

Engagement with Facebook Advertisements among Senior Citizens as a Vehicle to Choose Assisted Living Facilities in the Local Area: *An Observational Study*

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ABSTRACT

The widespread usage of social media as a vehicle to communicate and exchange information has been massively growing, especially in the times of the current COVID-19 pandemic. Billions of people around the world now can connect to the internet and transmit uninterrupted data via social media platforms. There are numerous papers available targeting teenagers and adults utilizing social media as a platform to make vital decisions. However, the adoption of modern communication technologies among senior citizens has been rarely investigated. In this paper, we propose to investigate a sample of 80 senior adults who were looking for assisted living facility services through a Facebook social media platform. We aim to understand what guided their decision to contact an assisted living facility for the service, and what options they prefer for their stay. This paper will be among pioneering papers since the investigation of senior citizens and social media utilization for assisted living is scarcely found on scientific search engines such as PubMed.

Keywords: Senior assisted living, Facebook, social media, gender, senior population

Aims and Objectives

The main objective of this paper is to evaluate the prevalence of decision-making triggers among male and female senior citizens, who utilized Facebook as a vehicle to search for assisted living services. Our aim of this study is to provide a descriptive roadmap of senior Facebook users, by analyzing dominant characteristics such as sex, age, completeness of public Facebook profile, and their online behavior that pre-determined factors played in their choice. The close focus on a single social media platform such as Facebook, allows us to thoroughly analyze the association among users shopping for assisted living services.

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Methodology

A targeted advertisement campaign ran on Facebook for 2 months (July and August), to identify senior citizens' interest in assisted living. We customized our campaign by age groups of 50 to 65+ years old both males and females, and those who engaged with assisted living facilities on Facebook before. A previous engagement determinant was:

1. A post like
2. A posted comment
3. A post share
4. A Facebook page follow

Our geographical determinant was only in NYC regions. During the initial campaign setup, a wide reach of 200,000 potential Facebook users had been automatically identified by Facebook's advertising platform by our criteria. Out of all 200,000 targeted users, we manually calculated the number of contact forms received from this advertisement by the end of the campaign. A total of 80 senior citizens who consented to provide their information to look for assisted living facilities were captured and evaluated. A direct breakdown of a Facebook advertisement has been performed to understand which advertisement triggered a decision-making capacity among senior adults looking for assisted living services. A statistical method of calculating the average and mean numbers who proceeded to admission were evaluated and described. A cross-comparison of available literature to our result will be discussed as a result of this paper.

Literature Review

Millions of senior adults are actively utilizing social media in their daily lives. An ongoing stigma that senior citizens rarely utilize the internet for pleasure or service has long been gone. It has shown that older adults are very particular about their use of computer technology and the internet in general¹. Many senior citizens who utilize online banking for either checking their balance or simple banking transactions are also found to be vivid users of social media. However, social media, in general, tends to be a direct one-way use for their purposes, and this purpose is strict communication rather than for leisure or fun activities². The direct communication and search for their needs revealed a very useful feature among many social media users, especially in the age brackets of 60 -75 years and older. According to Rondan-Cataluña *et al.*, most savvy social media users among senior citizens are found to be women. This phenomenon, according to the author, represents some form of hedonistic motives to utilize social media at large³. However, social media is equally appealing to the male and female sex of senior ages in terms of connection and sense of belonging. This is especially true during COVID-19 Pandemic when digital connection played an integral role in communication strategy between the everyday population and healthcare professionals alike. Literature on social network use in the Chilean population showcased that the older generation of Chile preferred the top 3 social networks such as Youtube, Facebook, and Instagram. Due to the exclusive focus of our study on Facebook, this finding aligns with the findings of the Chilean older population on the use of social media platforms³.

Contrary to non-users of social media in an older population, the following criteria are found⁴:

1. Financial difficulties

2. Physical and cognitive disabilities
3. Lack of training or lack of prior experience with the personal computer.

An interesting phenomenon was noticed in the age group of 65-74 years old. This particular group of people in the European population tends to use internet-associated services more frequently, than those 74 years old and older. One can hypothesize that this correlation showcases how advanced age in the developed world tends to show the same results throughout both sexes and reliance on traditional, also known as old school devices - better and more convenient for them. While staying on the topic of social media, Vulpe, S *et al.* showcased an interesting comparison which was quite surprising to the previously found results^[4]. In the European region those who utilize digital internet services such as social media - men in the age group of 65-74 tend to utilize the platforms more often. Things like cultural matters, political beliefs, and economic opportunity played an integral role in men being involved more in the use of social media than women in the European regions⁴.

The provided above publications closely follow our guidelines for identifying and comparing the results of our investigation. By looking at these results, we can have a ground of comparison to our findings and how social media played a role in choosing assisted living facilities for the local elderly population. It is widely hypothesized that older adults are very picky and uniquely positioned to choose what services they prefer to use. By understanding the actual behavior of seniors on social media, we can potentially provide a roadmap for epidemiological interventions as well as healthcare services at large. The stigma of senior citizens not utilizing internet services has shown otherwise, therefore further investigation must be carried out.⁵

Definition of variables under our study

While conducting an advertisement campaign on the social media platform Facebook, we specifically set a criterion for our targeting. The main goal of the advertisement campaign was to encourage seniors to contact us about our assisted living facility. We started outlining our campaign by first defining an image that closely correlated to the assisted living facility's theme (Fig. 1). Our guideline to utilize a positive image of older females helped us to get a positive reaction from those who browsed Facebook in their leisure time⁶.

When it comes to assisted living facilities and nursing homes, not so many independent senior citizens have a positive attitude toward them⁷. This stigma might be associated with poor care and dependence on others, and ultimately losing their independence in the comfort of their homes. However, what many senior citizens misunderstand is that assisted living facilities only aid in their daily lives. Most of the assisted living facilities that accept government forms of payment such as insurance (Medicaid, Medicare) tend to have fewer exclusive offers than those that pay strictly cash. But overall, the care provided to the seniors is equally the same throughout high-end and middle-end facilities. To identify the overall meaning of assisted facility, one must understand that assisted living facility provides around-the-clock medical care, prepares 3 meals according to U.S Department of Agriculture Food and Nutrition Service (USDA) nutrition standards, and provides a room and daily recreational activities.

Senior citizens who live in the facility are fully mobile and free to leave during the day if their cognitive health permits it. However, most of the residents tend to stay within the facilities' walls as everything that they need is usually provided there. One should never confuse a nursing home with assisted living.

Nursing home care is usually tailored to fewer independent individuals, such as those who need a continuum of care in the post-discharge stage (tracheostomy, post-sepsis, wound care, etc.). The nursing home in comparison to assisted living has an around-the-clock specialized medical staff that monitors the condition of the patients. When a nursing home resident's health condition improves, he or she can potentially be transferred to an assisted living facility.



Fig. 1: Main campaign image theme

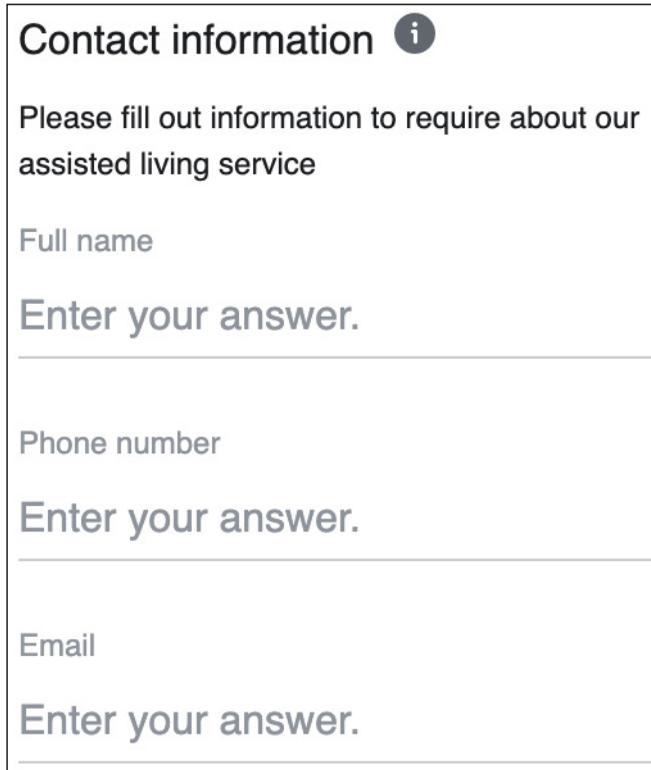
Advertisement campaign characteristics and strategy

Initially, our primary Facebook campaign had 2 objectives, first - is to identify who might be interested, and second, to see how many actual requests will be converted into residents for assisted living facilities.

The following were the criteria of variables for our advertisement:

1. Age groups (50-65 + years old as available on Facebook criteria for targeting)
2. Sex (Male or Female) - both sexes were targeted without any skews.
3. Geographical location was determined by a generalization of the city of New York.

4. Completeness of Facebook public profile such as realistic profile picture previously liked groups and pages, and areas associated with that particular user (hometown, geo-local business check-ins also known as visits).
5. Numerical count of those who proceeded to admission paperwork following the form fill out (Fig. 2).



Contact information ⓘ

Please fill out information to require about our assisted living service

Full name

Enter your answer.

Phone number

Enter your answer.

Email

Enter your answer.

Fig. 2: A form used to capture information.

Our advertisement was set to run in July and August (62 consecutive days) with an around-the-clock 24-hour period. As many older adults tend to experience difficulties sleeping⁸, 24 hours campaign was an optimal choice for capturing a potential lead, especially those who happen to look at our campaign overseas or in different time zones. Even though our campaign was set to be shown in the NYC region, Facebook doesn't restrict sharing of posts to people outside of our targeted area. The advertisement has not been adjusted nor manipulated to reveal the genuine results of the campaign. The only manipulation of the campaign was –the response to the comments left under the advertised post.

Assessment tools

After finishing the Facebook campaign, we proceeded to assess our results. The following numbers our campaign yielded: 80 complete forms, out of those 50 females and 30 males. The number of complete Facebook profiles is 70 and the geolocation of all applicants was within 20 kilometers. We provided our post-campaign findings in Fig. 3. The proportion of targeted people and the actual results of filed online forms make up 0.04%. This percentage of 0.04% was calculated based on the number of targeted

people $n = 200,000$. Out of these 80 filed forms, 50 of them were females, and 30 were males. The actual number of fully completed profiles made up to 70 people which is 10 people less than the actual result. The average number of people who participated in our campaign is 40 people = (# of females and # of males). In the larger female category of seniors between 50 and 65+, the prevalence rate of active and complete Facebook profiles was 0.025%, the prevalence rate was calculated by —

$$P(\%) = \frac{\text{the Total number of females (50)}}{\text{Total targeted Population size (200,000)}} * 100.$$

The prevalence rate of identified males was 0.015%, and the prevalence rate was calculated in the same manner as females. By knowing the prevalence rate, we then can figure out the total incidence rate to understand how many people engaged in our targeted group. The following equation was implemented to calculate the incidence rate: Incidence Rate (IR) = Total Number of filled Out Forms (80) / Total Targeted Audience (200,000) * 10n (per 100,000) = 40 people. Out of this number, we can hypothesize that out of 100,000 targeted senior FB users for assisted living, 40 people can potentially engage with the advertisement.

Our findings showcased a yielded number of total 70 complete Facebook profiles, with users actively engaged on the Facebook platform. The theory of females being more active and engaged on social media has proven to be true with the results of 40 females versus 30 males⁹.

Total # of targeted people	Number of contact forms filed	Number of males	Number of females	Number of complete FB profiles
200,000	80	30	50	70 (40 females and 30 males)

Fig. 3: Post Campaign Findings

Geographically, Facebook data showcased 75% of all engaged users were found in the borough of Queens and 25% came from Brooklyn. Since the location of assisted living is found to be in the city of Queens, the predominant familiarity with the location most likely played a favorable role in Queens residents.

RESULTS

Upon evaluation of an advertisement campaign on Facebook targeting senior citizens for assisted living, our findings have produced the following results. Out of the targeted 200,000 Facebook users, only 80 people filled out the form. Within 80 filled forms, 50 people were identified as females and 30 males in the mean age group of 70 years old. The total number of completed Facebook profiles was 70, dominated by 40 females and 30 males. Out of all 80 contacted individuals, only 1 proceeded for admission paperwork to the assisted living facility. The majority of the people who filled out the form were confused about which form they filled out and stated that they just wanted to get some kind of information but were not ready to proceed further. This kind of response correlates to the seniors being skeptical of technology to make vital decisions such as assisted living services¹⁰. Additionally our hypothesis from the sample of 80 people, has proven to be true that females tend to be more active and engaged in social media than

male users in the age category of 50-65+ years. Our findings showed the prevalence rate of active and complete Facebook profiles was only 0.025% out of 200,000 targeted users.

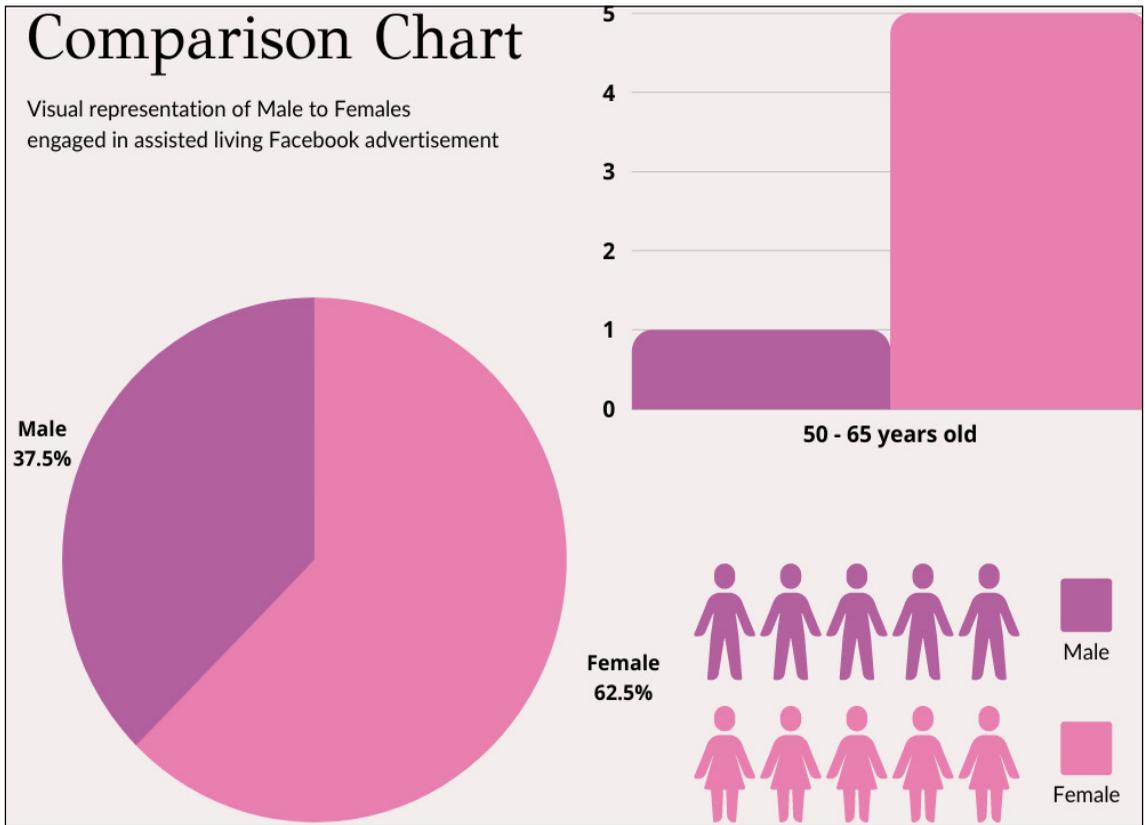


Fig. 4: Visual representation of results

The incidence rate per 100,000 exposed to the advertisement of senior Facebook users, 40 will potentially engage with the advertisement. Also, the most engaged users were from the same borough as the location of assisted living. Geographically, this implies that seniors prefer to stay in a familiar to them location versus a 30-40 minute travel from other boroughs, as mobility and close ties to the community might be of importance as well. Overall, our findings suggest that even though senior citizens are utilizing social media, they do not necessarily want to show their true identity and represent themselves openly. The hesitancy in engagement with the age-specific business was certainly noticed. A further behavioral investigation is suggested to identify barriers that prevent the majority of senior citizens from fully committing/trusting social media as a vehicle for vital decisions making such as senior health care.

DISCUSSION

We identified a relatively small but stellar number of senior citizens engaged in a Facebook advertisement about assisted living services. This engagement showcased those senior females are more actively engaged in the choices about their health online versus their male counterparts. However, one can hypothesize that

due to the reluctance of senior citizens to provide or engage with online communities, they are not fully ready to adopt digital healthcare options for the long term. There is certainly an interest to move forward, but a definitive step is still - a long way to go. If we compare our study to the relevant literature that was performed in Europe¹⁰, then we can certainly see some relevance that younger than 65 -74 years old age bracket seniors utilize online services more frequently. This phenomenon is most likely associated with earlier adoption and higher exposure to technology than the initial target group.

LIMITATIONS

While our study is one of the unique and pioneering approaches to understanding how senior citizens behave on the social media platform of Facebook; we understand that limitations are certainly there. The limitations of the study were the short duration of the advertisement and the small sample size. Given the larger scale of advertisement and multiple targeting criteria, further investigation could be improved upon our results. Additionally, targeting the entire New York State versus towns such as Queens, and Brooklyn - might potentially produce greater and wider results with more sensitive prevalence and incidence rates. However, our study showcased those senior citizens are certainly there and they are in the early stages of adopting digital healthcare solutions on social media platforms.

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