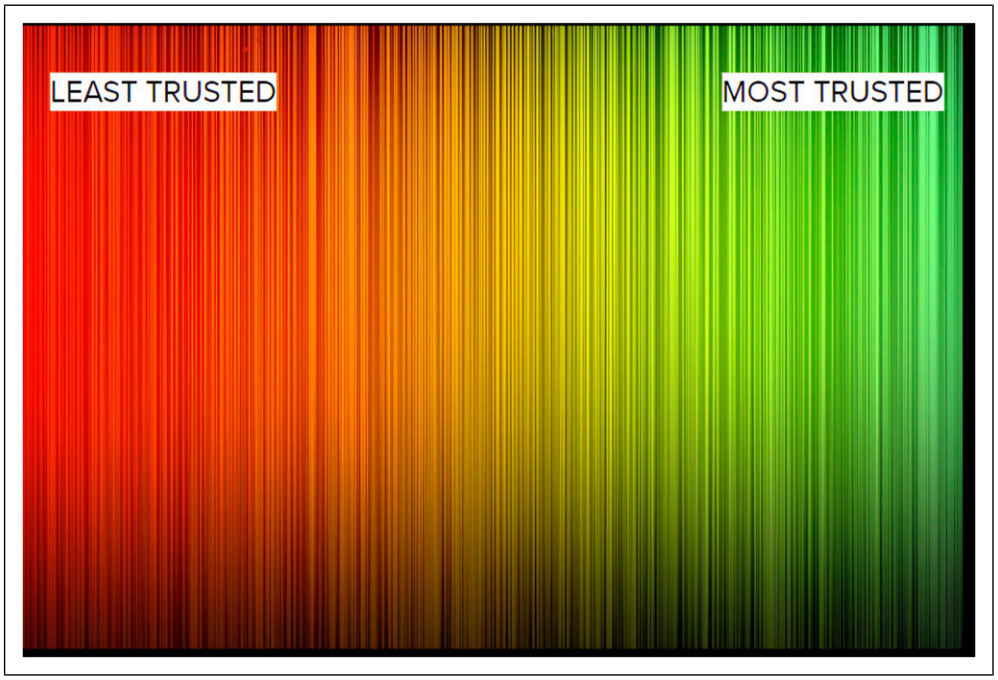

Figure 2. Task 2 heat map used to rate trustworthiness of messengers.

Figure 3. Focus group 1's completed heat map.

used to refine themes that cut across the data set and across types of messengers. Initial themes were collapsed into larger conceptual categories. For example, *medical knowledge* and *parenting experience* were eventually understood as aspects of *competency*. The team initially struggled with how to interpret some themes around the trustworthiness of *local messengers* and *messengers that listened*, eventually interpreting them both as messengers that understood parent and family *context*.

Conscious of the literature's differentiation of personal and institutional trust,[6,21] the analysis team used a comparison approach between these 2 contexts, especially in the final stages of the analysis. Eventually, the team found more similarities than expected. The team resolved discrepancies in interpretation. The quotations found in the results section were chosen based on their ability to clearly convey themes or concepts and were not the totality of quotations for any theme or concept.

Results

Table 1 provides information about the 25 participants who participated in focus groups. The WHSA (40%) or Extension (36%) recruited 76% of participants. Fewer participants were recruited through SWCAP (8%) or WCC (16%). Table 2 presents the results of a screening regarding COVID-19 vaccine hesitancy among participants. This information was used to group participants loosely with like-minded others to promote free discussion.

Qualitative Results

In addition to asking participants to review existing public health PSAs (Task 1), moderators asked them to rate potential messengers in terms of trustworthiness (*Place each messenger on the heat map depending on their level of trustworthiness, with red being the least trusted and green being the most trusted*) (Task 2). These exercises were not intended to collect precise data on trustworthiness but were used as activities to stimulate group discussion. For Task 2, participants had little disagreement in their feelings of trustworthiness about some messengers, including pediatricians, childcare providers, and friends. These were frequently placed in the green area. Local leaders and businesspeople were frequently placed in the red area (because of their lack of medical knowledge). Other messengers garnered a wide variety of opinions. For example, Dr Anthony Fauci—who, at the time, was the director of the National Institute of Allergies and Infectious Diseases and a prominent figure during the COVID-19 pandemic—was placed in various positions. Stepping back from specific PSAs or messengers, through the analysis of discussions across Tasks 1 and 2, we identified several themes in the ways participants explained their preferences. These are presented below.

Messenger Competence

Participants spoke of competence in reference to both personally known messengers and institutional messengers and stated that this competence could take various forms. For example, having a history of trustworthy decision-making was important for weighing the value of advice from family, friends, or pediatricians:

> *[In reference to vaccination advice from family] I think the longer, or the older, that your family member is, the more knowledgeable they're going to be because they've been through it all. So, I would definitely ask the older generation first.* (Father, age 33)

Medical knowledge was also a key concern across interpersonal and institutional trust. In the following quote, a

Table 1. Participant Characteristics (n = 25).

Characteristic		n
Race		
	White	20
	Black or African American	2
	Asian	2
	White, black, or African American	1
Gender		
	Men	3
	Women	22
Ethnicity		
	Hispanic	1
Age		
	18-24	6
	25-34	8
	35-44	7
	45+	4
Educational Attainment		
	High school or equivalent	7
	Some college or 2-year college	9
	Four-year college	6
	Graduate school	1
	NA	2
Household income		
	0–$24,999	7
	$25,000–$49,999	6
	$50,000–$74,999	2
	$75,000–$99,999	1
	+$100,000	3
	NA	6
# Children in care		
	1	11
	2-3	12
	4+	2
Age of children		
	Kids under 5	19
	Kids 5-11	15
	Kids 12-17	7

Table 2. Self-Reported COVID-19 Vaccine Hesitancy.

COVID-19 Vax hesitancy	Re: Self (n)	Re: Child (n)
Very hesitant	2	6
Somewhat hesitant	6	5
A little hesitant	7	5
Not at all hesitant	9	9
No response	1	-

mother noted a combination of a history of good advice with medical knowledge:

[In reference to pediatrician] Yeah, she went to school for this, and I've had her for so many years and everything, so I trust her opinion and what she says, so I guess that's why. (Mother, age 34)

Outside of personal relationships, when parents considered health messengers' trustworthiness, they frequently pointed out analogous characteristics. Messages from people unknown to participants too could have competency. Regarding institutions, participants relied on reputations as evidence of a history of trustworthy decision-making—whether for good or bad. For example,

I particularly trust the CDC for what they say because, obviously, like, years have passed, and we're all still alive, so they're doing something right. (Mother, age 35)

In the following quote, a mother relied on the messenger's degree and the University of Wisconsin's reputation in her assessment of trustworthiness.

I feel like that person [Infectious disease expert from University of Wisconsin health system] would definitely be in the green because she has her degree, so you know that she's done the research and done schooling and should be well informed. (Mother, age 22)

Parenting experience was an important aspect of trustworthiness across both types of relationships. Regarding a stranger, 1 participant noted,

[In reference to a parenting blog] I just feel like they're also parents, and if they're like someone you run into at the park, they might have done the same thing or tried the same thing and got a different outcome, but that would be more hands-on advice that someone would be giving you. (Father, age 28)

Often, such "competencies" built upon 1 other. For example, pediatricians were often perceived as competent based on medical knowledge and parenting experience:

She [pediatrician] also has children…my daughter's age, so that's a plus, you know, because yeah, very straightforward, very laid back. I trust her out of anybody. (Mother, age 43)

A final category of competence that had meaning for participants was knowledge about the context of one's everyday life as a caregiver. In many instances, participants noted that messages tailored to their experience or context were more persuasive. For example, a stay-at-home mother did not find compelling a statistic about work time lost because of flu.

Like me, personally, I realize it's a big deal for a lot of people, but…that doesn't make a big impact on me . . . (Mother, age 48)

The importance of context also translated into a preference for messengers who were knowledgeable about participants' local area. Across groups, participants saw state public health offices and health providers as being more trustworthy than their national counterparts. For example,

She's [in reference to University of Wisconsin infectious disease expert] in Wisconsin too. So, I feel like she would understand our issues better than, like, the CDC would. (Mother, age 44)

Further,

I trust the state of Wisconsin, so I feel I would listen to them before I would the CDC, because the University of Wisconsin knows about the people that are in Wisconsin and what's affecting people locally, as opposed to what's affecting the entire country…(-Father, age 29)

Across groups and topics, parents frequently noted that their children were unique. For example,

"Listening" and "One-Sidedness"

[In reference to safe sleep messages] [I've had] 6 adult children and none of them, everybody was a little bit different. I try, I put them on their back, some would not stay on their backs, so it doesn't work for every parent. (Grandmother, age 62)

Uniqueness was something that parents stated should be considered in health decision-making.

Everybody's kids' bodies take things differently. Sometimes your kid may not need things that my kids need, so I wouldn't necessarily say I trust them, but I would listen to them as I, you know, I'm open to listening to anyone. (Mother, age 27)

Participants preferred pediatricians who took time to learn about their child. Most often, they preferred pediatricians who showed a willingness to listen to them and respect their knowledge of the circumstance and/or context as caregivers. For example,

I *trust my daughter's doctor because I explain my thoughts on like the flu shot, and he understands so he doesn't like force me to get them, or he doesn't question me when I deny them.* (Mother, age 29)

Additionally,

So, yeah, I trust my doctor because he respects my opinions. (Mother, age 48)

Conversely, pediatricians who did not "listen" were avoided.

I hear a lot of parents changing their child's doctor because of things like that…not taking the parent more seriously. Like when my daughter was little, she was teething and the doctor was like, 'Are you a new mom?' And I was like, 'Yeah.' She's like, 'Oh, well, then, she's not teething, you don't know what you're talking about basically,' so that really bothered me, and she was teething. She popped a tooth like that week. (Mother, age 28)

This attitude extended to estimations of an organization's or institution's trustworthiness. Such messengers were seen negatively as "one-sided." For example, during the COVID-19 pandemic, one-sidedness was when entities "*…just want you to get the vaccine*." Importantly, single-minded or one-sided messengers were seen as having the potential to do harm, even if this was unintentional. For example, the following participant worried about withheld information.

Like, they just want you to get the vaccination. They don't care about the side effects, like they're not sharing the side effects. Just their main goal is for everyone to get vaccinated. (Mother, age 24)

One-sidedness could also be very similar to "having an agenda," which participants often ascribed to federal government agencies. For example,

Moderator: *Do you have any feelings about the USDA, and who's giving you this message about school lunches?*

Participant: *I guess I don't really have a strong opinion, but I don't know if I trust them entirely. Like, I feel like they have an agenda to promote certain things, so…*(Mother, age 44)

Moreover,

…but I think this ad shows that…there's just another thing that the government's trying to give you, trying to get you to buy, or stay away from this, and I don't think, like I don't see it ending anytime I'm alive [Laughs]. (*Father*, age 33)

Agendas were sometimes conflated with conspiracies or risk of intentional harm.

I know there's just an obvious distrust with… the CDC… it's not just one thing either because all of them do have kind of the same agenda, and I'm a little crazy because I go and watch all these conspiracy theories… (Mother, age 32)

Additionally,

…I'm still afraid that because of the recommendations by the CDC…I've read stories about where it's happened that the wrong shot has been given, you know. One lady took her and her kids in to get the flu shot and they ended up with COVID shots, and that's what I'm afraid of. I'm afraid that if it's put out by the CDC or it's 1 of their vaccinators, they're going to *slip me the wrong shot, and it's a fear that I have.* (Grandmother, age 62)

Discussion

While distinctions between interpersonal and impersonal or institutional trust[6,21,22] are often noted, our findings indicate many similarities as well. For example, participants found competency meaningful in specific categories, such as medical knowledge, parenting experience, or knowledge about a local context. This result did not change if the messenger had a personal connection (eg, they were a family member or pediatrician); if they were an unknown person; or if the messenger was a faceless institution. This may not be surprising because competence is a well-known aspect of trust that has been described in the vaccine promotion context with reference to personal relationships[7,8] as well as institutions in the form of reputation.[23]

However, competence alone was not enough to guarantee a perception of trustworthiness, regardless of whether the messenger was personally known or not. As Twyman suggests, motive is another component of trustworthiness.[15] Our participants identified a range of untrustworthy motives influencing both interpersonal and impersonal health promotion, from "one-sidedness" through the simple "not listening" to the more serious "having an agenda." While motive is an important consideration of trustworthiness in most contexts, it may be particularly important in low trust contexts.[6] While Jamison et al.'s African American participants saw "agendas" in the motives behind pharmaceutical companies "making a profit," our participants talked about the motives behind organizations such as the CDC "just wanting people to be vaccinated." This interesting casting of health promotion itself as an "agenda" has not been explored elsewhere and is, perhaps, a direct result of the vaccine promotion experience during the height of the COVID-19 pandemic. Whereas some participants saw the CDC as a reliable source of information after the pandemic, several saw it as having "lost a little bit of trust" as "vaccinators." This leaves us with a question: How does 1 promote vaccination if the very act may be seen as untrustworthy?

The answer may lie in lessons related to "listening," an established tool in building trust in interpersonal relationships in health care[24,25] and in the workplace.[26] Through listening, employers or providers can build emotional connections and learn about others' concerns, values, and experiences, including information that might shape decision-making. In vaccine promotion, Quinn and Andrasik[9] suggest that marginalized communities require "actively listening to others' stories and ensuring that all. . . are provided an opportunity to articulate the challenges, barriers, and facilitating factors they have encountered. In these contexts, and for our participants, listening involved 2 positively valued components—caring/empathy and shared understanding of the parent/family context.

Although "listening" is difficult outside of personal relationships, achieving its spirit in the form of recognizing and respecting a range of experiences and opinions may be possible. Zhang et al, in their post-pandemic analysis of rural-focused vaccine-related Facebook posts, find "problems with generalized social media vaccination promotion without community tailoring and addressing specific hesitancy concerns" and conclude that "public health agencies should listen to the thoughts of targeted audiences reflected through comments and design relevant messages to address these concerns…" (p. 10). Further, in a recent review of trust in COVID-19 vaccination acceptance, the authors note that, "Individuals with a priori interests and biases require a tailored approach to reconcile new information…rather than challenging their biases with the facts alone (p. 6)."[7] Our findings also indicate tailored public health approaches' importance.[28,29] One-size-fits-all approaches to public health messaging may be counterproductive, especially in social and health inequity contexts.[27,28] In such contexts, blanket approaches may be seen to privilege some while harming others.[6] Our participants believed that public health agendas could go so far as to cause unethical behavior (ie, giving someone a COVID-19 vaccination without their knowledge), even though they did not ascribe public health officials or health providers with malicious intent.

Conclusion

As is the case with interpersonal relationships, social media and other impersonal approaches to public health messaging resonate well with rural parents if they understand the messenger (whether the messenger is a person or institution) to be competent in terms of medical knowledge, parenting experience, and local context knowledge. Additionally, health messaging should consider targeted, tailored approaches that recognize caregivers' knowledge, especially in low-trust contexts.

Limitations

Regarding limitations, first, our participants may have been more accepting of vaccination than others in their community because they positively responded to the request for participation that university researchers made. Second, some people who agreed to participate may have felt uncomfortable sharing their honest opinions in a focus group setting because of perceptions of social desirability.[29] The researchers tried to minimize this by grouping like-minded participants together, but it is difficult to know whether this was successful. That said, there were a range of vaccine perspectives expressed during the focus groups, including some that were clearly more vaccine hesitant. Further, because of time limitations, not all participants were exposed to the same messengers in the heat map activity. Some participants spent more time considering some messengers than others. Future studies may be warranted to replicate our findings.

So what?

What is already known on this topic?

Trust is critically important to the uptake of health promotion behaviors such as childhood vaccination, especially in populations experiencing health disparities such as rural communities.

What does this article add?

Qualitative information about how rural-living parents estimate trustworthiness in health promotion messages in the interpersonal and impersonal or institutional communication context.

What are the implications for health promotion practice or research?

In low-trust contexts, promotion efforts should maximize the expression of competence in terms of medical knowledge, parenting experience, and local context knowledge. Additionally, health messaging should consider targeted, tailored approaches that recognize parents' and caregivers' knowledge.

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Author Contributions

S.R.P.: Conceptualization and design, data collection oversight, analysis, interpretation, and lead in writing of manuscript drafts. E.M.: Data collection, analysis, interpretation, and contribution to manuscript development and review. L.M.C.: Data collection, analysis, interpretation, and contribution to manuscript review. M.B.: Data collection, analysis, interpretation, and contribution to manuscript development and review. S.Y.: Conceptualization and design of overall study, interpretation, and contribution to manuscript review. E.L.: Data interpretation and contribution to manuscript review. D.S.: Data interpretation and contribution to manuscript review. M.J.: Conceptualization and design of overall study, data collection, analysis interpretation, and contribution to manuscript review

Declaration of Conflicting Interests

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Informed Consent

The University of Wisconsin-Madison Institutional Review Board (#2022-1247) approved this project, including a waiver of written informed consent. Consent was obtained verbally from all participants. Each participant was provided with full details of the study in the form of a study information sheet. Focus groups were audio-recorded and transcribed with participants' permission.

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