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Developing counter-narratives to address COVID-19 misinformation among 18–24 year olds in community and campus settings☆

Rhonda C. Holliday [a,*], Asantewaa Darkwa [b], Gail A. Brooks [c], Tabia Henry Akintobi [a], Amy Z. Chen [d], Rakale C. Quarells [a], Michael L. Best [d]

[a] Department of Community Health and Preventive Medicine, Prevention Research Center, Morehouse School of Medicine, 720 Westview Dr., Atlanta, GA 30310, United States
[b] College of Nursing, University of Illinois Chicago, 8545 S. Damen Ave, MC 802,Chicago, IL 60612, United States
[c] The BLK + Cross, 848 Oglethorpe Avenue SW #11500, Atlanta, GA 30310, United States
[d] International Affairs and Interactive Computing, Institute for People and Technology, Georgia Institute of Technology, North Avenue, Atlanta, GA 30332, United States

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ABSTRACT

During the COVID-19 pandemic, young adults represented one of the groups with the highest number of COVID-19 infections but experienced less severe symptoms and lower rates of mortality. The Georgia Peers for Equity Against COVID-19 and for Health (Georgia PEACH) was developed to address COVID-19 vaccine hesitancy among African American/Black and Latinx young adults (18–25) on college campuses and in the community. Existing community relationships and partnerships were leveraged to quickly engage young adults (Peer Champions) to develop counter-narratives to address mis/disinformation in their communities, using a community engaged approach. These counter-narratives were then used in community engagement activities and health communication messages on college campuses and in the community to increase vaccine confidence among their peers. The Peer Champions were able to reach 350 young adults through these strategies.

1. Introduction

Since the start of the coronavirus disease 2019 (COVID-19) pandemic in January 2020, there has been over 103 million reported cases and nearly 1.2 million deaths [1,2]. COVID-19 did not affect all communities equally; disparities in COVID-19 cases and deaths among African Americans/Blacks and Hispanic/Latinos/Latinx have been well documented [3–6] and the southern United States and rural communities were especially hit hard by the COVID-19 pandemic [7–9]. The largest number of positive COVID-19 cases were found among 18–29-year-olds, with peak hospitalizations occurring in 2022 and peak deaths occurring in 2021 among this age group [2]. In 2022, Blacks and Latinx represented 12.7 % and 28.5 % of positive cases compared to 48.5 % for non-Hispanic whites, among 18–29-year-olds. Disparities in COVID-19 were noted among Non-Hispanic Blacks and Latinx less than 24 years of age early in the pandemic [10]. Research has suggested that young adults may be at a lower risk of developing severe COVID-19 symptoms or complications, therefore they may be less likely to isolate and more likely to unintentionally spread the virus [11–13].

While Blacks were more likely to be affected by COVID-19, they were also more likely to experience COVID-19 vaccine hesitancy [14–18]. Among adults in the United States, young adults aged 18 to 25 have the lowest rates of vaccine uptake and highest levels of COVID-19 vaccine hesitancy [12]. As many in this age group are college students and are frequently in densely populated quarters, such as residence halls or classrooms, increasing vaccination rates among this group may play an important role in reducing community transmission.

Disparities in COVID-19 vaccine uptake may be attributed to factors, including vaccine access or vaccine hesitancy (the delay or refusal of available and accessible vaccines) [19,20]. Studies suggest that for communities of color, COVID-19 vaccine misconceptions and misinformation, along with historical trauma and healthcare injustices, may discourage people from getting the COVID-19 vaccine [17,21–37].

The spread of misinformation and disinformation, particularly on social media, may also play a role in COVID-19 vaccine hesitancy and confidence [24–27], especially in communities of color [21,28].

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* Corresponding author.
E-mail addresses: rholliday@msm.edu (R.C. Holliday), adarkwa@uic.edu (A. Darkwa), gail@theblkcross.co (G.A. Brooks), takintobi@msm.edu (T.H. Akintobi), amychen@gatech.edu (A.Z. Chen), rquarells@msm.edu (R.C. Quarells), mikeb@gatech.edu (M.L. Best).

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Misinformation refers to the spread of false information without the intention of misleading others, while disinformation refers to false information being deliberately spread with malicious intent [29]. Mis- and disinformation are 70 % more likely to be shared on social media than accurate information, largely due to its novelty or ability to inspire "greater fear and disgust" [30]. Research suggests that tailored health communication via trusted messengers is effective in combatting mis- and disinformation on social media, especially for young adults [15,21,24,31–33].

In the effort to prevent the spread of COVID-19, conversations around vaccine hesitancy in social media and the real-world have become the ultimate double-edged sword. Conversations with trusted messengers can be critical to providing the information needed to make empowered decisions about COVID-19 vaccination [34]. Data has also shown that cultural narratives centering distrust of science, traditional institutions, and authority, fueled the spread of COVID-19 conspiracies and mis−/disinformation [35]. Working together, these factors created significant barriers to vaccine confidence and uptake among historically marginalized and socially vulnerable groups such as younger Americans and people of color. To further complicate matters, it has been documented that the incidence of these cultural narratives can vary greatly from one subculture to another, often rendering communication at the mass level, ineffective for many people [36].

2. Purpose

This purpose of this manuscript is to 1) raise awareness around social media as the new social square, where mis/disinformation contribute to social vulnerability among historically marginalized groups, and 2) to describe a community-engaged approach used to develop and implement a culturally competent and peer-led health communications intervention created by and for young adults, 18–24 years old.

In 2021, the Prevention Research Centers Network (PRC) asked its member institutions to develop and implement a response to address COVID-19 vaccine hesitancy and increase vaccine uptake. The Georgia Peers for Equity Against COVID-19 and for Health (Georgia PEACH) was a project designed to rapidly respond to the COVID-19 pandemic to increase confidence in and uptake of the COVID-19 vaccine among Black and Latinx emerging adults, 18–24 years old, on college campuses and in communities across Georgia. Using a community-engaged approach, Georgia PEACH developed and implemented culturally tailored peer-led health communication activities designed to assess knowledge, attitudes and beliefs, to inform and educate young adults about the COVID-19 vaccine, address mis−/disinformation and mistrust, and use appropriate mass and social media platforms to overcome barriers to vaccination uptake. This study was reviewed by the Morehouse School of Medicine Institutional Review Board (Protocol #1784755–1) and an exempt determination was made.

3. Materials and methods

3.1. Partners

The Morehouse School of Medicine Prevention Research Center (MSM PRC) was able to leverage relationships through its Community Engagement Course and Action Network (CECAN). CECAN was developed in 2018 to build community-engaged research capacity across Minority Serving Institutions (MSIs) in Georgia along with their local public health departments and community partners and has been described elsewhere in the literature [37]. CECAN partners were uniquely positioned to engage in the proposed program based on a history of community trust. Georgia PEACH partnered with CECAN institutions ($n = 4$) in urban and rural areas across the state and two community-based organizations (CBOs) with statewide reach. The MSIs were all public institutions and included two Historically Black Colleges and Universities (HBCUs), one Predominately Black Institution (PBI) and one Hispanic Serving Institution (HSI). These institutions, especially HBCUs, are often located in areas that are disproportionately impacted by chronic health conditions, experience poverty, income inequality, and lower access to care with fewer primary care providers [38]. All the institutions had COVID-19 policies which included not having a COVID-19 vaccination mandate for students, faculty, administrators, and staff and returning to in-person learning, earlier in the pandemic, compared to private MSIs. One of the CBOs was a Community Coalition Board member of the Georgia Community Engagement Alliance (CEAL) Against COVID-19 Disparities (led by several co-authors), which was designed to facilitate community-driven approaches to vaccination confidence and uptake among Black and Latinx communities, statewide. The other CBO frequently partnered with the HSI.

3.2. Faculty and Community Champions

Faculty and Community Champions were identified from each MSI and CBO partner ($n = 6$). Faculty Champions were faculty members at the MSIs, and Community Champions held leadership positions within the CBOs. They helped identify the Peer Champions in their respective contexts and provided supervision. Faculty and Community Champions provided support to navigate institutional policies to ensure the Peer Champions could successfully implement their health communication and community engagement strategies. The Faculty and Community Champions received a stipend for their work in these efforts.

3.3. Peer Champions

Peer Champions were individuals within the priority population (i.e., 18–24 years) trained to develop and implement culturally tailored health communication and community engagement strategies to inform and educate their peers about the COVID-19 vaccine. Students attending MSIs often reflect the communities where the institutions are located, with many being first generation college students and being recipients of financial aid, including Pell Grants [39–41]. There was a total of 12 Peer Champions, two per each MSI ($n = 8$) and CBO ($n = 4$). The Peer Champions received an hourly wage for their work on the project.

3.4. Community Coalition Board

Community engagement occurred through the formation of a Community Coalition Board (CCB), modeled after the Morehouse School of Medicine Prevention Research Center CCB [42]. The CCB, made up of Peer, Faculty, and Community Champions and project faculty and staff met monthly to support and promote Peer Champions in community engagement strategies. These meetings were held virtually and served as the listening sessions for the project. During these meetings, Peer, Faculty, and Community Champions had the opportunity to exchange information and ideas regarding the barriers and facilitators they were experiencing at their respective sites, as well as additional insights gained from their interactions with their peers regarding mis−/disinformation and vaccine hesitancy. The CCB also provided the opportunity for collaboration among the campuses and CBOs, as they were able to cross-fertilize ideas regarding communication, engagement strategies and implementation. An example of this cross fertilization is discussed in the description of the social media dashboard. The CCB served as the venue for conducting the social media monitoring and the *Culture & Content Co-Labs* (both described below).

3.5. Peer Champion Training and Message Design Engagement

Subject matter experts from the fields of mass communications, public health, social computing and human computer interaction, and cultural engagement trained the Peer Champions to use social media as a tool for community-based research and cultural engagement through interaction with a social media dashboard and participating in *Culture &*

Content Co-Labs. As part of a community-based approach, Peer Champions were trained using an existing framework for context-specific vaccine messaging to increase confidence and uptake used. This framework was based on research, led by The BLK + Cross (a local multicultural, multimedia organization), around drivers of vaccine hesitancy among multicultural audiences. Peer Champions were trained to recognize and respond to mis−/disinformation through social media monitoring and cultural engagement. Cultural engagement, the practice of engaging groups through salient cultural content and storytelling, relies on cultural narratives and markers combined with strategic counter-narratives as entry-points to fact-based, culturally significant conversations about COVID-19 and the COVID-19 vaccine. The social media monitoring and *Culture & Content Co-Labs* were conducted concurrently and allowed for simultaneously increasing knowledge about COVID-19 vaccine hesitancy, mis−/disinformation, and increasing the ability to design messaging to combat hesitancy and mis−/disinformation. Fig. 1 illustrates how the Peer Champions were engaged and trained to design COVID-19 vaccine messaging for their peers.

Social Media Dashboard. Using a custom social media dashboard, originally developed for the GA CEAL Project and further co-designed through Georgia PEACH, Peer Champions were taught to monitor social media to keep up to date on the latest online conversations and topics (including mis−/disinformation) that may be circulating among their peers. While many of the Peer Champions already sought out information and perspectives on COVID-related issues in the course of their personal social media use, the dashboard sought to enable a more structured approach to surfacing and interpreting relevant topics and narratives on social media. Social media monitoring (or listening), as a form of rapid community assessment, marries key aspects of both quantitative, analytics-driven research and ethnographic research methods to provide insights at both the macro- and micro-level of human understanding and behavior. It involves content analysis of publicly shared messages (unmediated conversation) posted via digital communication platforms (equipped with social analytics tools) to tap into the dynamic, interactive, and collaborative decision-making that happens in the 'new social square.' From social monitoring of online conversations, researchers can identify community and cohort-level knowledge, attitudes and beliefs toward vaccination, the cultural narratives and influencers that drive them, and the important cultural cues and markers needed to break through the clutter of messaging and gain recognition as an ally or trusted messenger (based on work by BLK + Cross).

The social media dashboard collected, organized, and displayed publicly available COVID-related social media content from Facebook, Instagram, and X (formerly Twitter), focusing on a curated set of accounts chosen for local and topic relevance (further technical details in [43]). To facilitate content analysis, social media posts could be filtered using automated topic- and account-based labels and a free-text search feature. Peer Champions were engaged over the course of the dashboard's continual design and development, with regular demonstrations of design prototypes and deployed updates by the development team and opportunities for feedback during CCB meetings.

In addition to this social media monitoring function, an outreach-related feature was developed where dashboard users could search a curated library of health communication assets (content created or recommended by Georgia PEACH and GA CEAL partners) to use in creating social media posts to respond to monitored narratives. To inform the design of this feature as well as further Georgia PEACH activities, one CCB meeting was devoted to a virtual co-design session to explore the use of these various resources. Peer, Faculty, and Community Champions worked in groups to discuss different scenarios of mis−/disinformation influencing vaccine hesitancy; examine several resources available for their use including our counter-narrative framework, the social media dashboard's monitoring feature, images and text from different organizations' COVID-19 social media toolkits, and a COVID-19 FAQ factsheet; and then create mock social media posts using an online whiteboard to address their scenario. To better understand how social media monitoring via the dashboard was able to support the Peer Champions, we conducted individual in-depth interviews during which we had them interact with the social media dashboard to elicit live reactions and feedback (full details and findings in [31]).

Culture & Content Co-Labs. Peer Champions participated in three *Culture & Content Co-Labs* that yielded insights around the priority demographic while also equipping Peer Champions with transferable skills in traditional and emerging health-related fields. These *Co-Labs,* conducted by The BLK + Cross, facilitated collaboration among Peer, Faculty and Community Champions, computer scientists and health communication experts. The Co-Labs were designed to: (1) provide insight into the COVID-19 vaccination knowledge, attitudes (drivers/

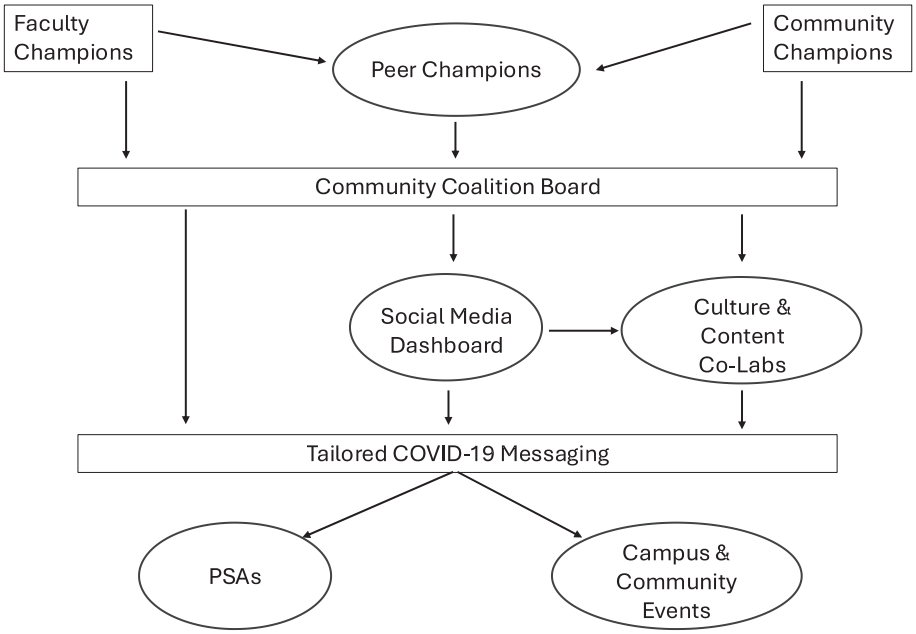

Fig. 1. Peer Champion Engagement and Training Process.

barriers to risk mitigation and vaccination), behaviors, and sources of information and influence of their peers; (2) gain critical skills and knowledge about how "bad actors" manipulate the filter bubble to drive relevance, and methods for confirming the veracity of information; (3) gain early exposure to innovative approaches in health communications and storytelling, and experience developing culturally competent messages and storytelling to help close the health equity gap in their communities; (4) collaborate on the development of counter-narratives, messaging, social media content, and effective strategies for content dissemination; and (5) partner and disseminate resulting communications across their social networks (real/virtual worlds).

Two of the Co-Labs were conducted virtually during the CCB meetings. The final Co-Lab was a hybrid, one-day training with Peer Champions to build capacity in responding to mis−/disinformation on social media platforms. Peer Champions were given a refresher on how to identify common cultural narratives and individual barriers driving COVID-19 vaccine hesitancy among Latinx and Blacks, the cultural context of that hesitancy, and how to develop counter-narrative messaging to combat mis−/disinformation and overcome that hesitancy.

Co-Lab #1: Audience Profiling. Peer Champions used conversations with campus peers, their monthly CCB meetings, and social media monitoring via the social media dashboard to identify contextual insights, as well as the most common cultural narratives and associated barriers to COVID-19 vaccination among their peers.

Peers were assigned pre-work exercises prior to attending the Culture Co-Lab, which included interviewing peers and/or family members, as well as evaluating existing COVID-19 vaccination messaging for relevance, appeal, etc. During the Co-Lab Peer Champions were debriefed on the results of their pre-work. They were asked about their personal perspectives and those of their peers around identity and culture, lived experience, and attitudes, beliefs, and behaviors around COVID-19 and the COVID-19 vaccine. Peer Champions engaged in a design thinking exercise and learned the fundamentals of cultural markers in messaging (as applied to COVID-19 vaccination messaging).

Co-Lab #2 Counter Narrative Message Development. Peer Champions learned to develop and use counter-narrative messaging strategies as tools to better craft culturally tailored messaging. Using science-based explanations, contextual insights, cultural markers, and literary devices such as visual narratives, paradox, or personal testimony, Peer Champions were able to target the roots of distrust within commonly-held cultural narratives, which drive vaccine hesitancy among their peers.

Co-Lab #3: Storytelling: Conversations & Content Creation. Peer Champions learned to leverage counter-narrative messaging strategies to disprove mis- /disinformation that act as barriers to COVID-19 vaccination. A hybrid, one-day training with the Peer Champions to build capacity in recognizing mis−/disinformation on social media platforms was conducted. Using principles of cultural engagement and storytelling, which help messengers connect to audiences through neuroscience and deep cultural insight, Peer Champions were trained on how to develop short-form video PSAs and social media content to combat misinformation and overcome vaccine hesitancy. A toolkit (https://vaccineresourcehub.org/resource/toolkit-alive-and-color-guide-developing-context-specific-messages-population-profiles) was provided to the Peer Champions for engaging their peers via conversations/storytelling for impact to drive vaccine confidence and uptake. The toolkit included the following: (1) sample social media content, (2) best practices for social media and short-form video storytelling, (3) a COVID-19 master messaging map that matched key anti-vaccine narratives with their associated barriers to vaccination, and core messaging that exposes the fallacy, and (4) counter-narrative keys used to translate fact-based information, into culturally competent, context-specific messaging. Each 'key' featured a specific counter-narrative strategy, its communication objective, and contextual information such as sociocultural and historical context, applicable anti-vaccine narratives, storytelling/messaging topics, and information on how to use literary devices such as 'openers' to prime audiences for deeper understanding and engagement.

4. Results

Engaging in social media monitoring helped inform Peer Champions on what issues they should focus on in their outreach efforts, thus helping them target their messages in responding to communication needs. Peer Champions noted that using the social media dashboard, as compared to their existing online information seeking practices, allowed them to view content from parts of the internet they were personally less exposed to (e.g., misinformation-spreading social media accounts that they did not follow), and to more quickly aggregate and identify topics of interest with the automated analyses and content filters. Furthermore, while viewing monitored posts containing misinformation (and labeled as such), the Peer Champions talked through interpretations of such content as they felt vaccine hesitant community members might have, demonstrating their capability to critically identify community-specific underlying reasons for vaccine hesitancy and the potential for tools like the social media dashboard to facilitate such reflection. From the co-design session conducted on health communication resources, we additionally observed that Peer Champions tended to seek very issue-specific information to fit a given scenario (e.g., by using an online search engine) that they could include when creating their own community-targeted messages, rather than browse more generic pre-made COVID-19 communication assets to reuse. Together, these findings point to the need for more context-specific resources to support community messengers that are culturally relevant and up-to-date on addressing issues of concern (especially in a rapidly evolving health crisis), as well as the benefit of providing communication tools and frameworks to such messengers to empower them to effectively craft their own community-targeted messages. The *Culture & Content Co-Labs* further helped to shape messaging to be culturally and contextually relevant.

4.1. Co-Lab #1 Contextual Insights

Contextual insights were used to identify three psychographic sub-groups, with unique drivers of COVID-19 vaccine hesitancy and/or confidence among Black and Latinx young adults aged 18–24. Below is a description of the psychographic sub-groups.

1. #UnvaxxedNotRelaxed

At-risk youth and young adults are the least vaccinated demographic proportionately. A browning America, recent social justice movements, and a mental health crisis have all contributed to growing distrust of the government and what some call the "Medical Industrial Complex." This demographic's desire for more freedom and mobility, coupled with their disillusionment with the current state of society, make them particularly vulnerable to mis/disinformation, while also being more prone to restlessness and risky behavior. Apathy is also a challenge for this group. Due to feelings of invincibility (not uncommon for their life stage) and early reports of COVID as a virus that preys on the old and infirm, many young people still perceive COVID as low-threat; this is a severe issue in light of recent COVID variants.

2. "Politricks" As Usual: Why Bother?

Many lower-income youth and young adults are from challenging environments subject to social vulnerabilities such as food deserts, closer/dense living conditions, poor healthcare access, and unstable employment. These factors can lead people in this demographic to experience feelings of nihilism (hopelessness). This group often relies on others within their social sphere for guidance that will more likely than not reinforce their negative feelings about institutions and authority.

This leads to a deep misunderstanding of how

healthcare institutions work on both structural and safety levels. Many believe the

government and health officials have ulterior motives regarding vaccination (e.g.

population control, mobility tracking) and reinforce this by pointing to personal,

systemic, and cultural barriers that they have faced as members of marginalized

populations. Cultural groups aligned with this segment include Nation of Islam, American Descendants of Slavery (ADOS), and New Era.

3. "M Clique Bad"

For many youth/young adults, social media is a go-to for news and their first point of contact with issues in society. They rarely venture past what they see online and typically only follow other individuals whose views, opinions, and biases align with theirs. This social media isolation is reinforced by algorithmic targeting, creating a mis-/disinformation "filter bubble." This online environment parallels how many interact with peers in the real world. They are more likely to partake in high-risk activities and often seek peers with similar mindsets. All of these factors lead to a dissonance about the true reality regarding COVID and how important vaccination is for their own health as well as their immediate community.

Common Cultural Narratives and Associated Barriers to Vaccination.

The Peer Champions revealed strong cultural nuances embedded in psychographic subgroups that were drawn by ethnic, socioeconomic, and geographic differences. Issues for some subgroups such as access to information, lack of formal education, or familial expectations may be very prevalent regarding attitudes about the vaccine in one subgroup and completely absent in others. The narratives were prioritized in a broad sense for the major issues that result in vaccine hesitancy for youth and young adults. The broad groupings addressed major themes of the audience, and the narratives further explained their likely reasoning for perpetuating those themes (see Table 1). The degree of nuance that existed among young adult subcultures reinforced the need for culturally-tailored communications, delivered by peers.

Co-Lab #2 Counter-Narrative Message Development.

Each counter-narrative included the target audience, contextual insights of the audience, overarching narratives to counter barriers, message topics, and message openers. These counter-narratives were used to develop messages to address vaccine hesitancy and increase vaccine confidence. Table 2 provides an example of a counter-narrative message development strategy, titled "Reasonable Doubts." The narratives were identified using the language/cultural cues provided by the Peer Champions and their social circles (online and in the real world).

Co-Lab #3: Storytelling: Conversations and Content Creation. Peer and Community Champions used the information and insights gained in the first two Co-Labs to develop community engagement strategies, 30–45 s PSAs, and infographics addressing COVID-19 vaccine hesitancy and uptake. The PSAs were workshopped during a CCB meeting where Peer Champions received feedback on their message concept and strategy. The PSAs were disseminated through designated channels (Instagram Live, Social Media posts, tabling events, and campus town halls) on their campuses and in the community.

As a result of the engagement and training, Peer Champions hosted six events that reached over 350 young adults (18–24 years) in-person and virtually across the state of Georgia. These events included an Instagram Live Chat, panel discussion with health experts, events on campus quads/student centers (provided incentives, games, fact sheets). Details for the events were posted on the social media pages of the Peer Champions, the schools (when allowed), and the CBOs. In the case of in-person events held at the schools, the Peer Champions were able to engage students as they traversed the campuses. After each event, Champions filled out an Event Reporting Form detailing their event, estimated number of attendees, and the attendee's engagement (see Table 3). Events were designed to be engaging and interactive for the participants, challenge their thoughts and answer questions about the COVID-19 vaccine. Each event emphasized the safety of the vaccine and the importance of getting vaccinated.

Table 1
Cultural Narratives and Barriers.

Theme	Narrative	Reasoning for Narrative
Apathy/ Underestimation of the Effects of the Virus		
	COVID vaccines are unnecessary (Perceived Low Threat)	Youth and young adults feel that, because they are young and healthy, they are not at risk for severe illness or death from COVID-19
Distrust of Institutions and Authority		
	"COVID vaccines don't work"	Lack of understanding of the vaccination process and breakthrough cases
	"The big push"	The adamance of the government to get people, especially BIPOC, vaccinated is perceived as an active part of a conspiracy theory
	"It's about freedom" (Government Control/ Medical)	There is a sense of rebellion and distrust of the government's actual ability to make viable decisions for BIPOC
	"I just don't know" (Overwhelm/Lack Clarity)	This stems from distrust of institutions and leads this segment to think of the abuses and mistreatment suffered in the past
	"Covid vaccines are unnecessary" (Rejection of Science)	A deeper level of conspiracy theory and mistrust of institutions but also encompassing research and medical institutions
	"People should do their own research"	
	"It's not worth the risk" / "COVID vaccines aren't safe"	Messaging from influencers, peers, and bad actors in social media exaggerates the side-effects of the vaccine
	"People should do their own research"	

Insights from Peer Champions.

Following the conclusion of the Georgia PEACH project, Peer Champions were surveyed to get insights and evaluate their experiences as a Peer Champion. Peer Champions described the skills they obtained and how they were used:

"I have been providing informative information on Pfizer and answering questions why are the boosters necessary."

"… Also, I actively engaged with people via social media. I learned many things … about how to approach people with the level of fear or hesitation and how to offer a counter-narrative."

"Throughout the project, I have acted with great care in spreading COVID-19 vaccination information. I, myself, got vaccinated and boosted with the COVID-19 vaccine so I tried to lead by example. Whether it was friends, family, or strangers, I always attempted to meet people where they are–if they got "bad" information, I tried to get to the bottom of where that information came from and why they believe what they believe."

"My work as a Peer Champion is interdisciplinary, so I see it as all types of focus areas. My work as a Peer Champion contributes to research studies about COVID-19, brings awareness to the importance of public health work, and demonstrates activism by protesting for equity in communities of color."

Peer Champions also discussed the value they found being a Georgia

Table 2
Example Counter-Narrative.

"REASONABLE DOUBTS" **Young Adults + At-Risk, At-Workers (Essential Workers/ Lower Income)** *Demonstrate that although their distrust of authority and the healthcare system, is reasonable, the abuses of the past are no longer possible.*	
Contextual Insights	To immediately discount views to which people are emotionally attached or with which they associate as parts of their identities, triggers "fight or flight" responses and **strengthens perspectives**. Instead, compassion is required. Acknowledge their doubts as reasonable, and then explain how their beliefs are flawed. For BIPOC communities, their distrust around the COVID vaccine is more than reasonable. A long history of abuse and experimentation on Black Bodies, combined with persistent systemic racism and bias in healthcare, has only been worsened by recent social unrest and a deep political divide. If one looks at the history, one is able to see the connection between a history of forced sterilization of Black & Brown Women, and current beliefs that the COVID vaccine was created to control the population sizes of Black & Brown communities. ***Reasonable Doubt*** helps **Peer Champions** empathize and establish rapport with distrustful BIPOC audiences by acknowledging the history and providing education around the safeguards put in place that make these atrocities no longer possible.
Narratives + Barriers + General Messages	● It's About Freedom - Government Control (Forced Sterilization/Population Control, Tuskegee) ● It's About Freedom - Medical ● The Big Push ● It's Not Worth The Risk/ Vaccines Are Not Safe (Distrust in Government Authority) ***Consult Master Messaging Map for Barriers***
Topics	● Onesimus, the African Slave who introduced inoculation the United States ● Acknowledge History of Abuse -Tuskegee, Marion Sims, etc. ● Safeguards Against Medical Abuse in Clinical Trials ● Unprecedented Volunteer participation in Clinical Trials ● Unprecedented Oversight of COVID Vax Development Process by Trusted Black Doctors (e.g. Dr. James Hildreth) ● Each vaccine dose is tagged with information that allows the receiver to track exactly where it came from
Opener(s)	● "BLKVaxHistory"/"Did you know…"- Did you know the former president of Meharry Medical College oversaw the development of the vaccine?" ● "You have questions, and you should. We've got answers you can trust." ● "You're right, a lot has happened in the past to justify your doubts, but the laws have changed since then." ● "I'd like to understand how the government is making money from the vaccine?" ● "We built this table" - "We are part of the process this time so it won't be used against us" ● mRNA has been in development for over 30+ years
Cultural Markers	*IMAGERY* ● Jay-Z/ Jigga Man ● HBCU Markers ● Black Doctors/Scientists ● Dr. James Hildreth ● Dr. Kizzmekia Corbett ● Onesimus *LANGUAGE/ CULTURAL NARRATIVES/ ICONS* ● "Reasonable Doubt" - Jay-Z album imagery, song audio, etc. ● "Politics As Usual" Jay-Z album imagery, song audio, etc. ● Pro-Vax Descendants of Tuskegee participants ● HBCUs/ Faculty that participated in vaccine roll-out. ● "Unapologetic Blackness"/Cultural Pride ● "Strictly Business" ● "A Seat At The Table" *HASHTAGS* ● #ReasonableDoubt ● #JayZ ● #BetterBLKFutures ● #CombatMisinfo & #PopTheFilterBubble (Infodemic Hashtags) ● #VaxUp2Thrive ● #AliveAndInColor *LIFESTYLE INTERESTS* ● Verzus *(Urban Music Fans - Verzus Battle)* ● Key Lifestyle Interests - Entrepreneurship/ Moguldom, Sports/Entertainment, Travel, Concerts/Festivals/Live Events (One Music Fest, Broccoli Fest), 4-Wheelers/ ATVs (male skew), Graphic Arts/Anime, Drill Rap (AA & HA), Comedy (HA Skew), Economic Empowerment, Social Justice, Self-Care ● Twitter Interests - News, Social Issues, "Shade", Pop Culture Events ● IG Interests - Peers, Community, Sports/ Entertainment, Food, Travel, Fashion, Personal Leisure Interests ● TikTok Interests - Music/Dance, Comedy, Sports/ Entertainment, Food

Table 3
Events.

Event Description	Estimated Reach
Vaccine Clinic: Peer and Community Champions hosted a vaccine clinic administering the COVID-19 vaccine while asking community members their opinions on the COVID-19 vaccine.	15
"TMI GA: Coming Back from COVID": Peer Champions hosted an Instagram Live discussion on the importance of being vaccinated, how to convince loved ones to be vaccinated, getting back to a "new normal," and how to access free COVID-19 resources, such as masks and test kits.	16
"Be a Part of the Conversation!": Peer Champions participated in a tabling on their campus quad. Students were encouraged to answer a prompt that asked if they have taken the vaccine/will they take the vaccine and then provide their opinions on COVID-19 and/or COVID-19 vaccines (these were captured on a post it note).	40
"Acknowledging and Addressing Covid-19 Vaccine Hesitancy": Peer Champions participated in an on-campus event at the Student Center. They talked to students about their opinions on the COVID-19 vaccine and passed out COVID-19 Myths & Facts infographics.	105
"COVID-19 Informational Raffle": Peer Champions hosted a table at their Student Union on campus where they passed out COVID-19 fact sheets to students and discussed their opinions. Music and refreshments were provided.	74
"Get Vaxxed Up: Spring Fling": Peer Champions hosted an on-campus event featuring an interactive Q&A game where the students were asked questions about COVID-19 and the "host" explained the importance of getting the COVID-19 vaccine.	100

PEACH Peer Champion:

"I get to collaborate with like-minded people. We get to bounce ideas around. I was able to see different perspectives and how other individuals would approach situations."

"It is a personal feeling that you are doing something good for your community that can travel outside to the rest of the population in our nation."

"The most valuable thing was learning to meet people where they are and not forcing opinions and thoughts on someone. We had the ability to allow people to be themselves and reveal what they desire in truth and incentives to get their attention."

5. Discussion

Georgia PEACH sought to increase vaccine confidence and uptake among Black and Latinx young adults (18–24 years) on college campuses and in the community by centering the voices of young adults in the development of counter-narratives used in community engagement and communication activities to build confidence in the COVID-19 vaccine. Georgia PEACH was a large, coordinated effort and collaboration was facilitated by the establishment and implementation of a Community Coalition Board (CCB). The CCB meetings provided the opportunity for Champions to share ideas, as well as barriers and facilitators to addressing COVID-19 vaccine uptake. Additionally, the CCB served as an opportunity for the Champions to receive training and capacity building related to recognizing mis/disinformation, creating counternarratives, and designing community engagement and health communications strategies that were culturally relevant and community specific., The Peer Champions were able to advance understanding and develop shared meaning by identifying and understanding the psychographics of their community and understandimg the narratives that were driving vaccine uptake or the lack thereof through the training provided during the *Culture Co-Labs*. Wellington and Noel [44] describe the critical components for trust-building communications that include: (1) timely, rapid response, (2) consistent and repetitive communication, (3) authentic and transparent communication, (4) reciprocal and/or sustained relationships, and (5) not politicized. The CCB meetings, listening sessions, Champion's events, and the Culture Co-Labs facilitated the creation of authentic, transparent communications that were not politicized.

The Morehouse School of Medicine Prevention Research Center was able to successfully partner with four universities with majority or significant Black and Latinx student populations, as well as two community-based organizations that serve Black and Latinx community members to implement community created and community led interventions designed to increase knowledge, confidence, and uptake of the COVID-19 vaccine. We were able to quickly leverage existing relationships, with trusted community partners, to focus on a community that experienced high rates of COVID-19 infection and low mortality.

Most of the training and engagement occurred in a virtual space, which sometimes made it difficult to fully engage the Peer Champions. With this in mind, we relied on interactive activities, including the use of design thinking tools, and breakout rooms to facilitate small group discussions. We were also intentional about having at least one training session occur in person. We were able to host Co-Lab #3: "Storytelling: Conversations and Content Creation" as hybrid full day workshop. The Peer Champions were located on campuses that allowed for earlier return to in-person learning, allowing them to host in-person events. Peer Champions in the community were a bit more restricted and relied on both virtual and in-person events to promote COVID-19 vaccine uptake. While we were also not able to fully evaluate the activities mainly due to time constraints, the community-engaged process of training the Peer Champions described in this manuscript may be useful in future efforts to develop counternarratives to address health behaviors among young adults aged 18–24. Furthermore, as illustrated by the quotes from the Peer Champions, we were able to increase their knowledge about COVID-19 and the vaccine and assist them in engaging their community to provide health education.

Despite the challenges of COVID-19, Georgia PEACH was able to implement community-based and community-generated activities on college campuses and in communities across Georgia. Through the efforts of Georgia PEACH's Peer Champions, over 350 young adults were provided information about the COVID-19 vaccine through in-person and virtual activities and targeted PSAs. In the process, the Peer Champions received tangible skills through their training to recognize mis−/disinformation and develop counternarratives, thus building their capacity to produce and disseminate health communication information.

6. Conclusion

Georgia PEACH demonstrated the ability to quickly leverage and mobilize partners to address a public health crisis through critical community communication knowledge holders, those aged 18–24 years. The Morehouse School of Medicine Prevention Research Center was able to leverage existing relationships and create new collaborations to engage young adults in the creation of activities to increase knowledge, confidence, and uptake of the COVID-19 vaccine. This model can be replicated for other health issues that disproportionately impact similarly disinvested communities.

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CRediT authorship contribution statement

Rhonda C. Holliday: Writing – review & editing, Writing – original draft, Visualization, Supervision, Project administration, Methodology, Investigation, Funding acquisition, Conceptualization. **Asantewaa Darkwa:** Writing – review & editing, Writing – original draft, Supervision, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Gail A. Brooks:** Writing – review & editing, Writing – original draft, Project administration, Methodology, Investigation, Formal analysis, Data curation. **Tabia Henry Akintobi:** Writing – review & editing, Writing – original draft, Methodology, Funding acquisition. **Amy Z. Chen:** Methodology, Writing – review & editing. **Rakale C. Quarells:** Writing – review & editing, Methodology, Funding acquisition. **Michael L. Best:** Methodology, Writing – review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

No data was used for the research described in the article.

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