

# Social Media Involvement Among Senior Citizens

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**Abstract:** This research non-experimental, quantitative research, design using exploratory factor analysis was used in the study. This study investigates the involvement of senior citizens in social media platforms, particularly Facebook, focusing on the factors influencing their engagement and its implications on their well-being. Using a quantitative research design with Exploratory Factor Analysis, three important dimensions were revealed: psychological and emotional well-being, social connection and information, and entertainment and self-expression. Findings indicate that social media serves as a vital tool for seniors that can address their emotional needs, reduce their loneliness, foster their social ties, and provide avenues for leisure and self-expression. The research underscores the importance of tailored strategies to bridge the digital gaps, enabling senior citizens to maximize the benefits of social media while mitigating challenges.

**Keywords:** Enter key words or phrases in alphabetical order, separated by commas.

## 1. Introduction

The fast digital transformation has redefined how many individuals communicate, access information, and create bonds. Despite having these advantages, the adoption of social media among senior citizens still presents challenges. Many older adults have faced barriers to digital literacy, which leaves them at risk of social isolation in this increasingly digital world (Mullins, 2020; Yoo, 2021). According to Anderson and Perrin (2017), what adds to these obstacles are the physical challenges, leading to a greater gap in the digital divide that limits these older adults from engaging fully in social networks. In addition, factors like self-efficacy, fear, and physical functioning often limit seniors from fully utilizing digital platforms. (Mohan et al., 2019).

Although these challenges exist, social media still provides unique opportunities for senior citizens to overcome traditional social interaction and engagement barriers.

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Frequent social media communication is associated with lower levels of loneliness among older adults, which highlights the importance of digital literacy and support in mitigating social isolation. Platforms such as Facebook, YouTube, and Twitter can enable seniors to connect with their families, friends, and peers, which fosters a sense of belonging and reduces loneliness. These platforms offer a space for them to express themselves, share their experiences, and stay informed about current events and local issues. Through engaging in these online activities, their emotional well-being is enhanced, and they are provided with an outlet for self-expression and creativity (Zhang, Schimmele and Hou, 2020).

Engaging in social activities and maintaining social networks have a positive impact on the cognitive functioning of older adults, and this helps them stay intellectually stimulated and informed (Kelly et al., 2017). Civic engagement, including volunteerism, enhances the well-being of older adults and empowers them to actively participate in their communities (Martinson & Minkler, 2006), and engagement in social media activities helps them improve their cognitive functioning (Quinn, 2018).

## 2. Objective

The general objective of this study is to explore social media involvement among senior citizens. It seeks to uncover the underlying dimensions that drive their participation in social media platforms and contribute to a deeper understanding of how these factors shape their engagement and its potential implications for their overall well-being, social connections, and digital inclusion. It intends to provide insights that can inform strategies to enhance their digital experiences and address challenges they may encounter.

## 3. Review of Related Literature

Senior citizens, aged 60 and above, tend to focus on leading meaningful and fulfilling lives, striving for intimacy while avoiding despair and regret. Erikson's (1950) theory of psychosocial development outlines eight stages of life, each contributing to a sense of closure and completeness when successfully navigated. For individuals aged 60 and older, they

may be experiencing the stages of generativity vs. stagnation or ego integrity vs. despair. Generativity relates to their contributions to society and connections with the next generation, while ego integrity reflects a sense of fulfilment and acceptance of a well-lived life. In relation to our study, Erikson's theory provides a guide in understanding the developmental stage of senior citizens and its influence on their engagement with social media.

Erikson's theory is also evident in the recent study by Castillo et al. (2023) on senior citizens living alone who use social media. The researchers identified thematic structures and categories in their interviews with senior citizens aged 65 and above, focusing on how they engage with their environment through social media. These thematic structures include corporeality, relationality, temporality, spatiality, and materiality.

#### A. Psychological and Emotional Well-being

Castillo et al. (2023) identified five thematic structures that reflect senior citizens' experiences and adaptations: corporeality, which involves acknowledging priorities, limitations, physiological frailties, and fostering a positive mindset; relationality, focusing on maintaining and strengthening connections; temporality, emphasizing reflections on joyful memories and anticipation of the future; spatiality, which relates to feelings of belonging; and materiality, showcasing their navigation and use of technology. These themes underline the adaptability of senior citizens in embracing challenges while fostering mental and emotional well-being.

Both the study findings and related research stress the significance of mental health for senior citizens, particularly as they engage with social media. This medium supports their emotional resilience and connection to the broader world, aligning with their need to thrive during this meaningful life stage.

#### B. Social Connection and Information

Zhou et al. (2022) emphasised the importance of social media in creating online "senior communities" where older adults could interact with peers who share similar life experiences and interests. These communities offered a sense of belonging and support that needed improvement in offline settings. Such virtual interactions helped mitigate loneliness and provided avenues for emotional expression, significantly improving seniors' understanding of social connection.

Moreover, Huang and Liao (2020) in which they discovered that seniors who regularly used social media platforms to consume news also indicated higher levels of civic and political participation. They were aware of significant local concerns and were more inclined to take part in community debates. Seniors are keeping up with current events by using social media sites like YouTube, Facebook, and Twitter.

#### C. Entertainment and Self-expression Needs

According to Yingying et al. (2024) in the study Exploring Senior Citizens' Requirements and Expectations in Social

Media Usage: A Maslowian Perspective, social media offers senior citizens an open platform for additional mental entertainment options. It was found that most older people prefer highly entertaining and engaging content when watching short form videos. Enjoying these contents does not add to the stress of real-life responsibilities. With the gradual easing of outdoor activities, senior citizens now have the opportunity to integrate online and offline activities to meet their entertainment needs. Emphasizing the richness and diversity of short video content, a wide array of options positively impacts senior citizens' mental well-being and mitigates the adverse effects of excessive usage.

Yingying et al. (2024) added that some seniors utilize short video software for specific purposes: regularly follow video bloggers and gravitate towards particular content...Through this ongoing process of enhancing their social presence, older adults develop social expectations for themselves. Additionally, as they continuously present themselves, individual users better understand their role positioning and self-image shaping

### 4. Methodology

This chapter includes descriptions of the method to be used, sources of data, the data gathering instruments, sampling technique, procedure of the study, and statistical treatment.

#### A. Research Design

This study employs a quantitative research design to systematically correct, analyze, and interpret numerical data. According to Creswell (2014), quantitative research is typically used to examine relationships between variables, test theories, or make predictions based on statistical analysis. This design is often structured, with a focus on objectivity, measurement, and reliability.

To investigate the potential underlying dimensions that contribute to the involvement of senior citizens in social media, this study used Exploratory Factor Analysis (EFA). EFA is a technique used to identify the underlying relationships or dimensions between a large set of observed variables. The goal of EFA is to find a small number of latent variables, called factors, that can explain the patterns of correlations among the observed variables" (Tabachnick & Fidell, 2013).

#### B. Sources of Data

In this study, the researchers conducted a survey of senior citizens involved in social media in various places in Davao Region through random sampling. The researcher used a researcher-made questionnaire that is composed of 30 items using a Likert scale response system. There were 156 participants, and each item is anchored on the research idea in determining the factors that made them involved in social media. The data gathered were tallied, summarized, and subjected to statistical treatment.

#### C. Data Gathering Instrument

In this study, the researcher used a researcher-made questionnaire composed of 30 items that corresponds to the

involvement of senior citizens in social media. According to Fink (2013), a researcher-made questionnaire is a customized tool developed for a particular study to gather data that are specific to the researcher's questions or hypotheses. To ensure validity, the researcher-made questionnaire was validated by a panel that provided feedback for item clarity and relevance. The researcher used an ordinal scale response system in questionnaires ranging from "Always" to "Never" to gather participant responses. This researcher-made questionnaire will be the tool to help get the data needed for this study.

The questionnaire was evaluated for reliability for validity using Cronbach's Alpha. It is a measure of internal consistency, which analyses the relationship between the items on the questionnaire. A high Cronbach's Alpha value of 0.709 indicates a high level of internal consistency, suggesting that the items are reliably measuring the intended construct and the instrument provides consistent and stable results, providing confidence in its ability to measure the targeted construct effectively (Nunnally & Bernstein, 1994).

*D. Sampling Technique*

In this study, the researchers employed random sampling to select a sample of 156 participants for the survey questionnaire. According to Creswell (2014), random sampling is a technique in which every member of the population has an equal chance of being chosen for the sample. This approach reduces bias and ensures that the sample accurately represents the population. The primary goal of using random sampling is to prevent selection bias and improve the generalizability of the findings to a larger population of senior citizens. This method is particularly advantageous in quantitative research, as it minimizes the likelihood of selection bias and helps create a sample that reflects the diversity of the target population. Consequently, this enhances the external validity (or generalizability) of the study's findings (Fink, 2013; Salant & Dillman, 1994).

*E. Procedure of the Study*

In conducting this study, the researchers proposed a concept paper and presented it to the panel during the research proposal. After the research proposal, the researchers make the first three

incorporated during the finalization of this paper. The ethical considerations are strictly observed during the entire study.

*F. Exploratory Factor Analysis (EFA)*

The main statistical method employed in this study in order to determine the underlying dimension in the involvement of senior citizens in social media. EFA is a multivariate statistical technique used to examine the structure of a set of observed variables and reduce them into a smaller number of latent variables (factors) (Fabrigar et al., 1999). This technique is particularly useful when the researcher does not have a predefined theory or factor structure and seeks to explore how different variables relate to one another (Field, 2013).

**5. Presentation, Analysis, and Interpretation of Data**

Presented in this chapter are the results of the Exploratory Factor Analysis (EFA) as well as the interpretation and the analysis of the respective results. Tables were used to illustrate the findings of the study and the discussion and interpretation of tabular and graphical data were made for easy understanding.

*A. Sampling Adequacy Requirement*

The data gathered was subjected to Exploratory Factor Analysis (EFA). Table 1 presents the analysis of the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's test of Sphericity used in factor analysis to assess the suitability of the data for factor analysis.

In this case, the result of the Kaiser-Meyer-Olkin measure of sampling adequacy provided a value of 0.95, which indicates that the sampling adequacy of the study is average. This suggests a significant level of information overlap among the variables or the existence of a robust partial correlation. Therefore, it is reasonable to carry out factor analysis. According to Kaiser (1974), accepting values higher than 0.6 are barely acceptable which indicates that there is no need to collect more data.

Table 1  
KMO and Bartlett's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.950
Bartlett's Test of Sphericity	Approx. Chi-Square 4423.504
	df 435
	Sig. .000

Table 2  
Total variance explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	17.245	57.484	57.484	17.245	57.484	57.484	7.932	26.438	26.438
2	1.722	5.74	63.224	1.722	5.74	63.224	5.936	19.787	46.225
3	1.222	4.073	67.296	1.222	4.073	67.296	5.344	17.814	64.039

chapters of the study and present them during the proposal defense. Then, the researchers make a researcher-made questionnaire that they will use in data gathering and ask for permission to conduct the study in various places in the Davao region through a letter. The researcher then identified the respondents, the senior citizens involved in social media. The collected data were analyzed, interpreted, and validated based on scholarly references. The final paper was presented to the panel, wherein insights and recommendations were

Further, Bartlett's Test of Sphericity with a chi-square value of 4423.504, degrees of freedom (df) value of 435, and p-value of <0.000 ( $p < 0.05$ ) indicates that the correlation matrix is significantly different from the identity matrix, supporting the presence of underlying factors, hence, confirming that the sample used is suitable for the study and that factor analysis is appropriate as the treatment to utilize as the analytical tool. Overall, the result indicates that the sampling size employed in

the study is sufficient to proceed to factor analysis.

In Table 2, the exploratory factor analysis (EFA) conducted on the dataset identified three factors with corresponding eigenvalues of 17.245, 1.722, and 1.222. Eigenvalues represent the total amount of variance that can be explained by the identified factors. These values provide insight into how well the factors capture the underlying patterns of variation in the data and serve as an important metric for evaluating the goodness of fit of the EFA model (Yong & Pearce, 2013).

By examining the variance percentages in the Total Variance Explained Table, we can observe that the first factor explains 26.438 of the total variance, indicating that it accounts for a significant portion of the variability in the dataset. The second factor explains 46.225% of the variance, and the third factor explains 64.039 of the variances. Therefore, the first factor contributes the most to explaining the variance, while the third factor has the smallest impact.

When considering the three identified factors collectively, they account for a total variance of 67.296%, as indicated in the table. This means that these three factors capture the majority of the underlying variation in the dataset, providing a meaningful representation of the data's structure.

### B. Rotated Component Matrix with the 27 Attributes

As presented, there are twenty-seven items categorized into three dimensions. As shown in the table, three items are not included in the categorization of three dimensions. These items have faced validity issues and low commonalities and were removed from the model. This is supported by Hair, et al., (2014) who posited that items having no sense and not reflective with the factor can be removed in the model.

Meanwhile, the scree plot was used to graphically determine the number of the constructs that made the senior citizens involved in social media.

Figure 1. demonstrates the utility of the scree plot in determining the optimal number of hidden items to retain in the analysis. Eigenvalues with a coefficient of one or above indicate the presence of three distinct components in this analysis (Yong & Pearce, 2013).

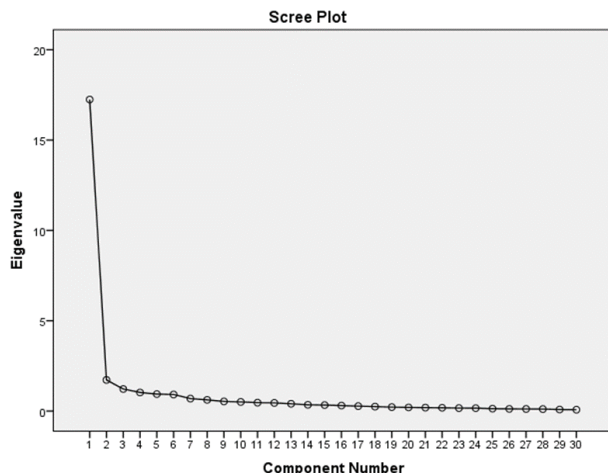


Fig. 1. The scree plot

This study was made to develop a framework based on the involvement of senior citizens in social media. In relation, the first objective is to determine the different dimensions. By employing Exploratory Factor Analysis (EFA), three dimensions were extracted from the data collected through a 30-item survey questionnaire given to the respondents of the study.

### C. Psychological and Emotional Well-Being

Table 3 shows the 13 items that fall under the first dimension, the psychological and emotional well-being, and their corresponding loading coefficients. As shown, the item *'I feel that using social media keeps your mind active and engaged'* obtained the highest loading coefficient of 0.746. The item *'I think social media enhances my overall well-being and happiness'* obtained a loading coefficient of 0.732. The item *'I feel that social media improves my overall mental and emotional well-being'* obtained a loading coefficient of 0.723. The item *'I feel positive emotions after spending time on social media'* obtained a loading coefficient of 0.718. The item *'Social media boosts my self-esteem or body image'* obtained a loading coefficient of 0.674.

Furthermore, the item *'I am delighted to do tasks due to social media'* obtained a loading coefficient of 0.674. The item *'I believe that social media positively impacts my daily life'* obtained a loading coefficient of 0.671. The item *'My day starts with social media'* obtained a loading coefficient of 0.661. The item *'I am addicted to social media'* obtained a loading coefficient of 0.657. The item *'I am interested in exploring the use of social media'* obtained a loading coefficient of 0.635. The item *'I feel that social media helps combat feelings of loneliness'* obtained a loading coefficient of 0.60. The item *'I find it easy to use social media without assistance'* obtained a loading coefficient of 0.55. The item *'I feel confident to present a perfect image of myself on social media'* obtained a loading coefficient of 0.509.

Senior citizens often face challenges such as frailty and limited social interaction, as they are frequently confined at home or experience restricted mobility. Social media has become a valuable tool for them to maintain a sense of connection with the world and extend their sense of self. By engaging with social media, they can cultivate a positive mindset and enhance their psychological and emotional well-being.

Our findings show that social media helps keep their minds active and engaged, which significantly contributes to their overall well-being. Many senior citizens report experiencing positive emotions while using social media, which in turn boosts their self-esteem and body image. It has become an integral part of their daily lives, sometimes even leading to a level of dependency.

One of the key reasons for this reliance is that social media helps combat feelings of loneliness. It also provides a platform for self-expression, allowing them to feel confident and curious about exploring new aspects of social media. Remarkably, many seniors have become adept at navigating social media

Table 3  
Rotated matrix with group attributes under psychological and emotional well-being

Item No.	Attributes	Factor Score	Dimension
25	I feel that using social media keeps your mind active and engaged.	0.746	Psychological and Emotional Well-being
12	I think social media enhances my overall well-being and happiness.	0.732	
19	I feel that social media improves my overall mental and emotional well-being.	0.723	
24	I feel positive emotions after spending time on social media.	0.718	
9	Social media boosts my self-esteem or body image.	0.691	
11	I am delighted to do tasks due to social media.	0.674	
17	I believe that social media positively impacts my daily life.	0.671	
29	My day starts with social media.	0.661	
10	I am addicted to social media.	0.657	
26	I am interested in exploring the use of social media.	0.635	
6	I feel that social media helps combat feelings of loneliness.	0.6	
16	I find it easy to use social media without assistance.	0.55	
7	I feel confident to present a perfect image of myself on social media.	0.509	

independently, highlighting its role in empowering them to stay connected and engaged.

This finding supports Castillo et al. (2023), where they identified 'corporeality' as a primary thematic category. Corporeality refers to how individuals relate and interpret their lived experience. Among the thematic structures within is 'having a positive mentality'. Both our findings and parallel studies highlight the importance of senior citizens focusing on their mental health and emotional well-being, especially as they are in a significant stage of their lives. This focus is also reflected in how they engage with social media.

#### D. Social Connection and Information

Table 4 shows the eight items that fall under the second dimension, the coping strategies and their corresponding loading coefficients. As shown, the item 'I rely on social media to stay informed about family news and updates' obtained the highest loading coefficient of 0.829. The item 'I use social media to communicate with people outside of my immediate family through social media (e.g., friends, acquaintances)' obtained a loading coefficient of 0.74. The item 'I feel that social media enhances my connection with family and friends' obtained a loading coefficient of 0.693. The item 'I use social media to reconnect old friendships' obtained a loading coefficient of 0.659. The item 'I feel that social media helps me stay updated with trends and current events' obtained a loading coefficient of 0.639. The item 'I feel that social media helps me stay updated with trends and current issues' obtained a loading coefficient of 0.583. The item 'I use social media to get more friends' obtained a loading coefficient of 0.558. And lastly, the item 'I feel overwhelmed by the amount of information on social media' obtained the lowest loading coefficient of 0.516.

Table 4  
Rotated matrix with group attributes under social connection and information

Item No.	Attributes	Factor Score	Dimension
27	I rely on social media to stay informed about family news and updates.	0.829	Social Connection and Information
22	I use social media to communicate with people outside of my immediate family through social media (e.g., friends, acquaintances).	0.74	
15	I feel that social media enhances my connection with family and friends	0.693	
21	I use social media to reconnect old friendships.	0.659	
18	I feel that social media helps me stay updated with trends and current events.	0.639	
20	I feel that social media helps me stay updated with trends and current issues.	0.583	
30	I use social media to get more friends.	0.558	
28	I feel overwhelmed by the amount of information on social media.	0.516	

Social media has become an important part of communication as well as in accessing information for many, including senior citizens. For senior citizens who are experiencing loneliness and isolation, social media helps them overwhelmed by the amount of information on social media from communication with their loved ones like their family and friends that enhances their connection, communicating with people outside of their immediate family through social media, as well as reconnecting with old and getting more friends. Moreover, social media keeps them informed about news and updates with their family, as well as to stay updated with current trends, events, and current issues.

This finding is in support of Zhou et al. (2022), in which they emphasised the importance of social media in creating online "senior communities" where older adults could interact with peers who share similar life experiences and interests. These communities offered a sense of belonging and support that needed improvement in offline settings. Such virtual interactions helped mitigate loneliness and provided avenues for emotional expression, significantly improving seniors' understanding of social connection.

Furthermore, the findings also align with Huang and Liao (2020) in which they discovered that seniors who regularly used social media platforms to consume news also indicated higher levels of civic and political participation. They were aware of significant local concerns and were more inclined to take part in community debates. Seniors are keeping up with current events by using social media sites like YouTube, Facebook, and Twitter.

#### E. Entertainment and Self-Expression

Table 5 shows the six items that fall under the third

dimension, entertainment and self-expression. As shown in the

item 'I use social media for entertainment purposes (watching videos, reading posts)' obtained a loading coefficient of .782. The item 'I am happy connecting with my friends using social media' obtained a loading coefficient of .693. Another item 'I enjoy checking my social media account' obtained a loading coefficient of .654. The item 'I use social media to read news or stay updated on current events' obtained a loading coefficient of .601. In addition, the item 'I share posts or content (e.g., photos, updates, links) on social media' obtained a loading coefficient of .589. The item 'I share or post content

events. The fact that 'I rely on social media to stay informed about family news and updates' had a high loading coefficient of 0.829 is significant because social media helps in fostering relationships and sense of community and belongingness. This is supported by studies by Zhou et al. (2022) and Huang and Liao (2020), where they note that online senior communities are helping in mitigating loneliness and increasing participation in societal issues.

### 3) Entertainment and Self-expression

Social media also serves as a tool for senior citizens to be

Table 5  
Rotated matrix with group attributes under entertainment and self-expression

Item No.	Attributes	Factor Score	Dimension
5	I use social media for entertainment purposes (watching videos, reading posts).	0.782	Entertainment and Self-expression
1	I am happy connecting with my friends using social media.	0.693	
2	I enjoy checking my social media account.	0.654	
4	I use social media to read news or stay updated on current events.	0.601	
8	I share posts or content (e.g., photos, updates, links) on social media.	0.589	
13	I share or post content about happy gatherings.	0.585	

about happy gatherings' obtained a loading coefficient of .585.

The findings of this study imply that entertainment is the strongest driver of social media use among senior citizens. Which is closely followed by social connection and routine engagement. While self-expression and staying updated on current events also contributed, they are comparatively secondary. This dimension captures the multifaceted ways individuals interact with social media platforms to satisfy personal needs, such as entertainment, emotional connection, and self-expression. The findings also imply that social media offers senior citizens an open platform for additional entertainment options. The data suggests that senior citizens are driven by the need for connecting with friends and viewed social media as a tool for maintaining friendships. Reveals a clear pattern in user behaviour on social media.

This finding agrees Yingying et al. (2024) that the needs of senior citizens using applications are summarised: business, entertainment, social, emotional, cognitive, and self-expression. Because senior citizens view social media as both a leisure and entertainment tool and a platform for learning new skills and sharing life stories. This supports Zhu, et.al. (2024) that senior citizens now have the opportunity to integrate online and offline activities to meet their entertainment needs due to their gradual easing of outdoor activities.

## F. Framework Developed Based on the Findings

### 1) Psychological and Emotional Well-Being

Senior citizens use social media as a tool to support their psychological and emotional well-being in order to maintain a positive mindset. Items that gained significant loadings are 'I feel that using social media keeps your mind active and engaged' and 'I think social media enhances my overall well-being and happiness.' highlighting the role of improving mental health and emotional stability, which aligns with Castillo et al. (2023), which emphasises the importance of a positive mentality as part of the thematic category of "corporeality".

### 2) Social Connection and Information

Social media bridges social connections for senior citizens, enabling them to stay updated with family, friends, and current

entertained and express themselves. It is reflecting on how 'I use social media for entertainment purposes (watching videos, reading posts)' gained a coefficient loading of 0.782, which shows that entertainment is a determining factor. This is supported by Yingying et al.'s (2024) and Zhu et al.'s (2024) studies, which noted that senior citizens use social media for leisure, learning, and integrating online and offline activities.

## 6. Conclusion

Social media involvement among Filipino senior citizens or those aged 60 years old and above is found to significantly contribute to the latter's psychological and emotional well-being. It is one of their sources of information, entertainment, and self-expression, as well as one of their ways to maintain, reconnect, and strengthen relationships. While social media bridges the gap in digital literacy and helps alleviate feelings of loneliness and isolation amongst senior citizens, the study also underscores their need for support in navigating technological barriers to reach their full participation. The study highlights the potential of digital platforms, especially Facebook, in helping senior citizens face challenges that come with their age like digital exclusion and technological fears and limitations.

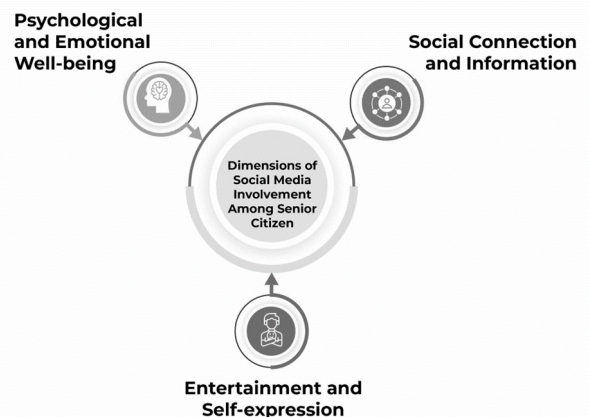


Fig. 2. The dimensions of social media involvement among senior citizen

## 7. Recommendation

### A. The Researchers Recommend the Following:

#### 1) Digital Literacy Training and/or Workshop for Senior Citizens

Hold training and/or workshops that aim to enhance the skills of senior citizens to break down digital barriers and an opportunity for older adults to feel more confident using the internet, keep in touch with friends and family, be able to handle future technology changes, and be digitally included.

#### 2) Community-Based Initiatives

Online communities for senior citizens can be established, can be a powerful way to empower senior citizens by facilitating their ability to remain socially active, share their accumulated wisdom, and engage in meaningful activities.

#### 3) Balanced Social Media Usage Awareness

Promote awareness on healthy social media usage to prevent addiction,

#### 4) Accessible Technology Design

Developers should consider the needs of senior citizens by ensuring user-friendly interfaces and accessibility features.

#### 5) Conduct Further Research

Pursue studies that aim to evaluate the long-term impacts of social media involvement on the cognitive and emotional health of senior citizens.

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