

Promoting vaccine acceptance in college students: An analysis of the KSRE Health  
Communication Vaccine Confidence Campaign

by

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## **Abstract**

In the United States, widespread acceptance, and utilization of vaccines among adults presents a significant opportunity for improving public health. However, vaccine hesitancy remains a substantial challenge, driven by factors such as misinformation, fear, safety concerns, and religious objections. This hesitancy poses serious risks, including increased susceptibility, potential disease transmission, and strain on healthcare systems. Addressing these issues necessitates effective education, transparent communication, and trust-building within vaccination programs. This report offers a comprehensive analysis of the Health Communication Vaccine Confidence Project, initiated at Kansas State University by Kansas State Research and Extension. It provides detailed information on the project's goals, approaches, and results. This approach aligns with the principles of Social Cognitive Theory, which emphasize the role of observational learning, social influence, and self-efficacy in shaping health-related behaviors. The study suggested a comprehensive framework for public health initiatives, emphasizing tailored messaging, credible spokespeople, and diverse university communication channels to enhance vaccination awareness among students.

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# Introduction

Vaccines have been a cornerstone of public health in the United States, instrumental in preventing and mitigating infectious diseases, ultimately improving overall population health (Nowak et al., 2017). Despite the well-established effectiveness and safety, the significant challenge of vaccine hesitancy looms. This hesitancy, driven by various factors including misinformation, fear, concerns about vaccine safety, and religious objections, substantially threatens public health (Hamel et al., 2021). The consequences of vaccine hesitancy are wide-reaching, extending beyond individual decisions. These include increased vulnerability to vaccine-preventable diseases, the potential for disease transmission within communities, and added strain on healthcare systems (Dube et al., 2016).

Addressing the pressing issue of vaccine hesitancy requires a multifaceted approach, prioritizing effective health communication strategies, transparent information dissemination, and trust-building within vaccination programs. This report embarks on a comprehensive analysis of the Health Communication Vaccine Confidence Project, an innovative initiative by the Kansas State Research and Extension in partnership with K-State Office of Engagement. The project was created to reach university students across the K-State campus in an effort to improve vaccine literacy and reduce vaccine hesitancy.

In the following sections, we will review the existing literature, the diverse methodologies it employs, and the outcomes it has achieved. This will be framed within the context of the Social Cognitive Theory, a guiding framework that emphasizes the role of observational learning, social influence, and self-efficacy in shaping health-related behaviors (Bandura, 2004). At its core, this research initiative aims to dispel myths and misconceptions surrounding vaccines and, in doing so, to raise vaccination rates. Achieving this involves a multi-

channel, integrated marketing communication campaign highlighting vaccination's numerous advantages. In a modern era defined by the rapid proliferation of information, the Health Communication Vaccine Confidence Project, conducted from January 2023 to May 2023, was a significant and timely contribution to the ongoing discourse on public health communication.

By examining this project's strategies, findings, and impact, we highlight the vital role of effective health communication in shaping public health outcomes and fostering informed, proactive healthcare decision-making.



## **Background**

This section offers an overview of the Immunize Kansas Coalition (IKC) vaccine awareness initiative, including the historical engagement of IKC in public health communication and its commitment to advancing immunization. Further, crucial concepts such as vaccines and health literacy, which are fundamental to grasping the intricacies of public health, will be discussed. Social Cognitive Theory provides a framework to analyze strategies for enhancing vaccine acceptance. Finally, a comprehensive examination of literature addressing vaccine hesitancy, with a focus on university students, will be conducted.

### **About Immunize Kansas Coalition**

The Immunize Kansas Coalition (IKC) comprises more than 80 individual and organizational members and over 500 engaged individuals from diverse backgrounds, including healthcare providers, health departments, researchers, healthcare payers, advocacy groups, and nonprofits across the state of Kansas (About IKC, n.d.). Since its establishment in 2015, IKC has consistently and diligently championed the cause of vaccination as a fundamental pillar of public health (About IKC, n.d.). With a resolute mission centered on amplifying vaccine awareness, accessibility, and coverage, IKC has taken a pivotal role in confronting the historical challenges associated with immunization in Kansas (About IKC, n.d.).

A pivotal milestone in IKC's history was the acquisition of financial assistance grant totaling \$79,278,482. This grant was awarded by the Centers for Disease Control and Prevention (CDC), a division of the U.S. Department of Health and Human Services (HHS). This financial backing was a significant driving force in the advancement of immunization and vaccine advocacy within the state of Kansas.

Through strategic collaborations with governmental bodies, healthcare institutions, and community entities, IKC has effectively executed impactful initiatives and campaigns, resulting in notable enhancements in vaccine utilization. These collective endeavors aim to raise immunization rates among the people of Kansas, and as an exemplar of their success, they have helped achieve an immunization rate of 73.5 % in female and 73.4% in males for single dose HPV vaccine (Data Dashboard [IKC], n.d.). In a landscape where immunization retains its paramount importance in public health, IKC has demonstrated a long-standing commitment and accomplishments serve as a compelling testament to its unwavering dedication to safeguarding the health and well-being of Kansans.

As part of IKC's commitment and dedication to the health and well-being of Kansans, the 'Vaccinate with Confidence' project was conducted from January to May 2023. This initiative aimed to enhance vaccine confidence in Kansas communities and families and involved Kansas State University students in three distinct campaigns. The 'Why I vax' campaign featured a tabling event, 'Community Resources' provided accessible vaccination information, and 'Vaccine Fear Overturned by Facts' used webinars and booklets to address misconceptions. These campaigns will be discussed further in the report, highlighting the strategies employed, their effectiveness, and areas for improvement. The project was led by Sakshi Bhati, with contributions from Johnna Tumberger (Strategic Communication Intern) and Janvi Aggarwal (Strategic Communication Volunteer) all dedicated students at Kansas State University. They played a key role in developing a strong social media and campus presence to encourage vaccine utilization. Notably, both Johnna and Janvi served as interns specifically for this project, showcasing their commitment to its success.

## **Health Communication and Vaccine Hesitancy**

The domain of health communication is constantly changing, shifting its main emphasis from health education to promoting behavioral and social changes. There is increasing evidence suggesting that successful communication can motivate people to embrace positive health habits and create a need for preventive and curative healthcare services (Goldstein et al., 2015). The substantial growth of this field was mainly triggered by the emergence of the AIDS epidemic in 1985, a time when there were no antiretroviral treatments available, and the only prevention strategy relied on encouraging transformations in societal and behavioral trends (Goldstein et al., 2015).

In 2013, Schiavo defined health communication as “The goal of addressing different individuals and groups is accomplished through an intricate and interdisciplinary field that includes theory, research, and applied activities. Its goal is to make it easier for people to share approaches, ideas, and information on health. This is done to influence, involve, empower, and support people, communities, organizations, special interest groups, healthcare professionals, patients, and legislators. The aim is to promote, initiate, accept, or uphold healthy or social behaviors, practices, or policies among various stakeholders. This concerted effort is ultimately intended to improve the health and well-being of people, communities, and the public.” (p.77).

Vaccines are one of public health's most significant achievements. Diseases like smallpox, tetanus, and polio, which were once widespread and carried devastating consequences, have either been wholly eradicated or brought to the brink of elimination through vaccination efforts (Nowak et al., 2017). Furthermore, the prevalence of other vaccine- preventable diseases like measles, mumps, and diphtheria has largely been kept in check (Kansas Health Matters, n.d.). The key to controlling these once-common diseases is to focus on maintaining high

immunization rates. When a high percentage of the population is immunized, those who are too young or have another contraindication to receiving the vaccine are protected by herd immunity (Kansas Health Matters, n.d.). Herd immunity, also known as community immunity, arises when a large proportion of a population develops immunity to a specific germ (such as a virus or bacteria) (Randolph & Barreiro, 2020). This immunity makes it more difficult for the germ to propagate, resulting in a drop in infection rates and the associated sickness (Pollet et al., 2021). Furthermore, it not only protects individuals but also benefits the entire community (Kansas Health Matters, n.d.).

While research continues to show the positive impact, vaccines have on public health, the threat of vaccine hesitancy has gained significant attention in recent years. The World Health Organization recognized vaccine hesitancy as one of the top ten health threats in 2019 (WHO, 2019). WHO's Strategic Advisory Group of Experts (SAGE) defines vaccine hesitancy as the "delay in accepting or refusing vaccination despite vaccination services being available" (MacDonald, 2015). This hesitation is not uniform and can vary depending on the type of vaccine and the individual's choices (Dube et al., 2016). Some may accept certain vaccines while delaying or refusing others, and some may decline vaccination entirely (MacDonald, 2015; Schmind et al., 2017). The factors contributing to vaccine hesitancy exhibit a multifaceted nature, encompassing a range of influences. These encompass contextual determinants such as culture, healthcare systems, and political structures; individual and social group factors including norms and beliefs; as well as issues specific to vaccines and vaccination, such as supply and delivery, the role of healthcare professionals, costs, the assessment of health risks and benefits, vaccine exemption policies, and the introduction of new vaccines or formulations (Larson, 2014).

## **Vaccine Hesitancy Among College Students**

College students need to be held in high regard, as they have the lowest rates of vaccination uptake and the highest levels of vaccine hesitancy (CDC, 2021). Given their active lifestyles and social interactions, college students have the potential to play a substantial role in the spread of infectious diseases, often termed "super spreaders" (Wotring et al., 2022). This term characterizes individuals who can unexpectedly transmit a virus to many people. Several factors contribute to this potential. Many college students reside in close-knit or crowded living arrangements, and frequent participation in social events, both on and off campus, often involving numerous attendees, increases the risk of transmitting infections to a broader community (Wotring et al., 2022).

Moreover, many college students hold jobs involving interactions with the public, serving as a potential bridge for infections to reach beyond the student population (Wotring et al., 2022). Another critical aspect to consider is the practice of college students traveling during university breaks to visit family and friends, whether locally or internationally. Such travel patterns raise concerns about the spread of pathogens, as they bring together individuals with varying vaccination statuses and significantly heighten the likelihood of encountering infectious diseases (Sharma et al., 2021). College students' activities and lifestyle choices can have far-reaching implications for public health, particularly concerning infectious disease transmission.

Vaccine hesitancy is often influenced by personal experiences, which can outweigh other types of evidence. It is important to note that adverse events following vaccination, including causal reactions such as pain, swelling, or redness, can significantly impact an individual's views on vaccines. While most adverse events are coincidental and not directly linked to vaccination, people tend to associate them with the timing of receiving vaccines (Weitz et al., 2020)

Moreover, a lack of trust in healthcare providers can contribute significantly to vaccine hesitancy, and research has shown that mistrust in conventional medicine is a strong predictor of this hesitancy (Stolle et al., 2020).

For college students, the decision-making process around vaccinations may mark their initial entry into independent medical choices. A study on a college campus focusing on influenza vaccination found that 55% of undergraduates remained unvaccinated, with 56% stating that their parents typically made medical decisions (Wotring et al., 2022). In contrast, graduate students had a higher vaccination rate, with 72% receiving the vaccine and only 23% relying on their parents for medical decisions (Wotring et al., 2022). Graduate students, distinguished by their advanced education, are often regarded as individuals with reduced bias and heightened sensitivity to public health issues (Bai et al., 2021). Consequently, it is imperative to gain a comprehensive understanding of their attitudes of vaccination to the general public (Barello et al., 2020). Notably, specific demographic groups, such as multiracial and non-first-generation college students, showed exceptionally high levels of vaccine hesitancy (Wotring et al., 2022). Students cited various reasons for not getting vaccinated, including limited vaccine access and a perception of low risk of contracting influenza (Dadaczynski et al., 2021).

Other factors contributing to this hesitancy encompass many concerns, such as worries about vaccine safety, effectiveness, potential side effects, or a general lack of trust in the healthcare system. The proliferation of misinformation and conspiracy theories on social media platforms has also influenced students' views on vaccines (Khubchandani et al., 2022). Notably, in August 2020, Facebook reported the removal of '7 million posts disseminating COVID-19 misinformation from its primary social media platform and Instagram between April and June,' in addition to placing warning labels on '98 million COVID-19 misinformation posts on

Facebook' during the same period (Lerman, 2020). By December 2020, YouTube also reported removing over 700,000 misleading COVID-19 videos (DeSalvo & Canegallo, 2020). These actions highlight the considerable impact of misinformation on social media, a factor that has been associated with the development of COVID-19 conspiracy beliefs and increased vaccine hesitancy among students.

### **Health Literacy**

Health literacy, a concept introduced in the 1970s, is steadily gaining significance within the realms of public health and healthcare (Simonds, 1974). It revolves around individuals' abilities to navigate the intricate challenges of maintaining well-being in contemporary society (Sorensen et al., 2012). The World Health Organization defines health literacy as "the ability to understand, access, and use information to promote and preserve good health" (2016). This idea of health literacy is critical in interpreting preventive health information and making educated decisions based on it. (Nutbeam, 1998).

It is noteworthy that health communication is intricately intertwined with vaccine acceptance and providing comprehensive information about vaccines frequently correlates with increased vaccine uptake, as indicated in studies by Biasio (2017) and Lorini et al. (2018).

Within the framework of health literacy, empirical evidence suggests that health literacy skills often serve as predictors or mediators of vaccination behavior, with low health literacy potentially contributing to vaccine hesitancy, particularly when individuals encounter limited and conflicting vaccine-related information on the internet (Biasio, 2017). However, it is imperative to acknowledge that there exists a paucity of substantial evidence regarding the mediating role of health literacy in the context of the relationship between distrust in the healthcare system and vaccine hesitancy.

## **Social Cognitive Theory**

One of the theories commonly used in health promotion and education activities is Social Cognitive Theory. It explores a core set of factors, elucidates the mechanisms through which they exert influence, and outlines the most effective strategies for translating this knowledge into successful health practices (Bandura, 2004). These key factors include an individual's understanding of the risks and benefits associated with various health behaviors, their belief in their ability to control their health habits, the expected results of different health behaviors, the health goals they set for themselves as the specific plans and tactics they develop to achieve these goals, and lastly, the perceived factors of support or hindrance, both social and structural, that either facilitate or impede desired behavioral changes (Holman & Lorig, 1992). The theory can be used in health promotion to improve self-efficacy for a particular action so that individuals participate in that activity to improve their health outcomes (Bandura, 2004).

Numerous health promotion interventions have drawn upon the Social Cognitive Theory. For instance, Abdi et al. (2015) conducted a study on weight loss campaign that applied this theory to assist employees in making lifestyle changes to enhance their health. Individuals were given nutrition and physical activity classes as part of the program to help them understand the impact of their behaviors on their weight (Abdi et al., 2015). Additionally, a randomized study of college students showed that the Social Cognitive Theory was a predictor of health behavior change. The results showed that self-efficacy was a significant indicator of behavior (Wallace et al., 2000). Self-efficacy is important to address in health promotion campaigns. An individual must be given information and strategies to feel competent to improve their health.

In conclusion, the comprehensive literature review presented above highlights the critical role of health communication, vaccine hesitancy, and health literacy in the context of public



health campaigns. It is evident that effective health communication, underpinned by Social Cognitive Theory, can drive behavioral and social changes, motivating individuals to embrace positive health habits. Despite the remarkable successes achieved in the field of vaccination, the emergence of vaccine hesitancy poses a significant challenge. College students represent a population with unique characteristics and vaccine-related concerns. These findings underscore the importance of addressing vaccine hesitancy among college students, whose choices can significantly impact infectious disease transmission. Health literacy plays a mediating role in this landscape, influencing vaccination behavior, particularly when individuals encounter conflicting information on the internet.

This study aims to analyze the 'Vaccinate with Confidence' campaign's effectiveness by utilizing a case study research design. The goal is to provide practical implications and future directions for public health vaccine campaigns, ultimately enhancing vaccine confidence in this demographic. This study draws on the principles of Social Cognitive Theory to understand and improve health behaviors, aligning with our overarching research objective to assess and enhance the impact of public health marketing campaigns on their intended audience.

### **Research Questions**

The proposed study sought to answer the following research questions, informed by the literature review:

RQ1: How did the Health Communication Vaccine Confidence Project effectively implement a vaccination awareness campaign targeting university students?

RQ2: What challenges did the Health Communication Vaccine Confidence Project encounter when promoting vaccination among university students?

RQ3: How do public health initiatives best communicate with the university student population about vaccination awareness and promotion?

## **Methodology**

A qualitative case study research design was used to analyze the Vaccine Confidence Project. A case study implies here a targeted, in-depth exploration of a topic with a pre-defined population within a specific geographic area (Mathew & Michael, 1994). The case study methodology is judiciously applied to comprehensively investigate the Health Communication Vaccine Confidence Project within the specific context of Kansas State University Students. The case study approach, rooted in qualitative research, entails an in-depth exploration of a singular, real- world case – specifically, a health communication initiative targeting vaccine awareness among college students. This approach is methodologically robust and theoretically sound, adhering to the principles outlined by renowned researchers in the field (Yin, 2014).

The data points for this case study include an assessment of the effectiveness of multimedia elements like posters, digital signage, tabling events, and social media posts. Additionally, we will delve into audience engagement metrics, specifically examining the impact of influencer marketing. Key to this analysis is the role of prominent K-State student figures on social media, who played a vital part in disseminating campaign information through their profiles. The information used in the campaigns materials and activities underwent rigorous validation, drawing upon resources from the Immunize Kansas Coalition (IKC) and Kansas State Research and Extension (KSRE). The accuracy of the information was further confirmed through validation by Connie Satzler, the Operations Manager at IKC. This comprehensive validation process played a critical role in ensuring the distribution of accurate and trustworthy information to the K-State student community, enriching their understanding of various immunization-related factors.

As a Strategic Communicator of the campaign, I have unique insight into the campaign planning and execution, which allows for a deeper level of analysis across all pieces of the campaign. I will analyze and document key moments and challenges encountered during the campaign in the form of a researcher's journal. Together, the pieces of this case study analysis will provide insights from the campaign, including challenges faced, and it will provide practical implications that can impact the future direction of public health vaccine campaigns.

### **Data Collection**

In the campaign, I employed a multifaceted approach to gather comprehensive data for analysis. In accordance with ethical standards, participant pictures, featuring students, staff, and faculty from K-State, were captured with explicit consent. This process ensures the utmost respect for ethical considerations during the tabling event, where individuals engaged in conversations expressing their reasons for supporting vaccination. Furthermore, they constitute a highly persuasive medium, fostering a deeper emotional connection with audiences.

(Photography/Video recording for data collection, n.d.). Additionally, we developed 20 unique creative tactics to carry out the Vaccine Confidence campaign, spanning social media posts, infographics, and digital signage, with the aim of disseminating vaccine awareness in an engaging and accessible manner. The analysis of these creative tactics included an examination of design elements and messaging to evaluate their effectiveness in conveying the intended health messages.

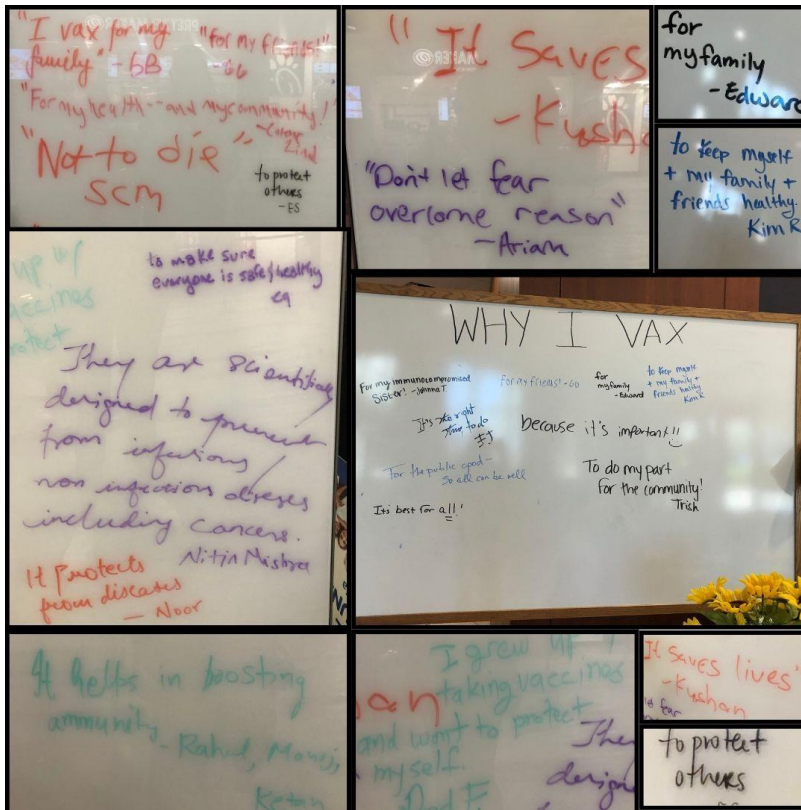
During the tabling event, we observed active participation from 50 individuals who engaged with campaign materials, attended informational sessions, and interacted with campaign representatives. Moreover, insights from the giveaway data unveiled that, through 29 responses to the survey, our outreach spanned across 2,530 individuals on campus. Notably, informational

booklets were distributed to 300 participants, encompassing those who attended training sessions, webinars, and individuals engaged at the tabling event. This distribution sheds light on the extensive reach and reception of campaign materials. These statistics contribute to a nuanced understanding of the campaign's impact and effectiveness. One limitation of the study was the absence of quantitative metrics to fully assess its impact, particularly since its goal was to raise awareness and enhance vaccine literacy among university students. This gap in evaluation does not lessen the campaign's achievements but highlights the need for evolving health communication strategies to include both qualitative and quantitative methods for a comprehensive understanding of vaccination awareness efforts.

## Findings

### **RQ1: How did the Health Communication Vaccine Confidence Project effectively implement a vaccination awareness campaign targeting university students?**

The Health Communication Vaccine Confidence Project at Kansas State University successfully executed a comprehensive vaccination awareness campaign targeting university students through a diverse range of strategies. Focused on direct interaction, the initiative purposefully organized compelling "Why I Vax" tabling events at crucial campus sites, strategically selecting the student union, leadership studies, and the engineering building. This deliberate placement aimed to reach students where they naturally gather and engage, ensuring a broad and diverse audience. The success of these events was not merely numerical, with 50 individuals actively participating, but extended to the depth of the interactions. During these tabling events, participants not only had the opportunity to contribute to the campaign by sharing their personal stories, adding a significant layer of authenticity and resonance, but also became part of the visual narrative of our initiative. To capture the human aspect of our campaign, we documented participant experiences through photographs. Consent was obtained from each participant, ensuring ethical considerations were addressed. These images serve as visual testimonials, adding a personal dimension to our research. One testimonial came from a team member, "I lost my father to COVID-19 in 2020. I understand the pain of losing a loved one to a deadly disease, and so I chose to vaccinate myself and my family. I vax because I cannot afford to lose more family members to such diseases. I highly encourage everyone in our communities to get vaccinated and protect ourselves and our families." Additionally, a participant at the table expressed, "I vaccinate to keep myself, my friends, and my family healthy." Another one said, "I believe in science and doctors" (See Fig 1).



**Figure 1 Comments made by participants at the Why I Vax Table**

Executing a strategic approach to Influencer Marketing, the university successfully collaborated with two undergraduate students, who are currently pursuing bachelor’s degrees in mass communication from the A.Q. Miller School of Media and Communication. The selection process involved identifying students who demonstrated both online and on-campus engagement, and who expressed a willingness to communicate the significance of vaccines and their personal motivations for getting vaccinated. The impact of this outreach is exemplified through the performance metrics of the influencers. Student 1, boasting a followership of 2159, generated substantial engagement with a post garnering 209 likes and 10 comments. Additionally, this influencer shared 12 stories, each accumulating an average of 235 views. Similarly, Student 2, with a followership of 1930, contributed to the campaign with a post receiving 70 likes and 3

comments, complemented by 10 stories, each amassing an average of 325 views. The influencers played a pivotal role in disseminating crucial information, effectively amplifying the campaign's message to a combined audience of over 4,000 individuals. This was achieved through curated social media posts crafted for the influencers, strategically positioned on their pages to maximize reach and engagement within their respective follower communities. A study by Lee and colleague (2018) in the *Journal of Interactive Advertising* examined the factors that contribute to higher engagement in influencer marketing campaigns. The research highlights the importance of content curation and strategic positioning of influencer posts in maximizing reach and engagement within specific follower communities.

Involving the student community, the campaign attracted 29 responses to the giveaway initiative, which was distributed among 2,530 students living on K-state campus housing and was structured as a survey on Qualtrics. It was distributed via QR codes embedded in the creatives designed for social media and flyers distributed across the campus. The educational initiatives featured a webinar dedicated to dispelling vaccine fears, leveraging the comprehensive "Vaccine Fears Overturned by Facts Booklet" as a central resource (See Fig 2). This booklet played a foundational role in shaping both webinars and training sessions, drawing attendance from 50 students for the webinar and 75 for the training sessions. The tailored information not only addressed the specific needs of K-State students and the community but also extended to the distribution of detailed vaccine pamphlets, providing attendees with tangible information for their reference and understanding. Written communications, including four KSRE Tuesday letters, a weekly email specifically catering to the esteemed faculty and staff of K-State Research and Extension and stakeholders across Kansas, reached a broader audience of 2,500 individuals. The creation of a community resource infographic and the strategic use of digital signage and



flyers across campus further reinforced the campaign's messages. This multi-pronged approach showcased the project's effectiveness in addressing vaccine hesitancy and fostering a culture of informed decision-making among university students.



**Figure 2 Vaccine Fears Overturned by Facts Booklet**

**RQ2: What challenges did the Health Communication Vaccine Confidence Project encounter when promoting vaccination among university students?**

Reflecting on the challenges encountered during the Health Communication Vaccine Confidence Project's promotion of vaccination among university students, a notable obstacle was the four-month duration of the campaign, spanning from March to June. The inherent time constraints demanded the formulation of streamlined strategies to maximize impact within the allotted period, shaping my understanding of the importance of efficiency in such initiatives. Additionally, the diverse schedules of university students presented a notable challenge in aligning campaign activities with their availability. For instance, during my observation, the training sessions faced difficulties in accessing classes as professors scheduled their classes in advance, leaving limited to no time for campaign-related activities during class hours. This

specific example underscores the necessity for flexible planning and innovative engagement approaches tailored to accommodate the varying timetables of the target audience, emphasizing the need for adaptability in health communication campaigns (Healthie, n.d.).

In the realm of influencer marketing, my reflections revealed that influencers faced hesitancy in sharing vaccine-related information. Throughout the entire campaign duration, it became apparent that influencers consistently exhibited delays in responding to assigned tasks. The requirement for a repetitive number of Instagram stories, crucial for campaign visibility, remained unfulfilled. Moreover, during the tabling event, there was a notable instance where both influencers did attend but spent just a brief five minutes at the designated table, showing limited engagement with the audience. This hesitancy, rooted in concerns about personal brand impact and the delicate nature of the topic, underscored the intricate balance required in engaging influencers for health-related campaigns. Furthermore, the time limitations experienced by influencers were notably exacerbated by their involvement in numerous concurrent commitments. As undergraduate students pursuing degrees in mass communication, both Student 1 and Student 2 were often preoccupied with academic responsibilities, including assignment deadlines and coursework demands. Additionally, the final week of May, coinciding with the end of the academic year, proved to be an exceptionally busy period for them. In addition to their academic commitments, both influencers were concurrently engaged in part-time employment. The dual responsibilities of academic studies and part-time work further compounded their time constraints, making it challenging for them to promptly respond to campaign tasks and timelines. Overcoming this challenge, as observed, necessitated strategic planning to optimize the impact of influencer collaborations, shedding light on the importance of aligning campaign timelines with influencer availability.

Addressing the sensitivity of the vaccine-related topic, my reflective analysis highlighted the inaccessibility to KSU social media due to concerns surrounding discussions. In an attempt to leverage Kansas State University's (KSU) social media channels for the Health Communication Vaccine Confidence Project, we initiated contact with the Division of Communications and Marketing (DCM), responsible for overseeing all university communications. Recognizing the potential to maximize outreach through KSU's official channels, we sent an initial email to inquire about the possibility of sharing creative content related to vaccination or promoting our 'Why I Vax' tabling event. Despite our efforts, the DCM, cautious about the polarized nature of discussions surrounding vaccination, expressed discomfort with disseminating such information through their communication channels. This observation emphasized the need for alternative communication channels and innovative strategies to navigate restrictive environments. The divisive nature of opinions surrounding vaccination contributing to hesitancy among some students was another challenge identified. My observations underscore the importance of a nuanced approach that acknowledges and addresses concerns while fostering open dialogue. This insight illuminated the significance of tailoring communication strategies to navigate polarization and promote a more inclusive and informed discussion on vaccination (The National Academies Org, n.d.).

**RQ3. How do public health initiatives best communicate with the university student population about vaccination awareness and promotion?**

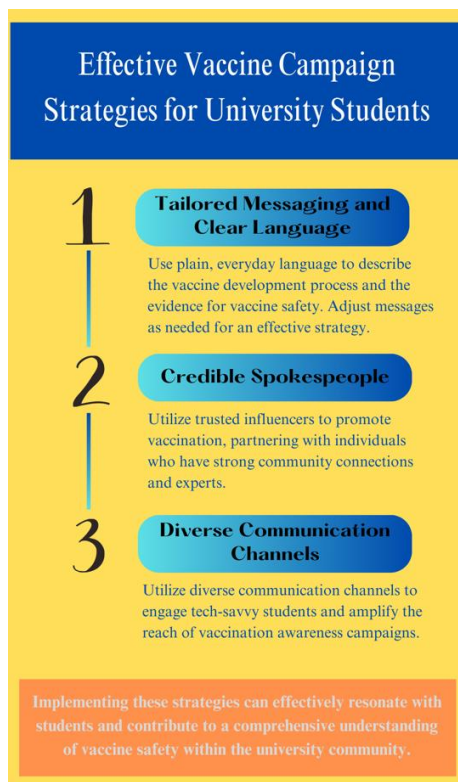
Within the context of university campuses, the imperative to effectively communicate vaccination awareness and promotion to the student population demands a nuanced and multifaceted approach. This section addresses optimal strategies for public health initiatives to engage, inform, and mobilize university students towards embracing vaccinations. The ensuing

discussion underscores the significance of tailored messaging, leveraging credible spokespeople and the strategic utilization of diverse communication channels (See Fig 3). Through an exploration of these facets, we aim to formulate a comprehensive framework geared towards maximizing the efficacy of vaccination initiatives within the dynamic and diverse landscape of university settings.

In formulating vaccine campaigns for university students, it is imperative to employ tailored messages that resonate with this demographic. Utilizing plain, everyday language to elucidate the vaccine development process and present evidence regarding vaccine safety is paramount (WHO., n.d.). While college audiences may have an appreciation for detailed information, the aversion to unnecessary jargon should not be underestimated. To enhance comprehension and engagement, steering clear of terms such as "adverse vaccine events" and opting for more familiar language like "side effects" ensures that the communication is accessible and relatable, fostering a transparent and informed discourse on vaccination within the university community (Advanced Solutions International, n.d.).

Leveraging credible spokespeople is a pivotal strategy in promoting vaccine safety. It is strongly recommended to prioritize voices from public health, vaccinology, or medical professionals over randomly chosen influencers (Leask et al., 2021). The expertise and authority of these professionals instill a sense of trust and reliability in vaccine-related communications. By selecting spokespeople with a solid background in health and medicine, the messaging not only gains credibility but also ensures that accurate and evidence-based information is disseminated, contributing to a more informed public discourse on vaccine safety (Leask et al., 2021).

Moreover, utilizing a variety of communication channels is essential to ensure broad reach and accessibility. Beyond traditional methods such as posters and flyers, digital platforms, social media, and university communication networks play a pivotal role in engaging tech-savvy students. Developing engaging and shareable content on platforms frequented by students can amplify the reach of vaccination awareness campaigns, fostering a sense of community involvement and responsibility (Advanced Solutions International, n.d.).



**Figure 3 Strategies for vaccine campaign in university.**

## Discussion

This study set out to delve into the Vaccine Confidence Project Campaign, offering insights derived from the campaign, addressing encountered challenges, and presenting practical implications that can shape the trajectory of future public health vaccine initiatives. The Health Communication Vaccine Confidence Project is examined for its adept application of Social Cognitive Theory (SCT) principles in orchestrating an impactful vaccination awareness campaign. This involved a keen focus on understanding audience perceptions and beliefs, and strategically leveraging influential figures for communication. Through interactions with audience members, it is believed that self-efficacy for vaccine acceptance was enhanced. The ensuing discussion illuminates the campaign's nuances, providing valuable insights for the ongoing discourse in public health communication strategies.

In alignment with SCT, the campaign recognized the significance of understanding audience perceptions and beliefs. By organizing "Why I Vax" tabling events at key campus locations, the campaign facilitated direct interaction, providing an opportunity to gauge the existing beliefs and perceptions of university students regarding vaccination. Personal stories shared during these events not only contributed to observational learning but also provided valuable insights into the varied perspectives and concerns held by the audience.

The campaign strategically enhanced self-efficacy for vaccine acceptance, a critical component of SCT. By conducting educational initiatives such as webinars and training sessions dedicated to dispelling vaccine fears, the campaign aimed to empower students with accurate information. The use of the "Vaccine Fears Overturned by Facts Booklet" as a central resource further supported this goal. By equipping students with knowledge and addressing their

concerns, the campaign fostered a sense of self-efficacy, empowering individuals to make informed decisions regarding vaccination.

The strategic incorporation of Influencer Marketing in the campaign exemplifies the SCT principle of leveraging influential figures for communication. By collaborating with influencers possessing significant social media followings, the campaign tapped into the power of modeling. These influencers, esteemed by the student community, acted as influential figures, reinforcing the pro-vaccination message. The influencers' ability to positively impact followers' beliefs and behaviors aligns with SCT's emphasis on the influential role of role models in shaping attitudes.

One notable limitation in this study is the absence of concrete quantitative evaluation metrics, introducing a nuanced layer to our understanding of its true impact. While the campaign's qualitative success is evident in engaged participation and resonant narratives, it prompts reflection on the need for precision in assessing effectiveness. The lack of specific numbers leaves a question mark regarding the campaign's reach, influence, and ultimate impact on vaccination behaviors among university students. Integrating robust quantitative measures, such as tracking increased vaccination rates or conducting post-campaign surveys to gauge attitudinal shifts, would have provided a clearer picture. Despite this, there is value in the kind of work we have done because it was a lot more engaging. This acknowledgment highlights that, while the quantitative evaluation may be a limitation, the qualitative aspects, including the campaign's interactive and participatory nature, contribute substantial worth to the overall endeavor. This evaluation gap, while not diminishing the campaign's achievements, underscores the evolving landscape of health communication strategies. It emphasizes the imperative for a balanced approach that seamlessly integrates both qualitative and quantitative assessments to holistically understand the dynamics of future vaccination awareness initiatives.

## **Conclusion**

In conclusion, the Health Communication Vaccine Confidence Project has made significant strides in advancing our understanding of effective vaccination awareness campaigns within the university setting. The engagement and participation observed during the campaign underscore the importance of interactive and participatory strategies in health communication initiatives. However, the absence of concrete quantitative evaluation metrics reveals a subtle layer in assessing the campaign's impact. While this limitation prompts reflection on the need for precision, it is essential to recognize the inherent value in the qualitative aspects of our work. The resonance of narratives and the interactive nature of the campaign contribute substantial worth, emphasizing the multifaceted nature of health communication strategies.

The findings highlight the dynamic landscape of health communication and the evolving expectations of an engaged audience. The campaign's success in fostering a culture of vaccination awareness is evident, yet we acknowledge the ongoing challenges in providing a comprehensive assessment. Future research endeavors should consider integrating robust quantitative measures to bridge this evaluation gap. Nevertheless, the qualitative aspects of our work, marked by engaging narratives and interactive strategies, present valuable insights for future campaigns.

This study contributes to the broader discourse on health communication, shedding light on the complexities and opportunities within the university context. The practical implications of the findings extend beyond this specific campaign, emphasizing the importance of tailoring strategies to the unique characteristics and preferences of the university student population. As we move forward, we must adopt a balanced approach that seamlessly integrates qualitative and quantitative assessments. This holistic understanding will be pivotal in shaping the dynamics of



future vaccination awareness initiatives, ultimately contributing to the broader goal of fostering informed decision-making and embracing a culture of vaccination.

The Health Communication Vaccine Confidence Project is a steppingstone in understanding and improving health communication strategies. The challenges identified pave the way for future research to refine and enhance the approaches, ensuring that we continue to adapt to the evolving needs of our audiences and contribute meaningfully to the field of health communication.

In summary, below is a list of practical implications recommended for future health communication plans on college campuses:

### **Best Practices for Health Awareness Campaign on College Campuses**

#### 1. Tailored Messaging and Clear Language

- Use plain, everyday language to describe the vaccine development process and the evidence for vaccine safety. This approach ensures that information is easily understandable by the general public, fostering trust and confidence in vaccination efforts (WHO., n.d.).
- Adjust messages as needed for an effective strategy. Recognizing the diversity of communities and individuals, tailor messaging to resonate with specific audiences, addressing their concerns and priorities (Advanced Solutions International, n.d.).

#### 2. Credible Spokespeople

- Utilize trusted influencers to promote vaccination, partnering with individuals who have strong community connections and are recognized as experts in their fields. These spokespeople can help disseminate accurate information and combat

misinformation, leveraging their credibility to encourage vaccination uptake (Leask et al., 2021).

### 3. Diverse Communication Channels

- Utilize diverse communication channels to engage tech-savvy students and amplify the reach of vaccination awareness campaigns. This includes social media platforms, online forums, educational institutions, and community events. By leveraging a variety of channels, vaccination messages can reach a wider audience, ensuring inclusivity and accessibility (Advanced Solutions International, n.d.).

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