

Black social media influencers engage higher percentages of Black gay and bisexual men in online outreach for HIV prevention research relative to paid ads

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Abstract

Background: Influencer-based social media marketing campaigns are a popular strategy to engage customers in many non-research industries (e.g., retail), but have been increasingly used in public health campaigns to reach and engage specific populations. However, few studies have directly compared the performance of influencer-based marketing with other ad strategies (e.g., paid ads) in achieving these goals.

Methods: From March to September 2023, we conducted an influencer-focused marketing campaign in which we identified and partnered with predominantly Black LGBTQ+ influencers in the United States South to promote engagement in our ongoing research. We then used web analytics and interest form data to compare performance of influencer posts versus paid ads over the same time period.

Results: We contacted a total of 358 influencers, 20 of whom ultimately agreed to post (85% Black/African American) and made a total of 28 posts on our behalf. A significantly higher percentage of users who clicked through influencer posts were Black (40% vs. 15%), were not currently using pre-exposure prophylaxis (PrEP) (67% vs. 62%), had no history of PrEP use (78% vs. 72%), and reported higher medical mistrust (12% vs. 8%) compared to those who clicked through paid ads. The percentage of Black men who have sex with men who were at high HIV risk, who were not taking PrEP, had no history of PrEP, or were high in mistrust, were all 2–3 times higher among those who clicked through influencer posts relative to paid ads.

Conclusions: Influencer-focused marketing may be a powerful tool to efficiently reach and engage high-priority and hard to reach populations.

Keywords

Social media, recruitment, marketing, analytics, HIV, gay and bisexual men, Black, African American

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Introduction

Black and African American men who have sex with men (MSM) in the United States (US) face health disparities, including the disproportionate risk of acquiring HIV. If HIV incidence among Black/African American gay and bisexual men continues at current rates, one in two will be diagnosed with HIV in their lifetimes.¹ To address these health disparities, it is essential to include Black/

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African American populations in public health research. Yet, some HIV-related studies and clinical trials frequently lack diversity and fail to include a sufficient number of Black/African American participants.^{2,3} Experiences of racism in medicine have also contributed to higher levels of medical mistrust among Black/African American^{4,5} and overcoming it is essential to improving the inclusion of Black/African Americans in research and intervention programs.

Social media platforms are now a mainstay of daily life globally. In 2022, Americans spent an average of over seven hours online daily, with over 2 h spent on social media alone.^{6,7} The magnitude of social media use suggests that these platforms should play a key role in a variety of essential public health efforts, such as communicating public health information, encouraging public engagement in intervention programs, and recruiting for public health research. Social media may also be an important way to engage hidden or underserved populations. For example, data indicate that racial/ethnic minority populations surpass the US average in daily internet usage. A higher percentage of Black/African American individuals have accounts on nearly every major social media platform than other racial groups.^{8–10} In LGBTQ populations, one study assessing the use of social media to reach urban youth at risk for HIV in New York City found that 100% of their recruited gay, bisexual, and transgender participants were active on social media, with about 87% logging on multiple times each day, a proportion significantly more than the national average.¹¹ Leveraging online marketing campaigns to engage gay and bisexual men, particularly Black/African American and bisexual men, may be especially relevant to HIV research and broader public health efforts. These trends suggest that online campaigns may be effective for reaching populations that are high-priority for HIV, including Black/African American gay and bisexual men.

The primary goals of online public health outreach campaigns are to reach a relevant population and to engage them. To date, most campaigns, including those targeting underserved populations, have invested almost entirely in paid advertising rather than in “organic” or influencer-generated content. For example, several studies have shown that paid advertising campaigns on social media sites reach and engage large numbers of gay and bisexual men.^{12,13} However, few of these studies have specifically explored the effectiveness of specific strategies for reaching subpopulations that are high-priority for HIV, such as Black/African American gay and bisexual men. One study found that using specific content in paid ads, such as images containing Black/African American men, may be more effective in engaging Black/African American gay and bisexual men than ads that did not.¹⁴ Still, these ads reached a relatively low number of Black/African American men. Leveraging “influencers” to generate

organic content promoting research may reach a larger audience of Black/African American social media users.

Social media “influencers” are individuals who have built large followings and are considered trend setters in a particular area (e.g., fashion, fitness),¹⁵ thus having the ability to “influence” their audience to make purchases or take action. Influencer-based social media marketing campaigns typically promote products and/or services through the influencer’s own voice, which then becomes familiar to their followers. Influencer-based campaigns have been a core marketing strategy in many non-research industries like retail for years, but have been used in public health campaigns more recently as a way to increase reach and engagement (e.g., Refs.^{16–19}). So far, these studies have shown that influencers can effectively convey public health information with some evidence suggesting that this may be a more personally relevant form of health communication that has the potential to shape the norms and attitudes of members of the public.²⁰ Engaging influencers may also be a particularly potent method for reaching underserved populations.¹⁸ For example, a study targeting African American and Hispanic individuals with an influencer-delivered positive flu vaccine message found that there was potential to shift social norms for heavily debated topics such as vaccination.²¹ These campaigns may be more successful than paid advertising alone because they are delivered by familiar individuals that the target audience may trust more in their own voices. Previous research has shown that participants are more likely to trust health information when it is shared by a trusted person.²² Influencers may also be helpful in reaching those who mistrust medical or public health professionals, making it possible to engage social media users who rarely interact with public health or medical research. Yet, few studies have explicitly tested whether influencer-based marketing is more effective in reaching and engaging these high-priority populations than relying on paid advertising alone.

In this project, we describe an influencer-focused outreach campaign we conducted to engage Black/African American gay and bisexual men, primarily in the US South, in research on HIV prevention. We first describe steps we took to identify and engage influencers, and then examine whether particular influencer characteristics were associated with agreeing to post as part of our campaign. Then, we explored whether various influencer characteristics, such as follower count, verification, or engagement rate, were associated with the degree of engagement a given influencer’s post achieved. Finally, we tested whether influencer posts reached higher percentages of Black/African American and other high-priority populations when compared to paid advertisements. Findings could help researchers effectively incorporate influencer marketing into their own online outreach campaigns.

Methods

Data and participants

Data used in these analyses were cross-sectional and drawn from analytics and web form data generated during an advertising campaign conducted from March to September 2023 that aimed to recruit prospective participants for several open HIV prevention trials.²³ All open studies were “site-less” trials, meaning that they were conducted entirely online and recruited participants from several areas with a high incidence of HIV in the US using online outreach. This campaign included both paid advertisements and influencer-sponsored content. The latter involved recruiting influencers to post content that encouraged their followers to get involved in research. In this project, we analyzed (1) public data collected from social media websites about various characteristics of influencers we identified and approached to post for us, as well as (2) web analytics and interest form data collected from users who clicked on an ad or post that was a part of this campaign, visited our website, and elected to provide information expressing interest in participating in open studies. There were no other inclusion or exclusion criteria for these analyses. All open studies sought to recruit participants who were at high-risk for HIV and/or who had either not used HIV pre-exposure prophylaxis (PrEP) medication within the last six months or had been prescribed PrEP but took it intermittently.

Procedures

Research staff browsed specific social media sites, including Instagram, TikTok, and Twitter, to manually identify influencers of interest to LGBTQ users of these sites. We did not search systematically but attempted to focus primarily on identifying influencers with the following characteristics: (1) popular among LGBTQ users (e.g., focused on LGBTQ culture or issues), (2) were Black or Black-focused, (3) had links to areas/cities in the US South (e.g., were based in Miami, New Orleans), and (4) had at least 1000 followers. Once a candidate with these characteristics was identified, staff recorded data about their accounts, including number of followers, number of posts, and engagement rate, and then attempted to contact them at least three times to request that they post on our behalf. Candidates were contacted via private messaging through the relevant social media site, or via a managed influencer sourcing platform where influencers have expressed interest in paid partnerships. For descriptive purposes, staff also entered various “tags” for each influencer that identified the primary categories each influencer’s content focused on. A full list of these tags and categories is provided in Appendix A. Influencers who agreed to partner with us were encouraged to create organic posts

in their own voices but were asked to highlight the following aspects: that we were recruiting (1) gay and bisexual men for (2) research studies that (3) are conducted entirely online, and (4) that they would be paid for their participation. However, influencers could vary from these instructions to ensure that the content created was consistent with their own voice. We also offered influencers the option of reposting content that we created that highlighted the above topics. These posts included stock images depicting racial/ethnic minority men, often engaging romantically (e.g., hugging, holding hands). Influencers posted/re-posted content to their own accounts as either a “Story”—a vertical, full-screen video that disappears after 24 h—or as a feed post—a conventional post that appears among other posts on their profiles and does not disappear unless intentionally deleted. Since many platforms do not allow links within posts (e.g., Instagram), influencers typically attached a link to our website in their temporary story post or added it to their bios for a specified amount of time (e.g., 24 h). We provided all influencers who agreed to post with a custom link for them to use that identified the specific post users clicked through to arrive at our website. The website then captured that information automatically and followed users through to the interest form.

In addition to manually sourcing influencers, we also used several popular influencer sourcing platforms to recruit influencers. These platforms allow users to search based on certain characteristics (e.g., LGBTQ interests, specific locations, etc.) to identify influencers with particular audiences more easily. Some of these platforms also facilitated communication and transactions with influencers, so that we could track each one as they created and posted their content and pay them within the platform. Regardless of how influencers were identified, we paid them an amount ranging from \$50 to \$500, depending on their going rate or request. These payment amounts often varied based on the size of their audience and number of followers each influencer had, but a variety of other factors can affect the payment amount influencers request, such as their interest in the product or service or business-related motivations.

During this period, we also ran a variety of paid ads on the same platforms, Instagram and Facebook, and focused on the same geographic areas, primarily states and cities within the US South. Throughout the campaign, we created new ad content a few times per month with the goal of ensuring that ad content remained fresh for users. Over the study period, we ran a total of 46 paid ads that used different combinations of text, videos, still images, graphics, and animations. Ad placement included a combination of those that appeared on users’ timelines and newsfeeds, as well as “stories.”

Users who encountered an influencer post or paid ad were prompted to click on the content or a link to learn more about open studies. Doing so referred users to a

website that provided more information and collected anonymous information about the user to assess open studies they may have been eligible for. Entry into the interest form was protected by reCAPTCHA v2 widget. Users were also prevented from submitting multiple entries from the same browser and were deemed ineligible if their reCAPTCHA v3 scores were <0.5 . reCAPTCHA is a bot mitigation tool: v2 uses screening puzzles to differentiate between bots and real users, while v3 assigns scores without any user interaction. If users were determined to be initially eligible based on their interest form responses, they were then referred to a separate webpage for more detailed information about specific studies. If interested, subsequent forms collected informed consent and contact information so that research staff could follow up with them about participating in those studies. All procedures were carried out in accordance with relevant guidelines and regulations. The Brown University Institutional Review Board reviewed these procedures and determined that they were exempt from review (Study #00000133).

Measures

Social media data. For all influencers identified, we collected publicly available data about their accounts, including the number of followers they currently had, the number of other accounts they followed, the number of posts they had made to date, and whether they had been verified by their respective platform. The presence of a “verification” badge “confirms that a notable account is the authentic presence for that person or brand.”²⁴ If available in their bios, we also recorded the areas they lived in (e.g., “DC,” “MIA,” or “ATL”). Finally, we also included up to five “tags” that characterized the focus of the content each influencer had posted to date. These tags could include things such as “fashion,” “makeup,” “fitness,” “sports,” “drag,” or many others (see Appendix A). These tags were used solely for descriptive purposes to provide a sense of the types of content created by the influencers we identified and contacted.

Engagement rate. We used an engagement rate calculator hosted on the website Collabstr (Vancouver, British Columbia, Canada) to generate the average number of likes, comments, and total engagement rate for each influencer who posted. This calculator analyzes 12–24 past posts from each influencer, adds the average number of likes and comments per post, and then divides by the total number of followers to arrive at an overall engagement rate. These rates were used both descriptively and in models testing factors associated with total clicks on posts about our campaign.

Web analytics. Basic data on ad engagement and web analytics, such as clicks and interest forms started and completed, were collected by appending a unique, anonymous alpha-numeric session ID onto the URLs of each ad or post. This ID was then captured by our website, which

provided basic information about open studies and collected interest forms, enabling us to determine whether specific users simply clicked on an ad and ended their session, started the interest form but did not finish, completed the full interest form, and/or appeared to meet various criteria (e.g., demographics, PrEP history, HIV risk). A unique code was assigned to each ad and influencer post that allowed us to identify the specific ad or post each user was referred through.

Interest form data. The interest form collected anonymous data from users about various demographic characteristics (e.g., age, gender, sex assigned at birth, race, ethnicity), risk behaviors, and PrEP use. Questions assessing users’ HIV risk asked whether they met pre-2022 criteria for eligibility for HIV PrEP medication. That is, they were characterized as “high HIV risk” if they: (1) reported having had a sexually transmitted infection within the last six months, (2) had a primary partner who was HIV-positive, or (3) reported condomless insertive or receptive anal sex with a man outside of a sexually monogamous relationship within the last six months. Questions also assessed whether users had ever been prescribed PrEP in their lifetimes, and if so, whether they were currently using PrEP. Since some of the highest-priority populations for HIV are naïve to health research or mistrustful of healthcare professionals and researchers, we also collected single items assessing these constructs. Users were asked whether they had participated in research before in their lifetimes (*yes/no*) and to rate a single item, “it is difficult for me to trust doctors, researchers, and other healthcare professionals,” on a 1 (*not at all difficult*) to 5 (*very difficult*) scale.²⁵ For analyses, we coded those who responded ≥ 4 on this item (*somewhat or very difficult*) as high in mistrust.

Statistical analysis

Our analyses primarily addressed the following questions: (1) What were the characteristics of influencers we identified and who agreed to post? (2) Did influencer posts engage more users who were particularly high-priority for HIV prevention (e.g., Black MSM) versus paid ads? To address the first question, we calculated summary and descriptive statistics for influencers we contacted, those who responded, and those who posted. We also estimated a logistic regression model that tested whether various predictors were associated with the odds of an influencer responding to our requests to post or posting for us. Covariates included whether the influencer was sourced through a sourcing platform, the social media platform the influencer was active on, the number of followers they had, and whether they were verified. We also calculated summary and descriptive statistics for the number of conversions that influencer posts received. Conversions refer to the number of users who click through a post and end up taking a specific, desired action²⁶; in this case,

completing an interest form. We then estimated a regression model testing whether particular characteristics of influencers were associated with the total number of conversions their posts yielded. Since the distribution of conversions was significantly right skewed (similar to a count outcome), we compared the fit of Poisson and negative binomial models for this outcome and found that a negative binomial model had smaller residuals and a lower AIC and BIC. As such, we estimated a negative binomial model with the number of conversions each influencer earned as the outcome and five covariates: A categorical variable reflecting whether influencers had <15,000 followers (0), 15,000–35,000 followers (1), or >35,000 followers (2), average number of likes per post, average number of comments per post, the amount they were paid to post, and whether they were verified. To address the second question, we used ad/post identifiers in the interest form data to code whether a given user was referred to the interest form from a paid ad or an influencer post. We then calculated the percentage of users in various categories (e.g., Black, high HIV risk, PrEP history, etc.) and compared them using chi-square statistics. All analyses were conducted in State SE 17 (Stata Corp., College Station, TX).

Results

We identified and contacted a total of 358 influencers, 278 of whom had primary accounts on Instagram (77.7%), 66 on TikTok (18.4%), and 14 on Twitter (3.9%). Thirty-four percent of influencers were sourced manually and 66.3% were sourced on an influencer sourcing platform. Sixty-two percent lived in a state in the US South, 8.4% in the West, 8.4% in the Northeast, 2.8% in the Midwest, and 18.7% were unknown. Those we reached out to had a median of 18,550 followers ($IQR=43,935$,

Range = 1200–68 M), posted 359 times ($IQR=1,079$, Range 1–178,500), and followed 2054 accounts ($IQR=3372$, Range = 0–7506). Eleven percent had been verified by their respective platforms. Almost a quarter of influencers we identified primarily created content relevant to LGBTQ culture (e.g., drag, Pride events), followed by fashion (18.4%), fitness (11.4%), entertainment (9.6%), art (9.0%), and romance (7.3%). Eighteen percent of those we reached out to responded, and 5.6% posted for us.

See Table 1 for results of the logistic regression model of the odds of an influencer responding or posting on our behalf. Only the variable indicating whether the Influencer was sourced on a managed sourcing platform was significant in both models and suggested that the odds of an influencer responding to our request were 9.4 times higher when we used a managed sourcing platform to identify them, compared to when we identified and corresponded with them manually ($OR = 9.44$, $SE = 6.35$, $p < 0.001$, $95\%CI = 2.53–35.27$). Likewise, the odds of an influencer posting on our behalf were 35 times higher when we identified the influencer through a managed sourcing platform, relative to doing so manually ($OR = 34.76$, $SE = 26.83$, $p < 0.001$, $95\%CI = 7.66–157.82$). Interestingly, neither follower count ($OR = 0.94$, $SE = 0.08$, $p = 0.416$, $95\%CI = 0.80–1.10$) nor verification status ($OR = 0.97$, $SE = 0.56$, $p = 0.964$, $95\%CI = 0.122–0.40$) were associated with the odds of responding to our request to post or actually posting.

Characteristics of influencers who posted

Twenty influencers (85% Black/African American) made a total of 28 posts on our behalf, 25 of whom were on Instagram, two were on YouTube, and one was on TikTok. All but one influencer (94.4%) posted original

Table 1. Logistic regression model of influencers who responded to requests for paid partnerships and those who posted.

Variable	Responded				Posted			
	OR	SE	p	95% CI	OR	SE	p	95% CI
Sourcing platform (vs. manual)	0.94	0.33	0.864	0.47–1.89	0.67	0.43	0.530	0.19–2.35
Managed sourcing platform (vs. manual)	9.44 [110]	6.35	0.001	2.53–35.27	34.76	26.83	<0.001	7.66–157.82
Primary platform								
TikTok	0.87	0.34	0.711	0.40–1.86	0.38	0.40	0.360	0.05–3.05
Twitter	0.38	0.41	0.364	0.05–3.09	–	–	–	–
# of followers ¹	0.94	0.08	0.416	0.80–1.10	0.92	0.16	0.629	0.65–1.30
Verified	0.97	0.56	0.964	0.122–0.40	1.06	0.90	0.944	0.20–5.59

Note. Bold values represent $p < .05$. ¹Transformed.

content. Eighty-five percent of posts ($N=22$) were “story” posts, three were “feed” posts, and two were YouTube “Live” shows. Eighty-five percent of the influencers who ultimately posted for us were identified using an influencer sourcing platform, 15% were identified manually. Influencers who posted had a median of 23,150 followers ($IQR=30,550$, Range = 2500–139,000), followed a median of 1950 accounts ($IQR=2562$, Range = 108–7500), and had made a median of 319 posts ($SD=955.5$, Range 9–14,000). Twenty percent of the influencers who posted had been verified. The median engagement rate of influencers who posted was 4.2 ($IQR=7.8$, Range = 0.01–27.0), their median average number of likes per post was 1111.5 ($IQR=2380$, Range = 0–8600), and their median average number of comments per post was 29 ($IQR=28.5$, Range = 0–281).

Influencers’ posts earned a median of 15 conversions ($IQR=41$, Range = 0–395), with a total of 1139 conversions across all influencer posts. This translated to \$3.07 per conversion. Across the same time period, we spent \$1.10 per conversion through paid ads. Seventy-five percent of those who clicked through a paid ad completed the interest form, versus 52% of those who clicked through an influencer post, meaning that costs were \$6.48 per completed conversion through influencer posts and \$1.22 through paid ads. In a negative binomial model testing associations between various influencer factors and the total conversions earned per post, the rate of conversions was eight times higher among those who had more than 35,000 followers, relative to those who had fewer than 15,000 followers ($IRR=8.44$, $SE=8.34$, $p=0.031$, $95\%CI=1.22-58.53$). Interestingly, the amount influencers were paid to post was also positively associated with the number of conversions ($IRR=5.77$, $SE=3.01$, $p=0.001$, $95\%CI=2.08-16.05$) (see Table 2).

Do influencers reach communities at higher HIV risk?

See Table 3 for comparisons of users’ demographic and HIV-relevant behavioral characteristics based on the type

Table 2. Negative binomial regression model of the total number of conversions per post.

Variable	IRR	SE	p	95% CI
# of followers				
15,000–35,000 (vs. <15,000)	0.78	0.57	0.729	0.19–3.24
>35,000 (vs. <15,000)	8.44	8.34	0.031	1.22–58.53
Engagement rate	0.97	0.03	0.431	0.91–1.04
Paid \geq \$200	5.77	3.01	0.001	2.08–16.05
Verified	3.91	2.56	0.038	1.08–14.12

of post they clicked through (influencer post, paid ad). A significantly higher percentage of users who clicked through influencer posts were Black ($\chi^2=233.07$, $p<0.001$), and while there was no difference in HIV risk across post types, a significantly higher percentage of those who clicked through an influencer post were not currently using PrEP ($\chi^2=7.48$, $p=0.006$) and had no history of PrEP use ($\chi^2=7.12$, $p=0.008$). Likewise, a higher percentage of users who clicked through influencer posts were high in medical mistrust ($\chi^2=6.67$, $p=0.010$), although the percentage of users who had never participated in health research before did not significantly differ across the two ad types ($\chi^2=2.87$, $p=0.091$). Finally, the percentage of Black MSM who were high HIV risk ($\chi^2=77.82$, $p<0.001$), who were not taking PrEP ($\chi^2=320.61$, $p<0.001$), had no history of PrEP ($\chi^2=109.33$, $p<$

Table 3. Percentages of high-priority users who clicked through paid ads ($n=10,219$) versus influencer posts ($n=1139$).

	Paid ad	Influencer post	χ^2	p
Overall	90.0	10.0	–	–
Completed form	76.5	51.8	323.41	<0.001
Black MSM	15.1	40.1	233.07	<0.001
High-risk for HIV	13.0	14.2	0.72	0.398
No PrEP history	61.76	67.29	7.12	0.008
Not currently taking PrEP	72.40	77.93	7.48	0.006
Never participated in research	56.97	60.59	2.87	0.091
High medical mistrust	8.33	11.5	6.67	0.010
Black MSM & high-risk	2.09	7.97	77.82	<0.001
Black MSM & no PrEP history	9.54	23.22	109.33	<0.001
Black MSM & not taking PrEP	9.70	24.07	320.61	<0.001
Black MSM & never participated in research	10.38	32.71	261.07	<0.001
Black MSM & high medical mistrust	2.20	6.44	40.94	<0.001

Note. vs. MSM of any other race.

0.001), had never participated in research ($\chi^2 = 261.07$, $p < 0.001$), or were high in mistrust ($\chi^2 = 40.94$, $p < 0.001$) were all 2–3 times higher among those who clicked through influencer posts relative to paid ads.

Discussion

In this project, we showed that engaging Black/African American influencers to post content encouraging their followers to learn more about participating in HIV prevention research effectively engaged substantially higher percentages of Black/African American and bisexual men than did relying on paid advertisements alone. Influencer-posted content was also especially effective in reaching higher percentages of social media users who had no history of PrEP use or were high in medical mistrust and was particularly potent in engaging Black/African American users with these characteristics. Although our findings suggest that influencer-focused marketing was several times more expensive than paid advertisements, engaging influencers was nevertheless incredibly successful in engaging populations that are both among the highest priority for HIV prevention and have been frequently absent in past research. As such, these findings suggest that researchers and health professionals should incorporate influencer-focused marketing into their online outreach and intervention campaigns. This work also provided important evidence that can help guide researchers and health professionals in identifying influencers who could be most effective in engaging specific populations in large numbers, as well as practices that can help researchers successfully engage influencers to participate in the campaign. Below, we discuss each of these findings in turn.

Our results showed that social media posts generated by Black/African American influencers were generally two-to-three times more effective in engaging Black/African American gay and bisexual men than paid ads were. Engaging influencers to encourage their followers to participate in research was also more effective in reaching higher percentages of users who are especially high priority for HIV prevention efforts in general, such as those with limited PrEP history and those high in mistrust. Moreover, they were especially good at reaching Black/African American users with these characteristics. Although we are not aware of any past research showing similar effects with social media influencers specifically, these findings are consistent with a large body of offline outreach and intervention work suggesting that public health campaigns are more effective in changing norms, attitudes, and behaviors in certain high-priority populations when the messengers are themselves members of the same community.^{27–29} Our results extend these findings to social media influencers and show that this approach has ample promise for reaching and engaging large numbers of these traditionally excluded and “harder to reach” populations,

perhaps more efficiently than other digital outreach or offline methods. Although it is not yet clear why influencer content engages more high-priority individuals, one potential explanation is that influencer-created content leverages influencers’ own “voices” and likenesses to encourage research participation, which users in these populations may be more likely to trust than medical or research institutions. Future research should test these assumptions more directly. Analyzing the content of influencer posts may help identify potential mechanisms of this effect.

Although influencer-focused marketing was more effective in engaging these high-priority populations, it also cost several times more than paid ads. Our estimate of \$6.48 vs. \$1.22 also is a significant underestimate, since we only included the cost of payments to influencers themselves, and labor costs involved in sourcing, corresponding with, instructing, and compensating influencers are considerably higher than those required for managing a paid advertising campaign and are likely several times greater than the cost of the influencer payments themselves. Still, we believe that reaching high-priority populations will nearly always be more expensive than those open to broader audiences. Many paid ad campaigns that are explicitly focused on reaching these populations could still do so more cost effectively, given the substantial differences in engagement across the two types.

Our results also show that content posted by influencers with more followers generally engaged more users. Although this may seem intuitive given that content posted by influencers with more followers should be seen by more people than those with fewer followers, a large body of marketing research has shown that engagement with influencers posts actually reduces as their follower count increases.^{30–32} Theory suggests that this is because influencers appeal to users primarily because they identify closely with them, and as influencers’ follower count increases, they begin to resemble traditional celebrities, making them less relatable. Much of the research showing this negative association between follower count and engagement has used very large datasets and included influencers with millions of followers. Our study shows that, at least at a much lower range of follower counts, recruiting influencers with as many followers as possible for research groups or smaller organizations (i.e., tens of thousands) is likely to generate more leads than those with fewer. Similarly, our results also suggest that posts made by influencers who were verified also generally earned an average of four more conversions than influencers who were not verified. This finding also conflicts somewhat with some past studies that have shown that verification is negatively associated with purchase intentions,³³ because consumers may trust verified influencers less and associate verification more with celebrity-status than credibility. However, we expect that recent changes across several social media platforms (e.g., Twitter, Instagram) that allow anyone to pay for

verification will likely render verifications in isolation (i.e., not paired with a high follower account & engagement rate) less meaningful. As with follower count, our results show that posts by influencers with verified accounts yield more engagement above and beyond follower count. Finally, the total amount each influencer was paid was also positively associated with greater engagement per post over and above the effects of other predictors, suggesting that influencers who are paid slightly more may put more effort into their posts that are ultimately more engaging to users. Together, these findings suggest that health researchers and professionals may generate the most engagement by recruiting influencers with relatively high follower counts within the range they can access (10,000–100,000) and who are verified.

Finally, we explored factors associated with influencers responding to and agreeing to post on our behalf. We found that, among the variables we explored, the only significant predictor was whether we identified and corresponded with that influencer on a managed influencer sourcing platform. This variable was positively associated with both a higher odds of receiving a response and a higher odds of the influencer ultimately posting as part of the campaign. The odds that an influencer would respond to our request to post were nearly ten times higher when we identified and contacted them through this managed sourcing platform versus sourcing them manually and making contact through a platform's direct messages. The odds of an influencer posting were over 30 times higher when we identified and corresponded with them through this platform relative to doing so manually. We are not aware of any previous research exploring factors associated with influencers accepting partnerships, but doing so can assist researchers and health professionals in designing and conducting effective influencer-focused marketing campaigns. Our findings clearly suggest that campaign directors should use managed influencer sourcing platforms where possible to identify, correspond with, and pay influencers, rather than attempting to identify and reach them manually. Specifically, sourcing platforms in which influencers list themselves as available for partnerships and that manage payment through the platform may be more successful in recruiting influencers because their membership on the platform suggests they are interested in collaborations and must monitor the platform to generate new business. These platforms also reduce some of the risk for sponsors in that they act as a form of escrow for payments to influencers. In fact, influencers identified through other sourcing platforms that did not have these features fared no better in terms of influencer recruitment rates than those manually sourced. Interestingly, our results did not provide strong evidence that other factors commonly believed to increase the price and likelihood of influencer sponsorships, having large follower counts and being verified, were associated with the likelihood of influencers responding to or accepting our invitation to post. This finding suggests that,

at least toward the lower end of the range of follower counts, those with higher follower counts were not necessarily less likely to respond to or accept a sponsorship offer. This, too, contrasts somewhat with previous research showing that influencers with larger numbers of followers typically charge more and are generally more difficult to engage than those with lower counts.³³ Paired with results suggesting that posts did better when influencers in this category had higher follower counts and were verified, these findings suggest that researchers and healthcare professionals should aim to recruit as many influencers who are verified and have high follower counts as are available in their target populations.

Limitations

Several limitations of our research are important to note. First, some influencers mentioned our website or Instagram bio in their posts or links, so not all users who clicked through influencer posts may have been captured by our query string approach, leading to underestimates of the total number of clicks each post received and differences in the characteristics of users engaged through paid ads versus influencer posts. However, we also tracked users who were referred to our website from either of these sources, and <100 did so, suggesting that the provided estimates are reasonably accurate. Next, the total number of influencers we ultimately engaged in this campaign was relatively low, meaning that there is more uncertainty than might be typical in a larger study in terms of the regression results for both the odds of accepting an offer and the number of conversions earned through a given post. We believe it is important to report these results despite this uncertainty, given the importance of the focal results that influencer-based marketing holds exceptional promise for helping reach high-priority populations efficiently. A final limitation is that this research primarily focused on Black gay, bisexual, and other MSM. Influencer-focused marketing may not be as effective in reaching other populations that are high priority for other conditions, other races/ethnicities, other genders, or other sexual orientations.

Conclusions

In summary, in this project, we found that an influencer-focused marketing campaign in which we paid 20 mostly Black gay and bisexual men to post to their social media accounts was successful in reaching much higher percentages of social media users who were Black, who had limited PrEP history, and who were high in medical mistrust when compared to those recruited through paid ads. We also showed that among these influencers (who had follower counts in the 2000–150,000 range), posts made by those with higher follower counts and who were verified generally yielded more conversions. Finally, we found

that the odds of influencers accepting our invitation for a partnership were significantly higher when we identified and contacted them on a managed influencer sourcing platform, meaning a site that helps users identify influencers relevant to their interests and facilitates sponsorships. Researchers and health professionals who want to reach high-priority populations should incorporate influencer marketing into their overall advertising and outreach campaigns if this approach is financially tenable.

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Appendix A

Influencer content tags.

Tags (8 categories)	Tags (30 categories)	Tags (all categories)
media/acting	media/acting	acting
		tv / tv personality
		theater
		film
		host
		media personality
		performer
		reality tv
		show business
		video creator

(continued)

Continued.

Tags (8 categories)	Tags (30 categories)	Tags (all categories)
		youtuber
		podcaster
art, design	art, design	art / artist
		design / designer
		photography
	music	music
		rapper
		singer
		songwriter
	dance	dance
	writing	writing
		author
		journalist
		news
		blogging
		script writing
beauty	beauty	beauty
	modeling	modeling
		hair stylist / barber
		makeup
education/activism	education	education
	activism	activism
		blm
		lgbtq rights
		advocacy
		civil rights
		racial justice
		trans visibility

(continued)

Continued.

Tags (8 categories)	Tags (30 categories)	Tags (all categories)
	business	business
		entrepreneur
	professional	professional
		pilot
		real estate
	advice	advice
	spirituality	spirituality
		academic
		stem
entertainment	entertainment	entertainment
	events	events
		party
		clubs
		raves
		event promotion
	comedy	comedy
	travel	travel
	food	food
		chef
	gaming	gaming
fashion	fashion	fashion
		style
fitness	fitness	fitness
		gym
		strength
	health	health
		healthcare
		sex education

(continued)

Continued.

Tags (8 categories)	Tags (30 categories)	Tags (all categories)
		body positivity
		cancer survivorship
	athletics	athletics
		cheer
		coach
		sports
		swimmer
LGBTQ culture	LGBTQ culture	lgbtq culture
		drag
		pride
		ball culture
romance	romance	romance
		couple
		dating
		marriage
		relationship
		sex
		sex liberation
		sex positivity
	erotica	erotica
	family	family
	home improvement	home improvement
		diy
		gardening
		interior design

Note. These tags represent the broad categories of interests that we assigned to each influencer based on the type of content they tend to post. "Tags (all categories)" represents the most specific tags we gave each influencer. However, we classified these into broader categories of interests for the purpose of summarizing the general areas in which the influencers we contacted and recruited were interested in. We provide these categories here so that other researchers can use them to explore differences across influencer type.

Appendix B

Raw Counts of Categories of Influencers and Recruitment Outcomes

Table 1. Influencers who responded to requests for paid partnerships and those who posted by various predictor variables.

Variable	Responded		Posted	
	Yes	No	Yes	No
Overall	63	295	20	338
Sourcing platform (vs. manual)				
Yes	45	192	15	222
No	18	103	5	116
Managed sourcing platform (vs. manual)				
Yes	8	18	8	4
No	4	103	5	116
Primary platform				
Instagram	52	226	19	259
TikTok	10	56	1	65
Twitter	1	13	0	14
# of followers	5851 (SD = 12,185)	39,504 (SD = 40,586)	5871 (SD = 6538)	35,222 (SD = 37,928)
Verified				
Yes	7	33	4	36
No	56	261	16	301

Table 2. Descriptive statistics of included predictors among the influencers who posted ($n = 20$).

Variable	<i>N</i>	
# of followers		
<15,000	6	
15,000–35,000	8	
>35,000 (vs. <15,000)	8	
Verified		
Yes	4	
No	16	
Payment		
<\$200	11	
≥\$200	9	
	<i>M</i>	<i>SD</i>
Engagement rate	6.7	7.6

Table 3. Counts of users who clicked through paid ads versus influencer posts.

	Paid ad	Influencer post
Overall	10,219	1139
Completed form	7812	590
Black MSM	1108	224
High-risk for HIV	1017	84
No PrEP history	4825	397
Not currently taking PrEP	4970	406
Never participated in research	4243	349
High medical mistrust	621	66
Black MSM & high-risk	163	47
Black MSM & no PrEP history	745	137
Black MSM & not taking PrEP	758	142
Black MSM & never participated in research	636	123
Black MSM & high medical mistrust	127	26

Note. vs. MSM of any other race.