Using New Age Recruitment Methods: Advantages and Disadvantages in Birth Cohort Research

Nolan A. Lyons, Henry Ford Health, USA
Ashley Redding, Henry Ford Health, USA
Laura L. Susick, Henry Ford Health, USA
Emily M. Leydet, Henry Ford Health, USA
Michael A. Tyra, Henry Ford Health, USA
Sara Santarossa, Henry Ford Health, USA*

ABSTRACT
The present study aimed to describe the experience of a birth cohort study using advertisements on Facebook and Instagram in the attempt to increase user traffic on a study website and increase the interest of potential participants. Two advertisement flights (82 days total) provided a link to the study website where further information could be obtained, and a form could be completed to show interest in joining. Study specific data, SM analytics, and landing page metrics were collected. During the two flights, 34 participants consented and 47 showed interest via the study website; 1,184,112 impressions and 691 engagements were recorded. Flight 1 and 2 had an initial 494% and 612% increase in the number of sessions, respectively. Pageviews saw an initial 369% and 448% increase, respectively. New age recruitment methods influenced the number of SM analytics of the study website and should be used as a supplement to traditional methods.

KEYWORDS:
Social Media, Pregnancy, Recruitment, Facebook, Instagram, Advertising, Longitudinal Study, Social Networking Sites

INTRODUCTION
Traditional methods of recruitment for human subjects research, such as phone calls, postal mail, and flyers, can fall short when targeting hard-to-reach groups. Hard-to-reach groups generally have defining characteristics such as: ethnicity, low soceoeconomic status, and low literacy levels, which creates a barrier for research opportunities (Thanh et al., 2019). Groups such as minorities (Ejiogu et al., 2011), hard to locate populations (Russomanno et al., 2019), and pregnant persons (Arcia, 2014)

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*Corresponding Author
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have been cited in the literature as being hard-to-reach but crucial populations for recruitment into scientific studies. Thus, traditional recruitment methods may be leaving gaps within the outreach and contact aspects of recruitment for these populations. Specifically, traditional methods prove costly when considering the required resources (time, tracking, and money) needed (Tate et al., 2014). New age recruitment methods, such as social media (SM), may help close these possible recruitment gaps in hard-to-reach groups. In using SM during the recruitment process, studies are able to include more minorities (Iribarren et al., 2018), draw a higher percentage of women (Moseson et al., 2021), and have better outreach to younger and other hard-to-reach demographics (Santarossa & Woodruff, 2018; Whitaker et al., 2017).

SM is a collection of online platforms which aim to connect users and allow interactions between them (Aichner et al., 2021). SM can be further diversified into Social Networking Sites (SNSs), blogs, podcasts, and various forms of media which utilize the web as a platform for users to create, interact, and disperse information within a social network of users (Ellison et al., 2013). These sites can further be categorized by the number of daily users they receive, creating the tier of ‘mainstream’ SNSs. Roughly 53% of Americans receive their news from mainstream SNSs such as: Facebook, Instagram, Twitter, and YouTube (Shearer & Mitchell, 2021). When distinguishing between SNSs, Facebook has one of the largest amounts of active users, and currently has upwards of 2.8 billion members across a vast array of different countries (Huertas et al., 2021). In the United States, 69% of Americans (61% of all males, and 77% of all females) report that they use Facebook, with 70% of Facebook users visiting the site daily (Auxier & Anderson, 2021). To expand its reach even further, Facebook purchased the smaller SNS, Instagram, and obtained, along with the company, an average of 400 million daily active users. These 400 million include nearly 55% of young adults (18-25 years old), which increased Facebook’s outreach to the younger population (Alhabash & Ma, 2017).

Together, Facebook and Instagram have become an area of opportunity for outreach to potential research participants (Akers & Gordon, 2018). Facebook has been found to be the most cost- and time- effective recruitment strategy when compared to other SNSs such as Google Ads and Reddit (Moseson et al., 2021). In addition, previous studies have shown Instagram to be a feasible, cost-effective way to recruit participants (Ford et al., 2019). When compared to in-person recruitment; Instagram was shown to have a much lower cost than in-person recruitment, $19 per participant compared to $152 per participant (Kutok et al., 2021). Additionally, Instagram has been shown to positively change participants perceptions of the research program (Thomas et al., 2020). Specifically, Facebook advertisements allow for an array of ways to pick demographic information for target groups. One example of specifying demographics is Facebook’s ‘Pixel Feature’, which collects data from previous advertisement cycles (Flights) and creates a target audience that is most likely to click the advertisement (Meta). With the ‘Pixel Feature’, advertisement costs can drastically change as the flights progress, reducing the original cost per enrollment by as much as 54x (Lee et al., 2019).

Birth cohorts are longitudinal studies that require the recruitment and retention of pregnant persons in order to determine the casual relationship between potential risk factors during pregnancy and the health status of the newborn up to childhood or adulthood (Canova & Cantarutti, 2020). Pregnant persons are considered a hard-to-reach target, specifically early in pregnancy, often due to their discreetness in the first trimester (Arcia, 2014). Many of these longitudinal studies need to be able to recruit a certain number of participants, found through specific calculations, in order to have a high statistical power and run at a high confidence level (Sharma et al., 2020). Longitudinal studies often experience increased participant attrition when the duration of the study is long and the study contains frequent assessments (Teague et al., 2018). Additionally, when dealing with disease, birth cohorts need to be able to have a sample size that: is large enough to produce the disease in question, shows the progression of the disease, and reflects the population the study is applied to (Paneth & Monk, 2018). New age recruitment methods such as SM allow for a more feasible, cost- and time-effective method for recruiting a diverse selection of pregnant persons into a research study than the traditional methods of recruitment (Admon et al., 2016).
Although traditional methods are still an effective tool in recruitment, new age methods are needed to help increase recruitment outreach, increase recruitment rates, and reduce the costs of recruitment in modern research. By using both new age and traditional methods of recruitment, researchers are able to legitimize study procedures and increase retention of participants (Schwinn et al., 2017). Using a document review process this manuscript shares an exemplar experience of diversifying recruitment strategies with the use of SNSs to recruit pregnant persons into a large-scale birth cohort, Research Enterprise to Advance Children’s Health (REACH; 5P01AI089473-08). Specifically, research questions included:

1. How would interest of potential REACH participants be impacted by advertisement flights on Facebook and Instagram?
2. How would traffic to REACH’s website pages change from using advertisement flights on Facebook and Instagram?

METHODS

The REACH study is a large-scale birth cohort at Henry Ford Health (HFH) in Detroit, Michigan. A document review process (Conzelmann, 2020) pertaining to REACH, was used as a data collection method for the evaluation presented in this manuscript. Document review enabled the authors to gather background information and needed data to answer evaluation questions pertaining to the recruitment strategies being used in REACH. The data allocation sources for the document review process are described in further detail below. Furthermore, the present manuscript contains SM analytics and REACH study specific terms that may be unfamiliar to some readers. Thus, the authors have provided a comprehensive list of specified terminology and corresponding definitions (Table 1). Throughout the body of the manuscript, terms identified with a “*” are said specified terms.

Design and Background Information on the Birth Cohort Study

The REACH study’s mission is to distinguish if internal and/or external environmental factors, of both mother and baby, affect a child’s risk for developing allergies and asthma. The study, which aims to recruit 3,000 mother-infant dyads, is now recruiting from five HFH obstetrics (OB) clinics. The participants must be 18 years of age or older, receiving prenatal care at a HFH OB clinic, and planning to deliver at one of three HFH hospitals: Henry Ford Hospital, Henry Ford Wyandotte Hospital, or Henry Ford West Bloomfield Hospital. Recruitment locations continue to grow as more clinics and hospitals are allowing REACH to conduct research within their space. The REACH study aims to recruit pregnant persons early in their pregnancy, before 20 weeks gestation. Once recruited, 11 unique biospecimens are collected from pregnant persons and another seven biospecimens are collected from baby across a ~33-month period. Additionally, weekly surveys are sent to participants seeking lifestyle and pregnancy information. The REACH study acknowledges that participation in the study requires much time, dedication, and commitment.

Pre-Recruitment Methods

Before the initiation of recruitment, the REACH study publicized its mission via a single magazine advertisement and developed a ‘Mom and Baby Study Website’ (REACH study website). In September 2020, the REACH study website went live, adding legitimacy and creating a central hub where pregnant persons could ask questions and learn more about the history of birth cohort research at HFH. The REACH study website has a Lead Generation Form*, where pregnant persons can complete a short survey indicating their interest in participating and providing responses to eligibility criteria type questions. The Lead Generation Form was created using Research Electronic Data Capture (REDCap). REDCap is a secure web-based platform (Harris et al., 2019; Harris et al., 2009) hosted by HFH which
is used to create and manage online surveys and databases. Once a potential participant completes the Lead Generation Form, their information is stored in REDCap, which is monitored by the study team. If the potential participant meets eligibility requirements, they are contacted.

### Traditional Recruitment Methods

Recruitment for REACH officially began in January 2021, with the first participant consented in February 2021. Pregnant persons are notified of the REACH study through use of informative

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead Generation Form</td>
<td>Survey completed on the REACH study website that indicates interest from potential participants.</td>
</tr>
<tr>
<td>Consented</td>
<td>Potential participants who have signed the REACH study consent form.</td>
</tr>
<tr>
<td>Carousel advertisements</td>
<td>A wide advertisement that consists of multiple images side by side. Once the user swipes on the first image, another connecting image will appear in its place.</td>
</tr>
<tr>
<td>Image advertisements</td>
<td>A static image that usually contains a phrase and a link for a viewer to click and be redirected to the specified landing page.</td>
</tr>
<tr>
<td>Story advertisements</td>
<td>These advertisements use static images and videos in a full screen mode that appear in between a user’s organic story feed of their friends (also see Image advertisement).</td>
</tr>
<tr>
<td>Look alike audience</td>
<td>A target group that is built based off of Facebook Page details, demographics, interests, and behaviors which automatically adjusts over time to expand to other users who could be more likely to engage with the content during an advertisement campaign.</td>
</tr>
<tr>
<td>Flight</td>
<td>The allotted time frame an advertisement would circulate throughout social media.</td>
</tr>
<tr>
<td>Impressions</td>
<td>The total amount of times the advertisement has been viewed.</td>
</tr>
<tr>
<td>Engagements</td>
<td>Any action taken by someone when seeing the advertisement (i.e., Reactions, Saves, and Shares).</td>
</tr>
<tr>
<td>Click through rate (CTR)</td>
<td>The percentage of people who have clicked on the advertisements when compared to the total amount of impressions (i.e., Clicks/Impressions).</td>
</tr>
<tr>
<td>Cost per click (CPC)</td>
<td>The amount each click costs based on the initial cost of the flight/how many viewers click on the advertisement.</td>
</tr>
<tr>
<td>Landing page</td>
<td>The website or page that a user is taken to after clicking on the advertisement.</td>
</tr>
<tr>
<td>Google Studio Data</td>
<td>An online Google application that is used as a tool to create data reports and act as a centralized hub for analytics.</td>
</tr>
<tr>
<td>Sessions</td>
<td>The total number of users who have visited the website linked with the advertisement.</td>
</tr>
<tr>
<td>Pageviews</td>
<td>The number of subpages visited per session.</td>
</tr>
<tr>
<td>Total time spent</td>
<td>This value is an average of the time spent per user on the landing page.</td>
</tr>
<tr>
<td>Bounce rates</td>
<td>The frequency that individuals will click on a link and then immediately leave the landing page site.</td>
</tr>
<tr>
<td>Traffic origins</td>
<td>The source/website from which a user is directed to the landing page.</td>
</tr>
<tr>
<td>Direct/none</td>
<td>Refers to traffic in which the user's origin is unknown or no referring source has been configured (e.g., typing in the web address or scanning a QR code).</td>
</tr>
<tr>
<td>Google/organic</td>
<td>A direct search of the website's topic/premise on Google followed by a user clicking on an unpaid listing from the results page.</td>
</tr>
<tr>
<td>Redirect URL</td>
<td>Users click a URL located on an outside source/website (e.g., typing henryfordhealth.com redirecting to henryford.com) that redirects the user to the landing page. Website function that sends users automatically from the intended URL to another.</td>
</tr>
<tr>
<td>Bing/organic</td>
<td>Used Bing instead of Google as the search engine (also see ‘Google/Organic’).</td>
</tr>
<tr>
<td>Conversion Rate</td>
<td>The number of potential participants who clicked on the advertisement and continued to finish the consent process divided by the total number of impressions.</td>
</tr>
</tbody>
</table>

*Note.* Terms are listed in the order that they appear in the manuscript.
brochures included in their OB intake packets (i.e., a packet of helpful information about the perinatal period). Information about the pregnant persons, including their contact information, is extracted from electronic medical records, and imported into the REACH Access Database. Upon upload into the REACH Access Database, REACH research staff contact the pregnant person about the opportunity to join the study. In addition to phone calls, recruitment emails and text messages are sent to these pregnant persons, wherein all recruitment assets reference the REACH study website. Lastly, advertisements through MyChart (i.e., HFH’s online patient portal) are sent to patients meeting the aforementioned inclusion criteria. If any pregnant person does not respond to 10 attempted contacts or does not consent before the 20-week gestation inclusion criteria, they are dropped from the pool of potential participants and no further contact ensues. Alternatively, those interested in partaking in the REACH study are “consented”.

**New Age Recruitment Methods**

In June 2021, the REACH study partnered with a third-party SM agency to use SNSs as a recruitment tool with the goal of increasing both recruitment outreach and the number of enrolled participants. Digital advertising through SNS platforms to recruit for a birth cohort was novel for the Principal Investigators of REACH. The decision to use new age recruitment methods was intended to act as a pilot for future digital recruitment strategies amongst the investigators at HFH. The agreed upon recruitment campaign included the use of different advertisements from both Facebook (Carousel advertisements* and Image advertisements*) and Instagram (Story advertisements*). An example of a top performing Facebook advertisement can be seen in Figure 1. These advertisements were targeted using Facebook’s ‘Pixel Feature’, with criteria determined by the third-party SM agency. These criteria included women 21-35 years old within the Detroit metropolitan area who have shown interest in pregnancy content or motherhood related content on Facebook and/or Instagram.

After a 4-month planning period (June 2021-September 2021), and 8-months since the initiation of REACH recruitment, two advertisement flights* were run on Facebook and Instagram spanning 82 days. Flight 1 (F1) ran from September 27, 2021 – November 6, 2021 (N=41 days), while Flight 2 (F2) ran from January 2, 2022 - February 12, 2022 (N=41 days). The length of the advertisement flights was determined by the third-party SM agency. The Facebook campaign used an algorithm called ‘Smart Audience’ that evolved as time progressed. It allowed for the advertisement to explore more opportunities with a larger demographic to allocate impressions to users with additional interests. During F1, the Smart Audience was able to track which type of demographic and sets of interests had the highest engagement* with the advertisement. The algorithm would then optimize and expand to the demographic that showed the highest response rate and create a lookalike audience* for the subsequent flight. F2 was more focused and narrowed down to the specific demographic that the algorithm associated with a high response rate. Importantly, Flight 3 (F3) was intended to run from April 3, 2022-May 21, 2022 (N=49 days), and would have had the narrowest focus, based on response rate, however, in January 2022 the third-party SM agency no longer offered their SM advertising services.

**Data Allocation Sources and Document Review Process**

Data collection for the document review process came from three separate sources: (1) the REACH Access database and REDCap, (2) the third-party SM agency’s SM analytic reports, and (3) Henry Ford Experience Insights and Analytics Team’s (HFEIAT) Google Data Studio data reports. The REACH Access database was made internally by HFH and is the central hub where all communications and enrollment data (Eligible, Consented) are stored. REDCap was used as a separate database and survey distributor, programmed to aid both recruitment (Lead Generation Form) and participation (REACH weekly surveys). The third-party SM agency used Facebook and Instagram to monitor the amount of impressions*, engagements*, the click through rate (CTR)*, the Cost per Click (CPC)*, and other landing page measurements. The landing page* for the advertisement was the main page
of the study website. These SM analytic reports were compiled and sent out to the study team at the end of both F1 and F2. By using Google Studio Data*, the HFEIAT tracked unique traffic origins* for each visitor to the study website and landing page metrics. Once a potential participant was directed to the landing page, the HFEIAT tracked the sessions*, engagements, pageviews*, total time spent*, and bounce rates* through the study website. The HFEIAT was also able to determine the specific routes that visitors used to gain access to the landing page (i.e., traffic origins). This method allowed the study team to be able to quantify the increase in traffic of the page and each additional subpage located on the REACH study website.

RESULTS

REACH Access Database and REDCap

Recruitment data (Table 2) were extracted from the REACH Access database. Counts of completed Lead Generation Forms were exported from REDCap. From February 2021- April 2022 (i.e., Start of REACH recruitment to current study’s cutoff date), there have been 125 Lead Generation Forms
completed, 1002 pregnant persons were found eligible to join the study, and 159 consented. During F1, 15 Lead Generation Forms were completed, 135 pregnant persons were found to be eligible for the study, and 29 consented. During F2, 32 Lead Generation Forms were completed, 111 pregnant persons were found eligible for the study, and 21 consented. Lead Generation Forms completed during F1 and F2 account for 37.6% of the total Lead Generation Forms completed.

Third-Party SM Agency Data Reports

The third-party SM agency data reports incorporated SM analytics on three separate levels: overall campaign, advertisement specific engagement, and advertisement specific CTR (Table 3). Between the two flights there was a total of 1,184,112 impressions and 691 engagements. F1 was able to achieve more engagement and have a lower CPC than F2. When compared to F1, F2 was able to achieve more impressions and a lower CTR.

HFEIAT Google Data Studio Reports

The HFEIAT obtained monthly reports from Google Data Studio focusing specifically on metrics pertaining to the REACH study website. Sessions and page views by month for the REACH study website are illustrated in Figure 2. Since its inception in September 2020 through January 2021, the

Table 2. REACH access database and REDCap dataset

<table>
<thead>
<tr>
<th>Participant Status</th>
<th>2021</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Feb</td>
<td>Mar</td>
</tr>
<tr>
<td>Eligible</td>
<td>107</td>
<td>78</td>
</tr>
<tr>
<td>Consented</td>
<td>14</td>
<td>16</td>
</tr>
<tr>
<td>LGF Completed</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

Note. LGF = Lead Generation Form

Table 3. Flight 1 and 2 social media analytics

<table>
<thead>
<tr>
<th></th>
<th>F1</th>
<th>F2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Campaign level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impressions</td>
<td>547,115</td>
<td>636,997</td>
</tr>
<tr>
<td>Click Through Rate (CTR)</td>
<td>0.71%</td>
<td>0.61%</td>
</tr>
<tr>
<td>Cost Per Click (CPC)</td>
<td>$0.66</td>
<td>$0.68</td>
</tr>
<tr>
<td>Engagements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reactions</td>
<td>312</td>
<td>302</td>
</tr>
<tr>
<td>Ad Placement CTR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Saves</td>
<td>19</td>
<td>16</td>
</tr>
<tr>
<td>Likes</td>
<td>22</td>
<td>20</td>
</tr>
<tr>
<td>Total Engagements</td>
<td>353</td>
<td>338</td>
</tr>
<tr>
<td>Facebook News Feed</td>
<td>0.72%</td>
<td>0.61%</td>
</tr>
<tr>
<td>Instagram</td>
<td>0.68%</td>
<td>0.69%</td>
</tr>
</tbody>
</table>

Note. All data sent from the third-party SM agency. F1 refers to Flight 1, F2 refers to Flight 2
REACH study website has received 500 sessions and 1,477 pageviews. From the onset of recruitment, February 2021 through April 2022 (the cut off used for the purpose of this manuscript), there were a total of 8,279 sessions and 15,997 pageviews. During F1 (September-October 2021) 2,962 sessions and 4,734 pageviews were recorded. Of the 20 months the study website has been live, F1 (1.3 months) drove 33.7% of total sessions and 30.9% of total pageviews. Additionally, F1 initially had a 494.3% and 369.2% increase in sessions and pageviews, respectively. During F2 (January-February 2022) a total of 2,754 sessions and 4,395 pageviews were recorded. F2 achieved similar results for the study website by accounting for 31.4% of its total sessions and 27.5% of its total pageviews during this flight. An initial 612.6% increase in sessions and an initial 448.6% increase to pageviews were observed during F2.

Since its launch in September 2020 until April 2022, the REACH study website received users from 35 unique traffic origins. Of the 35 origins, Facebook, direct/none*, Google/organic*, redirect/url*, and Bing/organic* made up 99% of traffic origins for the website (Figure 3). Of these five origins, more than half of all REACH study website visitors were sourced from a referral link located on the Facebook advertisements. The remaining half of visitors were comprised primarily of the other four top traffic origins. The remaining 30 origins, including Instagram origins, that are not listed in Figure 3 made up the last ~4% of traffic origins.

**DISCUSSION**

The purpose of the current study was to share an experience of diversifying recruitment strategies with the use of SNSs to recruit pregnant persons into a birth cohort using a document review process. Specifically described are experiences in how using advertisement flights on Facebook and Instagram impacted the interest of potential participants as well as traffic to the REACH study’s website pages. With the use of targeted advertisements on Facebook and Instagram, REACH was able to increase its outreach to the hard-to-reach-target group of pregnant persons throughout the Detroit metropolitan area, measured through Lead Generation Forms completed and impressions. Furthermore, REACH was able to substantially increase the traffic to the REACH study website throughout each flight.
The REACH Access database and exports from REDCap were used to determine the potential impact SNSs had on the interest of potential participants, as filling out the Lead Generation Form was a direct way that pregnant persons could show interest in the REACH study. The amount of Lead Generation Forms completed nearly quadrupled over the course of F1 and went up approximately by 2.5x for F2. The third-party SM agency data reports and HFEIAT Google Data Studio reports contained metrics which demonstrate how using SNSs can affect user traffic to the REACH study website. The third-party SM agency data reports showed an increase in outreach by recording 1,184,112 impressions over the course of both flights. Similar findings have been noted in Van Gelder et al. in which, over the 2 Facebook advertisement flights, they received 259,627 impressions (Van Gelder et al., 2019), while in the current study, the study team achieved a greater number of impressions. The current study’s average CTR 0.66% is low, compared to Van Gelder et al., but the large number of impressions the flights achieved allow for a large increase of users to visit the landing page of the REACH study website. HFEIAT Google Data Studio reports showed an increase in the amount of user traffic along with the origins of this traffic. With the REACH study website receiving 8279 total sessions to date, 56% of all users originated from Facebook advertisements suggesting that new age recruitment methods can increase website traffic under the right circumstances. As the need to increase outreach and recruitment for pregnant persons is prevalent in maternal-fetal research, so is the need to find a cost effective and efficient recruitment method that can achieve the results needed for this branch of research. Similar to findings described here, other studies have shown that new age recruitment methods, like SNSs, can provide an increase to the outreach and recruitment for this hard-to-reach target group (Adam et al., 2016; Arcia, 2014; Wise et al., 2015).

Findings of the current study suggest that the use of new age recruitment methods (i.e., SM) can influence user traffic on a study’s landing page by increasing the number of sessions and pageviews. Over the 82 days these 2 flights were live, a strong initial increase to pageviews (>360%) and sessions (>450%) occurred, making new age recruitment methods the most effective outreach method used in the REACH birth cohort study to date. Previous research supports that using Facebook for outreach and recruitment can increase the number of participants within a study at a faster rate than traditional methods (Herbell, 2019). In the current study, 5486 sessions (62.5% of total sessions) were recorded during the duration of both flights. These findings are consistent with others in the literature which
have used new age recruitment methods (Upadhyay et al., 2019) and subsequently received a large increase of traffic on their study websites when compared to traditional methods (Moseson et al., 2021; Wozney et al., 2019).

With 85% of US women owning a smart phone (Mobile Fact Sheet, 2021) and 75% of US women using SM (Social Media Fact Sheet, 2021) implementing advertisements on SNSs as a recruitment tool is a cost-effective way to reach our target audience without changing their routines (or daily lives). Additionally, 98.5% of all Facebook users utilize the Facebook Mobile application on their smartphones (Dean, 2022). The current study recorded that 53% of all study website visitors originated from Facebook advertisements, which could be found on the Facebook mobile application. A previous study has supported that by targeting potential adult participants on applications via smart phone, a potential participant is more likely to feel less burden when dealing with the study and increase recruitment (Amagai et al., 2022). Although beyond the scope of the current study, future research could focus on which advertisement images and diction offer the best engagement for the Facebook and Instagram advertisements for pregnant persons. Previous studies have examined which images and dictions, used in advertisements on SNSs, are the most successful with recruitment (Bennetts et al., 2019; Farr et al., 2022; Ramo et al., 2014; Russomanno et al., 2019), however, few have explored this topic when pertaining to pregnant persons (Adam et al., 2016; Cochrane et al., 2022). Moreover, research exploring how shares*, likes*, and comments* can affect the overall engagement rate of advertisements for birth cohort research is needed to better understand how users on SM can help affect the spread and effectiveness of these advertisements beyond the ability of the original advertisement flight (Akers & Gordon, 2018; Bennetts et al., 2019). Lastly, future researchers may also consider exploring other SNSs such as Twitter, Google ads, and Reddit in comparison to Facebook and Instagram to further understand which platforms impact recruitment into birth cohorts.

REACH is not the first study to implement both new age and traditional methods of recruitment into their methods. Recent studies have shown that using both traditional and new age methods during a study is a sufficient way in enrolling large numbers of participants within a shorter time frame (Bour et al., 2021; Schwinn et al., 2017). The traditional methods used in REACH, specifically recruiter to potential participant interaction, may be a better platform for communicating the details of the study, determining eligibility, and offering outside knowledge when the potential participant has questions. Research has shown these traditional methods to have a higher conversion rate* when compared to new age recruitment methods (Cochrane et al., 2022) along with offering a better ability in determining a participant’s current eligibility (Frandsen et al., 2016). New age methods may excel at drawing pregnant persons to a study website, but previous research showed that it was not always effective for overall recruitment (Williamson et al., 2018). Traditional methods have shown to be stronger in their ability to better inform, and keep participants engaged within a longitudinal study than new age recruitment methods (Benham et al., 2021; Smith et al., 2021). By using both types of recruitment, the REACH study was able to increase outreach with new age recruitment methods, while maintaining the personal communication that traditional methods bring.

The current study is not without limitations. Although working with a third-party SM agency offers insights and products that would not be otherwise available to the study team, the authors did not have access to specific details of the company’s methods and certain aspects of data were not available. Data regarding how many advertisements were used and what these advertisements specifically looked like were not provided. For example, the third-party SM agency’s data reports only contained the three highest engagement advertisements per flight leaving out any other advertisement used. Moreover, the study team was only able to see a single Instagram story and was not privy to the images or diction used in alternate stories. Additionally, it was the decision of the third-party SM agency to discontinue their services and cancel the third flight of advertisements. Next, the study team did not have access to the algorithm that was used with the Facebook and Instagram advertisements. As the algorithm learned and changed the target group, the study team was not notified of how this target group shifted and what specific demographics it started to target. This made it difficult to pinpoint
which demographic was the most targeted and to identify if a selection bias was occurring during the study. Lastly, inclusion criteria for the study indicated that a participant needed to be a HFH patient. As advertisements were not restricted to solely HFH patients, a loss in potential participants due to ineligibility is likely to have occurred.

The purpose of this study was to describe the experiences of using new age recruitment methods and how they can affect the traffic to a study page and the interest of potential participants. New age methods offer a plethora of advantages to recruitment: an increase in outreach, ability to contact hard-to-reach target groups such as pregnant persons and allowing pregnant persons to view study details at their convenience. New age methods should be used in tandem with traditional methods to work fluently and increase outreach/recruitment to pregnant persons for birth cohort studies.

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REFERENCES


Ashley Rapp is an Epidemiologist at Henry Ford Health studying maternal health. She is a mixed-methods researcher with an interest in addressing health disparities via understanding and uplifting the patient experience.

Laura Susick received her PhD in Pharmaceutical Sciences at Wayne State University. She completed a postdoctoral fellowship where she researched the effects of prenatal alcohol exposure on neurodevelopment using a mouse model. Currently, her focus is REACH, a large, longitudinal birth cohort evaluating the potential influence of the gut microbiome on asthma and allergy risk in children. Her research interests include developmental origins of health and disease, childhood immune development and autoimmune disorders.