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Exploring the learning preferences of farmworker-serving community health workers

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Abstract

Community health workers are responsible for finding, processing, and transferring health information to communities with limited access to health-related resources, including farmworkers. This paper is the culmination of an undergraduate student research project to explore the learning processes and preferences of farmworker-serving community health workers in the USA. The project was designed for students from farmworker or agricultural backgrounds at two North Carolina universities and was supported by a North Carolina Department of Health and Human Services workforce development grant. Semi-structured interviews were conducted, in person and virtually, with a convenience sample of 17 current and former community health workers. The interview data were analysed thematically and identified a preference for a combination of learning styles, with visual and hands-on learning being the most preferred. Community health workers also identified the importance of learning preferences in relation to their responsibilities as health educators. This study provides librarians, along with public health and medical professionals, with useful information about learning preferences to inform the creation of new and varied learning materials for community health workers.

KEYWORDS

health disparities, health education, health information needs, health professionals, health services research, information dissemination, information skills, learning, library outreach, patient education

BACKGROUND

Community health workers—also known as patient navigators, *promotores*, lay health workers, and outreach workers—connect marginalized communities with

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health and social services. They provide health screenings, as well as health education and information, to communities that have limited access to health-related resources (Community Health Worker Core Consensus Project, 2022). Within the context of farmworker health, community health workers play an important role in improving farmworkers' access to health services and information and reducing health disparities (Harwell et al., 2022). Community health workers who serve farmworkers are employed by migrant and community health centres, free and charitable clinics, and other nonprofit organizations (LePrevost et al., 2013). Unlike many other healthcare professionals, community health workers are not licensed, and continuing education may not be required or formalized in all settings. Within the US, however, efforts are underway to establish community health worker associations and certification programmes (MHP Salud, 2023).

Prior research has documented how community health workers find, verify, and process health information for farmworkers and called for librarians to partner with public health or medical professionals to train community health workers (LePrevost et al., 2022). However few studies exist on the learning processes and preferences of community health workers. Out of 75 articles included in a recent review of patient navigators and training, only 27% mentioned the learning strategies of patient navigators (Ustjanauskas et al., 2016). Our own review of articles about community health workers revealed a similar pattern, with only limited descriptions of their learning preferences or strategies (e.g., Campbell & Baernholdt, 2016; Reyna et al., 2022; Wennerstrom et al., 2014). Therefore, in this study, we sought to understand the learning preferences of farmworker-serving community health workers.

Learning styles are defined as the way learners 'most effectively perceive, process, store, and recall' the information they are trying to understand (James & Gardner, 1995, p. 20). The concept of learning styles is widely used in formal educational settings despite limited evidence linking learning styles-matched teaching methods to learning outcomes (Newton & Miah, 2017). The foundation for Universal Design for Learning, which emphasizes variety in curricular development, is based on learning styles (Meyer et al., 2014). Further, prior research has examined the learning styles of health sciences students (e.g., Childs-Kean et al., 2020), home healthcare workers (Colucciello, 1993), and healthcare providers (Brooks et al., 2008).

OBJECTIVES

Because of widespread use and broad familiarity with the concept of learning styles, we used the language

of learning styles to assess the learning preferences of farmworker-serving community health workers. Perceptions of learning styles may influence how learners, particularly adult and informal learners, seek out information. A better understanding of community health workers' learning preferences has relevance to librarians and others designing professional development for community health workers, creating public health interventions, and seeking to improve health outcomes for marginalized populations (Bloss, LePrevost, Cofie, & Lee, 2022; Bloss, LePrevost, Zahra, et al., 2022; LePrevost et al., 2022).

METHODS

In this study, we conducted semi-structured interviews with a convenience sample of current and former community health workers. Interviews were conducted both via web conferencing software and in person. Table 1 highlights participant characteristics. Participants predominantly reported being female (76.5%) and Hispanic/Latino (82.4%), with a Bachelor's degree as their highest degree, attained (41.2%). Their average age was 36 years, and they had on average 9 years of experience as a community health worker.

Participants were recruited via emails and phone calls with support from a partner organization. Seven interviews were conducted via the web conferencing tool Zoom. Additionally, participants were recruited by word of mouth and direct messages on a conference app at a professional conference for farmworker health outreach staff, advocates, and providers. Ten interviews were completed during the conference. The interviews lasted approximately 30 minutes each and were audio recorded. All identifiable features were removed from the audio recordings and transcriptions. To incentivize participation, participants received a \$20 gift card or portable speaker valued at approximately \$30. The interviews consisted of 12 main questions, with 5 directly pertaining to learning preferences. Example questions included, 'In what ways do you best receive information?' and 'How would you describe your learning style?' Participants provided informed consent prior to participating in the interviews, and the study received administrative review by the NC State University Institutional Review Board and was approved as exempt (protocol #25334).

HG and EH from the research team coded the transcripts using the annotation/comment feature in Microsoft® Word, starting with a general list of inductive codes and developing deductive themes as they progressed. HG, EH, GR, and CL held debriefing sessions to discuss and refine the codebook. Thematic summaries for the

TABLE 1 Personal characteristics of community health workers ($N = 17$) participating in convenience sampling, semi-structured interviews, in North Carolina and California, September 2022–February 2023.

Personal characteristic	Response category	Percentage
Gender identity	Female	76.5%
	Male	11.8%
	Other	11.8%
Race/ethnicity	Hispanic/Latino	82.4%
	Non-Hispanic/Latino	11.8%
	Native American	5.9%
Highest education level	Some college	17.6%
	Associate degree	17.6%
	Bachelor degree	41.2%
	Master degree	11.8%
	Doctorate degree	11.8%

inductive and deductive codes were developed, and notes/memos were maintained to support data analysis/interpretation. The resulting code summaries enabled the research team to interpret the most common perspectives from participants about learning preferences.

RESULTS

How do community health workers best receive information?

When asked about how they best receive information, a majority of participants indicated initially that they are visual learners. Many participants reported that they best receive information when pictures, videos, or other visual elements are used in the transmission of information. When probed for further explanation, and when given examples of other learning preferences, a large majority followed up by describing hands-on styles.

Visual

Participants gave clear examples explaining their interpretation of and preference for a visual learning style. For instance, one stated, ‘I think anything that has to do with numbers, and just bar graphs, just to see percentages and

numbers and compare them...it’s really useful’ (ID201). One participant shared the various modes of visual learning that they rely on: “Reading, like really diving deep into what’s being shared and trying to visualize that. So in combination with like a video or some kind of graphic or visual, explaining what I’m reading” (ID203). Whether through images, videos, or text-based materials, participants showed an initial and strong preference for receiving information in visual formats.

Hands-on

Hands-on learning methods were a preference for a majority of participants. Participants who described this preference mentioned scenario-based learning, learning by working with people, and direct interaction with content and information. Participants gave examples of hands-on learning situations that they found to be beneficial. One described

I think it [my learning style preference] would be hands-on, for sure just because...for example, ...[in a recent conference breakout session] we had to see what we were going to do with this client, how we can categorize them, and what we can do to help them with the little information that we had. And so if you, like, hand me those scenarios, [I will] think more about it and actually be serious. I feel like that helps a lot, too. (ID201)

Auditory

All participants who identified auditory transmission as a learning preference also expressed their preference for some other learning style in conjunction with auditory modes of learning. Useful methods of auditory learning that participants mentioned include open and accessible communication, language-appropriate communication, and dialogue. One participant described a preference for auditory information in conjunction with visual information: ‘Communication and dialogue is also a strong way that I receive data. For example, another great way that I actually receive data is I’d rather watch a video than read it...’ (ID104).

Combination

After being told the common learning styles (hands-on, auditory, and visual), all participants ultimately

responded with some combination of the three styles for their learning preferences. As highlighted in the exemplary quotations above, participants often mentioned multiple preferred modes of receiving information. One stated, 'I think that I am like a multimodal learner. So I think I need to have it in front of me, like a visual, and then hear it as well' (ID205). A majority of participants mentioned that to best learn and retain information multiple learning methods should be used.

Videos and infographics

We asked participants specifically about their likelihood of using infographics and videos to receive new information. Although some participants were unsure of what an infographic was, after being shown an example, participants were able to identify infographics and acknowledge their usefulness. Most participants indicated they were likely to use infographics and videos to learn or receive information. They also indicated that they would use infographics to share information with farmworkers. One participant explained the importance of infographics being tailored to a particular audience:

I really like infographics...they've got to be targeted. So you know, I got to make sure that they're relevant to the person I'm giving them to. And I normally research the information provided on the infographic to make sure it's from a reliable source and it's really true, but when it is, I use them all the time. (ID208)

Another participant noted the limitations of infographics, 'I think infographics are a great way to share very briefly the information. I do not really use a lot of infographics because I like in-depth information. [A] website is very more in-depth versus an infographic that is very brief' (ID104).

Participants described the simplicity and ease of watching videos and noted videos are a time-efficient way to learn or share information. One participant asserted

I think we are using videos to catch even the farmworkers because we're living in this rushed moment in which it's easier. If you tell me, this [a video] is easier than if I spend 20 minutes reading. [W]e have to adapt to it. So, definitely I will be very happy if you give me a video. (ID102)

However, some participants mentioned their preference for in-person instruction and interaction over videos, particularly when sharing information with farmworkers:

At least for me, I like a real person. I could tell you, working with the workers they're given a video and they don't watch it. They pay more attention when I give the class than if you just put on a video because then they're on their phone or they're not paying attention. (ID106)

How do community health workers best retain information?

Participants were asked about their perceptions of methods they find useful for retaining learned information. One participant stated, 'I think that what helps me to retain the information is like having a basis of caring about the information, like wanting to know the why, having a connection with it, and then just kind of like re-exposure' (ID205). Participants also talked about how others, particularly farmworkers, retain information and how that impacts their role as community health workers. One participant explained

Most of the time the style of learning is the style of learning of the people that I'm training because if you don't know where they are and how they learn, you cannot train. It's like talking to the wall and no one is going to absorb the knowledge. So, a lot of visuals, infographics, things like that, clear words, simple language explaining concepts that may be complex. (ID207)

Why are learning preferences important to community health workers?

Participants were asked why they believe knowing their learning style is important. Participant answers were varied, but most participants' responses resonated with the following: 'Learning style, I think, is important because then you know how you'll better understand the information, for whatever future experience you have' (ID203). Another participant expanded on that same concept, giving an example of how their learning style influences what modality of information they seek:

Well, it definitely helps me know where to invest my time in learning a new thing. You know, if somebody says you need to learn how to cut off an ingrown toenail, I know that I should not waste my time reading a book. I should go look at a video. I'll be able to learn a lot faster. So it speeds me up, and helps me know how I'm gonna learn best, I suppose. (ID208)

All participants agreed that knowing their personal learning preferences relates to their role as community health workers. As demonstrated in the exemplary quotations provided above, participants continually mentioned farmworkers and providing health education when describing their learning preferences. One participant asserted, 'So I think you really have to understand [your own learning preferences] so you can be able to teach it, and not only motivate people but have them engaged' (ID202). Similarly, another participant explained, 'It's important because that way you know how to equip yourself so that you can best service your community.... [T]hat way you can also identify how they may learn best' (ID205).

IMPLICATIONS INTO PRACTICE

In this study of farmworker-serving community health workers, most participants expressed a preference for receiving new information via multiple modalities. While a preference for learning information through visual presentation was the most common initial response, a majority of participants also preferred hands-on learning. These findings underscore the need for robust and varied professional development programmes and learning resources for community health workers and resonate with the Universal Design for Learning principle of multiple means of representation (Meyer et al., 2014). They also reflect the multiple teaching strategy approach employed by a widely implemented and evaluated patient navigation curriculum designed by prominent US-based national cancer organizations (Calhoun et al., 2010).

Our study informs efforts of health sciences librarians and others developing training and resources for community health workers, discouraging the creation of stand-alone resources in favour of complementary resources presenting content in various formats. Previously, health sciences librarians created information resources and training for farmworker-serving community health workers. Specifically, they developed a resource list of educational materials for farmworker health, videos to improve community health workers' skills in finding

health information online, and webinars to introduce these resources to community health workers (Bloss, LePrevost, Cofie, & Lee, 2022; Bloss, LePrevost, Zahra, et al., 2022). Additional training needs for farmworker-serving community health workers identified in a prior study include crediting sources, creating new materials, and organization and storage (LePrevost et al., 2022).

Community health workers are immersed in an information ecosystem in which they are an important node linking universities, hospitals, clinics, and medical providers to vulnerable communities. Community health worker participants in this study often described how *others* best receive and retain information as they expressed their own learning preferences, underscoring their position as a nexus in the exchange of health information. They reported their perceptions of farmworkers' learning preferences, and they emphasized the importance of understanding their own learning preferences in order to be better health educators for the farmworkers they serve. This study addresses a knowledge gap in how community health workers prefer to receive new information. With the findings from this study, tailored professional development programmes and learning resources for community health workers can be developed, with the goal of enhancing learning for those situated at a critical information access point.

CONCLUSIONS

This study improves our understanding of how community health workers, particularly those serving farmworkers, prefer to receive new information and how they perceive their own learning preferences to influence their work connecting vulnerable communities with health information. We expect that the need for resources and training for community health workers will increase through further formalization of community health worker associations and certifications in the US. Based on our findings, farmworker-serving community health workers prefer learning through a variety of formats, with a particular emphasis on visual and hands-on modes. This research provides librarians, along with public health and medical professionals, with useful information about learning preferences generally and video and infographic modalities specifically to inform their creation of new materials to support these efforts.

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