

# Learning Affordances of a Facebook Community of Older Adults: A Netnographic Investigation during COVID-19

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**Abstract:** Current research in social media is heavily anchored on young individuals due to its wide acceptance in this social cluster. However, the trajectory of literature points to increased use of social media among older adults and a heightened interest in its community feature, especially during the COVID-19 pandemic. Facebook communities are online avenues that can portray the everyday lives of older adults in the absence of social participation during a pandemic. To compensate for this absence, older adults have joined, mingled, and interacted with various online communities to engage in learning opportunities. Using netnography, we analyzed 378 Facebook posts in a private community of older adults during the early months of the pandemic. We found that the learning affordances of a Facebook community include informal learning, knowledge dissemination, and information validation. The result of this study is helpful to various aged care stakeholders, including geriatric care, technology providers, and the academe.

**Keywords:** older adults, COVID-19, netnography, affordance, social media, Facebook

## 1. Introduction

Pandemics such as the Novel Coronavirus of 2019 or COVID-19 exacerbated adverse mental health effects in older adults due to a lack of social participation and community engagement (McKeon et al., 2021). Community lockdowns and mobility restrictions are non-medical interventions instituted by governments worldwide to curb the spread of COVID-19 (Dury et al., 2022; X. Zhao et al., 2020). While effective, especially in the absence of vaccines, these interventions can cause loneliness, boredom, and social isolation to older adults who value social engagement and participation as essential ingredients of meaningful late life (Freedman & Nicolle, 2020; Kulmala et al., 2021). Facebook is the preferred social media platform in the Philippines facilitating online engagements in various social process such as commerce and education (Esteves, 2012; Catedrilla, 2017; Catedrilla & Suarez, 2022). One of its popular features is its ability to establish online communities. A recent study has shown that older adults transitioned to online communities where they participate in social engagements online to buffer the adverse psychological effects of the pandemic (Hajek & König, 2021).

Online communities are public spheres where members can engage in online discourses with like-minded people. To understand older adults' participation in online communities, research must look beyond the technological artifact and consider the users' environment, goals, and possible uses in what is termed as affordances (Dhir et al., 2017; Jaidka et al., 2021). Despite evidence that older adults subscribe to lifelong learning in offline and online environments for overall psychological well-being, research has yet to uncover how online communities support late-life learning, especially during a pandemic (Benvenuti et al., 2020; Morrison et al., 2020). Given that most social media users are young, learning affordances or uses of social media for education during the pandemic primarily targeted university students and faculty members (Cavus et al., 2021).

Online discourses and social media data in an online community are rich inputs to studies that portray community practices, norms, and group sentiments (Franz et al., 2019; X. Zhao et al., 2020). This study aims to identify the various learning affordances of older adults during the early stages of

the COVID-19 pandemic through netnography (Balcerzak & Nielek, 2017; Kozinets, 2019). We selected a

Facebook community, collected posts, and applied thematic analysis using the affordance theory. We add to existing scholarly works on social media literature and late-life scholarship in three possible underexplored areas. First, we widen the scope of research in social media use by conducting netnographic research in a Facebook community of older adults. Most studies have focused on the general use of Facebook, and its community feature that older adult use remains understudied (Hafezieh & Eshraghian, 2017; Newman et al., 2019). Second, we analyzed COVID-19 user-generated content to present a contextual understanding of how the pandemic stimulated online learning among older adults through a Facebook community platform. (Zhao et al., 2022). Lastly, our method allowed us to collect archival data through the social media discourses within the platform from the early stages of the pandemic. To add variety to the methodological approaches in the use of social media by older adults, we operationalized a sociocultural approach in the formation of themes through consideration of the community, its members, and the time at which data was shared on the platform (Rolandi et al., 2020). The results of our analysis will guide future disaster preparedness initiatives using the learning affordances of Facebook from the standpoint of older adults.

## **2. Related Studies and Affordance Theory**

Social media has been extensively used in crises within and outside the classroom. We begin this section by presenting prior studies that explored how these platforms played a significant role during pandemics prior to COVID-19. Given the increased use of social media during COVID-19, we reviewed recent literature on how these platforms were utilized among various social groups, including older adults. As our objective is to present Facebook as a learning tool, we discuss the affordance theory applied to social media and its applicability to our study.

Prior pandemics have shown that social media is an authentic data source for understanding public emotions (Tang et al., 2018). The study of (Ahmed et al., 2018) of an extensive data set from Twitter revealed that social media platforms could reflect public sentiments and heightened curiosity during the Ebola and swine flu outbreaks. In their study, tweets were also used by Tran & Lee (2016), which revealed that social ties play an essential role in the propagation of information related to the Ebola outbreak. On the other hand, Facebook was also found to be an effective tool for crisis communication. During the Zika virus outbreak, Facebook posts were analyzed by (Sharma et al., 2017), and they found that posts were generally helpful in validating information. However, the same study also found that misinformation was more popular and generated more engagement than posts with validated information. These studies underscore the importance of social media data as an essential gauge of public perception during a pandemic.

During COVID-19, social media has become an essential source of information. For government and health authorities, Facebook, Twitter, and Weibo supported the fast dissemination of announcements, guidelines, and best practices to manage the crisis (Mori et al., 2021; Zhao et al., 2020). University closures disrupted how students learn, and Facebook provided the platform to sustain education (Corcuera & Alvarez, 2021). In the healthcare industry, medical students utilize Facebook to exchange learning materials and collaborate with faculty as part of their academic requirements (Bich Diep et al., 2021). Among medical professionals, familiarity with social media encouraged its use for remote teleconsultation to comply with pandemic restrictions (Doulias et al., 2022; Pagaling et al., 2022). A few studies investigated online groups and communities, such as the quantitative study of (Zhang et al., 2022) that found a positive attitude and increased engagement among participants during the pandemic and the work of (Mukattash et al., 2020) using content analysis of posts in a Facebook group of pharmacists.

The evolution of social media use from its original intent of establishing, connecting, and nurturing social ties to its present utilities of information dissemination and learning can be explained by the affordance theory of Gibson (2014). As applied in information systems research, affordances are perceived possible uses of a specific technology artifact. In social media, features that have been added, such as discussion forums, video chats, and anonymity, create affordances for different users (Jaidka et al., 2021). For online communities such as the Facebook community platform, unintended learning affordances include information dissemination and asynchronous learning (Barrot, 2021; X. Zhao et al., 2020).

### 3. Methodology

To gain deeper insights into the lived realities of the digital social world of older adults during the early stages of the pandemic, this study utilized the netnography approach of Kozinets (Belk et al., 2015; Kozinets, 2013). This methodological framework is appropriate for studies requiring a deeper understanding of an online community that will involve immersion of the researcher, observation of target participants, and gathering digital data to portray a detailed description of online community interactions (Fenton & Procter, 2019). The following sections describe our community, our data source, analysis technique.

#### 3.1 The Facebook Community

Consistent with the traditions of ethnography, a Facebook Community was identified whose membership was limited to older adults residing in the Philippines referred. The decision to choose this community was motivated by its membership size (currently at 72,500 members), activeness (average of 60 daily), and years of establishment (5 years). The community administrator approved the membership of the primary researcher after explicitly stating his identity, intent, and research objectives. Ethical guidelines based on prior netnography studies on older adults were observed, such as approval of ethics clearance, acquiring informed consent, and keeping anonymity. Community immersion is one of the hallmarks of ethnography, whether conducted online or offline. The researcher joined the community six months before the pandemic to observe the members' customs, norms, and behavior.

#### 3.2 Participants and Social Media Data

Archival data is an essential ingredient of ethnographic research, and in digital spaces, this takes the form of posts, comments, and reactions. We purposively identified 7 participants and collected their posts in the Facebook community from the start of the community lockdown until the end of May of 2020. This period represents a phase of the pandemic where the Philippines enforced movement restrictions, especially for older adults. This is the same period in the community where members actively interacted with fellow older adults. The data set comprises 386 posts categorized into 178 purely text-based, 125 texts with images, and 83 texts with images of an actual person. All participants are 60 years old and above as they are considered as older adults in the context of the Philippines. The demographic profiles of our participants are shown in Table 1.

*Table 1. Profiles of the Participants*

Participant	Member Since	Gender	Age	Community Affiliation
001	July, 2019	Female	62	Member
002	September, 2018	Female	68	Member
003	September, 2019	Female	63	Moderator
004	July, 2019	Male	71	Member
005	May, 2019	Male	67	Member
006	January, 2019	Female	65	Member
007	September, 2019	Male	60	Member

#### 3.3 Thematic Qualitative Analysis of Social Media Data

The principal researcher approached the participants via digital or mobile means and explained the study's overall objective, the informed consent contents, and the data we required for the research. We collected the posts from the participants through manual extractions from the Facebook community for three reasons. First, while automated tools are available for public groups, we were restricted by the privacy type of the group. Second, collecting social media data from the entire group may deviate from what was agreed between the primary researcher and the community administrator. Lastly, while prior research suggested divulging the researcher's identity to the entire group to get permission to collect data, this may not be suitable for this study as the primary researcher is not an older adult, which may influence behavior within the community (Jeffrey et al., 2019). Our objective is to represent the online culture in its authentic form based on unbiased conversations within the platform.

To ensure an objective analysis for this study, we utilized an initial codebook from available literature and preliminarily arranged it based on the theoretical underpinnings of affordances theory (Balcerzak & Nielek, 2017; Roberts et al., 2019). Given the nature of the data we collected, we relied heavily on the observation notes of the primary researcher to come up with codes that are related to COVID-19. Examples of codes from prior research include "loneliness," "grief" and "fear," while codes from observation notes include "scare from COVID-19" and "fake news". The collected social media data was uploaded in a computer-aided qualitative data analysis software, or CAQDAS, called Dedoose (Andalibi & Flood, 2021; Shin & Hickey, 2021). This platform allowed the researchers to apply codes in excerpts of text-based and image-based social media data. Consensus agreement was followed in the application of codes guided by memos representing reflections of the researchers on the meanings of specific excerpts. We came up with themes from the code co-occurrence feature of Dedoose; these are frequencies of codes appearing together in the same social media post (Armborst, 2017; Kordzadeh & Young, 2018). Lastly, we selected exemplars for each theme to further elaborate our findings. We interpreted the themes and their corresponding codes in the context of our research participants, the site, and the lens of the affordance theory. Using a codebook, documenting reflections in memos, consensus coding, and presentation of exemplars, we adhered to trustworthiness for the authentic presentation of our qualitative study results.

## 4. Results

Compelling evidence in the literature points to social isolation among older adults as a catalyst for problems related to health and psychological well-being (Barbosa Neves et al., 2014). In the Philippines, evidence of its effects on the aging population is insufficient, owing to its culture of care and that majority of older adults are community dwellers (Badana & Andel, 2018; Hofstede, 2019). COVID-19 brought unprecedented challenges to vulnerable groups, including older adults. Digital technologies during this health crisis can support the overall well-being of Filipino older adults (Buenaventura et al., 2020). During COVID-19, online communities can provide the necessary tool for information exchanges to promote learning to older adults without compromising their safety (Beaunoyer et al., 2020).

Community members are not used to social isolation, which is evident in the volume of posts and comments related to COVID-19 from March to May of 2020. In their conversations, they exchange information on government policies and concerns about COVID-19. A myriad of information on health advice, daily exercise, and diet recommendations. Participants also update each other by posting selfies and captioning it with information about how they cope with isolation.

### 4.1 Informal learning

The dramatic increase in the use of Facebook by older adults as a source of news information has been observed in recent literature. During the pandemic, media outlets and the government strengthened their presence on Facebook due to its wider reach and accessibility. Within the community, participants shared news information from media outlets and encouraged discussion among members. Some participants shared announcements by their local community leaders on the distribution of financial support, information on mobility restrictions, and updated COVID cases. Our first theme includes code co-occurrences of "news", "updates", "community announcements", "government information" and "pandemic". As exemplars, participant 005 and participant 001 shared the following:

Participant 005 took a screenshot of a post from a media company and reminded everyone in his post:

*"COVID cases are rising and there are no available hospitals. Please be safe everyone!"*

Participant 001 posted an announcement from the Department of Health:

*"Fellow members, I am reminding you to always wear your mask and wash your hand. COVID strikes us hard because of our age"*

While research has traditionally portrayed older adults as heavily reliant on traditional media for news consumption, an uptick in the use of social media for pandemic information (Choudrie et al., 2021; Sheldon et al., 2021). A recent synthesis of available literature highlighted that older adults seek and share medical information related to aging (Y. C. Zhao et al., 2022). This is beyond the original objective of Facebook as a platform to connect and socialize with friends and relatives, creating an informal learning affordance. As the pandemic evolved, related online information on COVID-19 piqued interest among older adults as ageism was prominent in social media (McCabe et al., 2021). Discussing news and information about the pandemic with fellow older adults will encourage participation and discussion that can foster social connections (D. Morrison & McCutcheon, 2019; Nimrod, 2014).

#### 4.2 Knowledge dissemination

Older adults were considered vulnerable to COVID-19, and governments worldwide implemented strict enforcement of rules that restricted their movements. As such, loneliness and boredom have been observed among older adults. Data collected from the community during the early months of the pandemic revealed that participants shared selfies and information on how they deal with social isolation. In our second theme, code co-occurrences are "boredom", "loneliness", "daily activity" and "healthy tips". We extracted sample posts from participant 003 and participant 007:

Participant 003, a community moderator, shares a picture of herself exercising at home and posted:

*"Eating banana, drinking turmeric plus proper diet and toper exercise to make our immune system healthy ..one simple way of fighting. . CORONA VIRUS."*

Participant 007 regularly shares a picture of the food she prepared. In this post, she shared:

*"Cooking makes me forget the stress of the pandemic. Today I cooked steamed milkfish with my homemade sauce since I cannot go out to eat. If you want my recipe I can share it with you."*

In the early months of the pandemic, health authorities emphasized the need to minimize mobility to prevent COVID transmission through community lockdowns. For community-dwelling older adults, this policy equates to losing social interactions, physical inactivity, and a lack of physical community involvement (Sun et al., 2021). As a platform, Facebook communities provided an avenue for older adults to share their daily activities voluntarily, creating an affordance for knowledge dissemination. For Filipino older adults who are not used to social isolation, social media has become a channel to combat the adverse psychological effects of the lockdown. Research argues that in late life, older adults value opportunities where they share their knowledge voluntarily, and Facebook has become an instrument for knowledge sharing during the pandemic (Dury et al., 2022). This volunteerism encourages social participation and community involvement that can serve as a compensatory buffer to the harmful effects of social isolation (Lee et al., 2015)

#### 4.3 Information validation

While mainstream Facebook spaces have become a source of misinformation during the pandemic, the community served as an avenue to refute circulating online misinformation. Community members posted information captured in their timeline, shared it in the community, and explained why it is considered misinformation. Given the infancy of scientific information on COVID-19 and changing policies on community lockdowns, older adults resorted to the community as an avenue to invalidate online misinformation. Our last theme included code co-occurrences of "fake news", "fact-checking", "government information" and "expert advice". For this theme, participant 002 and participant 004 explain why a piece of information is a misinformation:

Participant 002, shared an infographic from WHO referring to recent information on the virus origins circulating online:

*"It is not true that COVID was deliberate. The DOH reported that according to WHO, origins of coronavirus is still unknown. We all just have to get our facts from reliable sources. Fellow seniors, do not share unverified information or the community admin might kick you out"*

Participant 004 shared a screenshot of an announcement from the Department of Health:

*"Police and the armed forces have already spoken. The health authorities supported this. It is not true that by tomorrow, helicopters will spray pesticide to kill the virus. The government information is clear, PESTICIDES cannot kill corona."*

A growing concern in the latter part of the pandemic was the proliferation of COVID-19 misinformation. Although Facebook and other social media platforms launched partnerships with fact-checking organizations to fight misinformation (Cotter et al., 2022; Wardle & Singerman, 2021), the early months of the pandemic saw older adults within the community sharing opinions and information to invalidate unverified online information. This affordance allowed a community of older adults to engage in fact-checking activities from the viewpoint of late life. Some members will share unverified information in the form of an inquiry that can be validated by others inviting a collective effort to fight misinformation. It has been found that older adults are most vulnerable to misinformation due to cognitive decline, but as they age, they rely on life experiences to assess whether a piece of online information requires further scrutiny (Brashier & Schacter, 2021).

## **5. Conclusion, Limitations, and Implications**

Our qualitative inquiry using social media within an online community of older adults revealed that informal learning, knowledge dissemination, and fact-checking misinformation are learning affordances of the Facebook community platform during the COVID-19 pandemic. While our results strengthen prior research that social media goes beyond fostering social connections, our study limitations should be considered for future related investigations. First, our thematic results can be validated using quantitative studies to test whether these affordances influence the participation of our older adults in an online community. Second, while our objective was to capture learning affordances in the early phase of the pandemic, comparing how these have evolved with factors such as vaccine hesitancy and automated fact-checking features of Facebook being implemented will be interesting. Third, our participants are community-dwelling older adults, given that the study was conducted in the Philippines. Future studies can include similar Facebook communities within and outside the Philippines to explore more learning affordances to further our research findings. Future investigations can replicate our methodology to analyze a private Facebook community of older adults in a geriatric facility to provide a comparative analysis of learning affordance between these two groups. Lastly, other studies advocated for a multi-site netnography for better research reproducibility.

In this study, we found that Facebook communities can offer opportunities to participate in cognitive activities that compensate for the lack of social participation during the early stages of the pandemic. These are learning affordances that can be considered by stakeholders involved in aged care to craft social media-based interventions. We also found that older adults can collectively learn through computer-mediated communication via Facebook. Learning institutions can consider this modality an option in academic activities involving older adults as we slowly transition toward the new normal. Lastly, it will be timely to look beyond the ageist perspective of older adults as incapable of using social media platforms due to cognitive decline. As our study has established, older adults utilize Facebook to acquire, disseminate and validate online information. These learning affordances can be maximized to provide technology-enabled interventions against late-life cognitive decline.

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