Tips and Pitfalls in Using Social Media Platforms for Survey Dissemination

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Abstract

Introduction Social media has become a prevalent platform for survey dissemination, despite the paucity of literature on this topic. The purpose of this paper is to outline the benefits and drawbacks of and best practices for social media-based surveys.

Methods We performed a scoping review of this topic and explored different strategies commonly employed for conducting efficient health care surveys via social media platforms.

Results The main advantages of social media-based surveys are the convenience and flexibility of survey design, their relatively low cost, the anonymity of responders, and the ability to reach a broader population of responders across geographical boundaries. Several measures can be adopted to avoid issues inherent in this approach, such as data disruption and response duplication, as well as to enhance ethical behaviors and consent compliance. We discuss limitations associated with unclear distribution of survey respondents and outline survey fraud as a major impediment to the online propagation of surveys on various social media platforms.

Discussion The use of social media to disseminate surveys on various medical specialty topics has garnered global participation, particularly during the COVID-19 pandemic. Ethical codes of conduct emphasize the need for professionalism and truthfulness, and disclosure of potential conflicts of interest on the part of respondents, and high-quality survey research on the part of researchers.

Conclusion We advocate for the novel use of social media to promote large and diverse health care surveys. Additional studies should further explore the use of emerging social media platforms for survey dissemination and their impact on health care research.

Introduction

Surveys represent a study design commonly used in health care research. They are simple to perform and aim to collect impartial information from a population of interest. Traditional survey recruitment strategies, such as in-person interviews, postal mail, and telephone calls, are indeed time-consuming and labor intensive[1,2]. During the COVID-19 pandemic, the world witnessed a dramatic surge in daily use of social media for communicating electronically[3]. The World Health Organization (WHO) implementation of social distancing policies and public health measures made onsite, in-person health care research a challenging endeavor[4].

Key Words

Social media-based surveys, health care, survey fraud, survey dissemination

Competing Interests

None declared.

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Social media acts as an electronic communication online platform that enables its users to instantly share thoughts, information, and personal content. According to Datareportal 2022, there are already 4.62 billion people around the world using social media, with individuals spending on average approximately 2 hours and 27 minutes each day communicating on social media platforms[5]. Health care professionals are increasingly using social media channels, such as Facebook, YouTube, Twitter, Instagram, TikTok, and LinkedIn, as well as streaming audio applications, such as Spotify and Podcast, to reach a vast audience[6]. Emerging as one of the rapidly expanding online tools, social media has been adopted by many health care specialties, including medicine and urology[7]. We have observed an exponential rise in the number of publications on urological subjects through analysis of social media over the past decade. With impactful knowledge exchange and educational information provision, social media offers an opportunity for clinicians worldwide to connect with their peers and exchange knowledge and best practices in real time or near real time. For example, Twitter allows its users to compose brief 140-character messages and share them almost instantly with only a few clicks[8]. This not only reduces the amount of time spent waiting for a small group of in-person discussions but also allows medical professionals to reach more people across more geographical areas. Instagram, for example, is one of the tools used most frequently by the WHO to aid in disseminating health information and educational messages[9]. Jason Frank, MD, from the Royal College of Physicians and Surgeons of Canada has stated, "Within the next decade, you won't be able to be a successful scholar without having some activities on social media," emphasizing the implications of social media within our modern technological era[8]. As a result, the use of social media as a recruitment technique for surveys has become prevalent and has garnered tremendous popularity in recent years. In the present study, we explore and evaluate best practices and pitfalls of survey distribution via social media platforms.

Methods

Literature review

With the potential to effectively solicit the distinctive experience of health professionals, surveys distributed on social media have salient implications for researchers. The benefits of social media-based surveys include enhanced recruitment and increased anonymity, which may be advantageous when conducting research. At present, there are no clear recommendations for using social media to circulate health care surveys. We performed a scoping review on this topic and searched for key words and MeSH terms, including (urology) and (survey) and (social media). We determined that most data are qualitative in nature, therefore, we presented the results in narrative format.

Conflicts of online methodologies

Email-based surveys containing the survey within the body of the email or as an attachment are sent by email directly to target participants, who are invited to complete the questionnaire and email it back to the researchers. While email-based survey responses may be slightly better distributed among the population of interest, the response rate of this traditional survey distribution is sometimes very low. In a project approved by the University of Miami and conducted by Dubin et al. in 2020, a total of 4519 surveys were emailed to urologists worldwide but only 537 (11.9%) responses from 29 countries were received[10]. This low response rate raises doubt on whether email invitation is the preferred method of survey dissemination.

In contrast to traditional surveying methods, social media-based surveys entail the use of a well-designed online software system for posting the survey on the selected social media platform, through which participants can submit their responses. The data are captured immediately by the online software[6,11]—a feature that may allow for more accurate measurement of attrition, which is nearly impossible with email-based surveys. Furthermore, networking on social media, largely driven by capital, fosters more social connections than email invitations. Instead of relying on passive delayed interaction via email, social media platforms offer instantaneous and active engagement with the targeted audience. Platforms such as Twitter, Facebook, and Instagram provide their users with insights on content engagement, and as such, survey analytics metrics can be used to recognize patterns of engagement and improve outcomes[12]. Social media-based surveys, by offering versatility and affording **great** utility, have opened a new approach for conducting surveys—what may be coined by some as a social network survey strategy.

Tips and tricks, strength of social media-based surveys

Design flexibility, cost-effectiveness, convenience, and real-time access

Complex health care surveys can be constructed fast and with ease using common survey-building software technologies such as SurveyMonkey, Google Forms, Jotform, and Typeform. The layout and question-and-answer options can be created without hassle. Once the survey has been created, it can be uploaded onto the social media platform and shared effortlessly, within seconds, on tablets, desktop computers, and smartphones. The ease of use of smartphones has contributed to the ever-increasing share of respondents participating in social media-based surveys via their

mobile devices from anywhere and at any time[13]. Additionally, advertising surveys on the social media sites to garner more participation is relatively inexpensive compared with advertisements on print newspapers or billboards and pop-ups and banners on websites[14]. Surveys on social media platforms prove to be a low-cost alternative for researchers seeking to create posts that can be tailored to the study population. Another benefit of disseminating surveys in this manner is that respondents can complete the survey at a time that is most convenient for them. Survey responses are stored automatically by the software system, allowing investigators access to the results through any mobile-friendly device. In turn, this renders the data analysis process seamless.

Anonymity

Email responses might reveal respondents' identity and in conventional in-person interviews, it is even possible that interviewers can influence responses. The anonymity of social media-based surveys may be appealing to both researchers and participants, leading the latter to perhaps feel more secure and to have fewer inhibitions in truthfully answering the questions. The majority of survey respondents tend to answer "socially or emotionally sensitive" questions more honestly on online platforms because they know their responses are confidential. This also helps to mitigate the desirability bias, a potential drawback in research. In addition, online social media-based surveys are better utilized in recruitment of marginalized, hard-to-access lesbian, gay, bisexual, transgender, and queer (LGBTQ) young individuals, who may prefer a relatively safe and anonymous atmosphere over face-to-face interactions[15]. It has been documented in the literature that anonymized social media-based surveys are successful in procuring in-depth data from this population[16], which might not otherwise be possible through face-to-face interviews.

Distribution and sampling

The link to the survey is typically publicized and shared or re-shared by both researchers and participants alike on social media channels, allowing for increased survey exposure and hence more likelihood for participation[6]. Researchers are usually not able to determine who has engaged in the survey because they don't have a master list of intended respondents. Nonetheless, this methodology often generates convenience samples, encouraging recruitment through viewers' engagement with the survey. It is of the utmost importance that researchers observe basic online etiquette while studying online communities. Spamming, excessive contacting, or reposting the survey repeatedly on social media platforms should be avoided. In addition, survey participants should be reminded that they are expected to answer all the survey questions truthfully and to the best of their abilities. Surveys may include preliminary screening questions that do not rely excessively on advertisement during recruitment. The main study objective, general information, and intended audience should all be clearly mentioned at the outset of the survey.

It is quintessential to ensure the sampling method can gather a representative sample of the targeted population for a given survey. Careful consideration should be given to the survey recruitment approach. Today, as most health care professional bodies and organizations have social media profiles, it would not be difficult to reach out and recruit them for survey research. For instance, researchers can use social media to recruit a target population via Facebook groups or Facebook pages. Also, the ability for social media users to repost content promotes an exponential rate of engagement, which can culminate in the snowball sampling phenomenon[17,18]. This type of chain referral helps ensure surveys are posted regularly and multiply simultaneously. This is not observed in the case of survey by email distribution. Additionally, social media may offer multiple interactive formats that can incorporate audiovisual content and valuable resources[19]. Another potential of social media-based surveys is that by accurately estimating the numbers of social media connections or followers as the denominator, the results of polls may likely be predicted. The use of "hashtags" may also substantially increase the number of people who can engage and complete the survey[20].

Broader outreach and better response

While the identity of respondents in social media-driven surveys stays concealed, the intent is to reach a broader audience where social media is ubiquitous for maximizing survey outcomes. The availability of the internet and widespread use of social media across continents and many countries allow for overcoming geographical barriers. A recent publication by the UroSoMe team titled "A Global Survey of the Impact of COVID-19 on Urological Services" described the significant impact the pandemic has had on the urology community[21]. The Twitter platform was used to garner urologists from several continents to address COVID-19–related urology issues. The survey questionnaire was distributed primarily to urology health care professionals via UroSoMe Twitter. The authors received an overwhelming response from a total of 1004 participants from Asia, the United States, Europe, Africa, Australia, and New Zealand. This social media-based survey, which delivered high-quality scientific content in a short period of time, was a good example of timely global collaborative outcomes fostered by urologists[20,22].

Incentivisation has been used for survey participation and can vary from as simple as providing visibility to selected authors to monetary rewards including coupons and lucky-draw chances in commercially sponsored surveys to promote active participation and minimize dropouts[23,24]. In another recent global survey led by Tan et al. on the psychological health of surgeons during COVID-19, a variety of URLs to the same survey were generated and sent to the participants who wished to promote the survey within their network[25]. Once the participants ascertained a target number of completed respondents, which were tracked by SurveyMonkey, they were listed as PubMed-indexed collaborators to the study. This would eventually be reflected in the active responses by the survey software to determine the efficacy of their promotion. Offering this type of co-authorship opportunity could optimize the reach of the social network and improve respondents' engagement with the survey.

Preventing duplication

A potential drawback of social media-based surveys concerns duplicate responses. It is possible that the same respondent might participate in a specific survey more than once. To mitigate this, surveys may limit survey participation of each individual to only one IP address. Like other online survey software systems, SurveyMonkey and Google Forms have the ability to collect IP addresses. Once the survey responses have been obtained from a specific IP address, that address is then blocked from further participating in the survey[26]. However, this method may raise concerns regarding compromising the anonymity of the respondents.

Measures to avoid missing data

In contrast to the traditional in-person approach or telephone survey, surveys on social media have the potential downside of respondents intentionally or inadvertently opting not to answer (ie, skip) intricate questions. To avoid this, the survey software employs logic and skip patterns to generate questions that participants are required to answer[27] before proceeding to the next question. If the question remains unanswered, it will be marked, and participants will receive an automatic reminder to answer the question and proceed to complete the survey within a stipulated time. To prevent invalid responses, surveys may include "do not know" or "others" as a response option.

Ethics and consent

All standard elements of the consent process should be adhered to in online investigations, including the provision of information about the research inquiry and clarification of the procedures in place to safeguard confidentiality, anonymity, and privacy. An introduction to the survey, including the survey's purpose and eligibility of the respondents, should be listed on the landing page of the survey, prior to the first question. Survey participants are presumed to have read and understood said statements and given their implied consent prior to proceeding to answer the questions[28,29]. Anyone who does not wish to participate in the questionnaire is expected not to proceed to the next page. Alternatively, the survey landing page can be designed with a button "I agree to participate" that respondents must click in order to proceed to the questions.

Pitfalls of social media-based surveys

While the recruitment of survey participants using social media sounds impressive, the distribution of participants across different sites cannot be clearly determined. This is partly due to the limiting factors of not adopting sponsored advertising, resulting in limited sampling and respondent availability. Variations in digital and technology capabilities may impact the representativeness of the sampling population and hence the generalizability of the results. Certain rural populations are inevitably deprived of access to the internet, resulting in a lower response rate to social media-based surveys. However, with health care professionals' contemporary active online social media involvement, this pitfall is nearly trivial.

Survey fraud is one of the greatest obstacles when it comes to the online propagation of social media. Many concerns exist regarding the methodological quality and equivalence, access challenges, and technological drawbacks of social media-based approaches. As dissemination of health care surveys via social media is in its infancy, the lack of regulatory guidance is cause for concern[7]. Additionally, it is challenging to accurately measure nonresponse and attrition rates among social media users. The number of respondents who view the research opportunity but choose not to participate cannot be accurately determined. Concerns also exist regarding anonymity and data security (for example, secure online transmission and storage of participant data) and digital delivery difficulties[30].

Today, the sheer number of surveys conducted on social media platforms runs the risk of producing survey fatigue[31]. The truthfulness of the survey responses can be called into question, as respondents may rush through the surveys, particularly for lengthy or complex surveys. Undeniably, in certain circumstances, the respondents may not provide truthful responses but rather respond solely for promised reward for survey completion. However, survey questions can be framed in different ways to assess participants' deception and random responses[32]. Another limitation is the poten-

tial bias influencing respondents through the design of the response options and how they are presented in the survey. Last but not least, the absence of trained interviewers to address participants' questions or doubts may potentially lead to less reliable data.

Discussion

Future directions

Social media has been adopted by many medical specialties, facilitating health care survey distribution. Use of social media-based surveys has increased due to social distancing measures brought on by the COVID-19 pandemic, and as a result, has provided great opportunities for global participation. Commercial software products are user friendly and designed to create questions and their answer options seamlessly. Social media platforms should exercise caution to identify prospects with a strong interest in the survey topic. Multiple social media platforms can be used to establish a more diversified sample to reduce sample composition bias. To define the target populations, an operational definition of the intended population should be developed to encourage the effective recruitment of respondents. Demographic variables including age, gender, geographic location, and specialty field of interest should be explicated.

Additionally, the intended sample population should be taken into consideration when structuring the survey questions. Questions should be written in an appropriate tone, use standard terminologies, and be clear and concise. Excessively long surveys with complex and multistep questions should be avoided, as they promote attrition and poor survey completion compliance. Contributing to participation dropout are factors such as an excessive number of qualitative questions, surveys with multistep questions, questions without the option to opt out or to decline answering, and an inaccessible survey interface[33,34]. It is incumbent upon survey researchers to identify the best data model in order to determine the variables needed to prevent survey response inconsistency and redundancy. Conceptual modeling would enable obtaining data directly, without the need for any manipulation. "Third-party guarantee of the survey" can be provided to increase credibility and perceived legitimacy[35].

To allay fears and concerns regarding the use of social media platforms, the European Association of Urology (EAU), the American Urologic Association (AUA), and other organizations have established recommendations and guidelines for the appropriate use of social media for communication among the urologic community[36]. Ethical codes of conduct impart the need for professionalism and veracity, disclosure of any conflict of interest, good quality of survey research, and protection of confidentiality. The formation of a social media committee and stakeholders ensures the delivery of guidelines in urology to foster good social media practices[37]. Professional standards for online conduct should be incorporated into social media education as the use of social media continues to proliferate in urological settings and beyond.

Conclusion

Our paper examined the efficacy and feasibility of social media as a survey dissemination tool among health care professionals. Researchers may find it useful to create study-specific social media accounts to interact with their study population through various accessible online social media platforms. While recognizing the limitations of social media-based surveys, we must move forward and overcome obstacles inherent with this approach. As the saying goes, "A court ought not to be affected by the weather of the day, but will be by the climate of the era." Given that the widespread use of technology and social media has grown in popularity over the past few years, we advocate the novel use of social media platforms for promoting large and diverse survey participation. We also encourage additional studies to further explore the use of emerging social media platforms for promotion and distribution of health care surveys.

TABLE 1.

Comparison between social media-based survey and conventional-based approach

Fielding through social media	
Pros	**Cons**
• Easy and rapid dissemination	• While many people may see the survey, individual respondents may participate more than once
• Extremely affordable, if not free of charge	• Inability to recognize the identity of the respondents
• Ability to reach broader number of respondents	• Lack of control over the sample size
	• Inability to verify the accuracy of responses
Fielding via conventional path — eg, in-person, postal mail, telephone calls, email, survey specialists	
Pros	**Cons**
• Ability to select a specific, targeted audience	• Could be costly if panel specialist is hired
• Validation of the sample	• Time-consuming to wait for respondents
• Respondents meet all defined criteria	• Limited numbers of respondents
• Precise numbers of respondents needed for proper segmentation and analysis	• Higher dropout rate

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