



Impacts of Family Messages through Social Networks on Family Planning Behaviors: Vietnam Case Study

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ABSTRACT

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Social media has become an important channel for communicating family planning policy in Vietnam. Local governments in this country are using it as the primary channel to spread family planning messages in remote areas. To add to the evidence of previous studies on the role of social media in policy communication, to enrich the research literature, and to make policy recommendations to the Government of Vietnam, this study explores The impact of family planning messages via social networks on family planning behavior. This study was conducted through a cross-sectional survey using an intentional sampling technique (n=200). A multivariable linear regression model was applied to test the hypothesis. Research results show that the factors of attitude to social networks, awareness of family planning messages, and behaviors for family planning have a positive and meaningful relationship with readiness for family planning. Furthermore, the factor awareness of family planning messages has the most significant impact. This result implies that the government and family planning policymakers in Vietnam need to pay attention to social networks and the recipients' perception of family planning messages.

Keywords:

social networks;
family planning;
attitude; awareness;
behaviors

INTRODUCTION

Technology plays a very pervasive role in modern society. The dominance of technology in our daily lives involves not only work, business, and travel but also relationships. In this day and age, people can meet each other online and continue the entire conversation before meeting in person. However, technology can also interfere with those conversations (Henline & Harris, 2006).

This technology is also filling the gaps in many people's lives. It is slowly becoming an inevitable tool as more and more people find it difficult to live without technology. However, technology also changes family routines and disrupts family time (Huisman, Edwards, & Catapano, 2012). Multigenerational family relationships are increasingly diversified due to (a) changing family structures related to divorce and separate family relationships; (b) an increase in the life expectancy of relatives; (c) a variety of intergenerational relationships (Bengston, 2001).

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Communication through social networks characterizes modern lifestyles and relationships, including family interactions (Procentese, Gatti, & Di Napoli, 2019). People today use cell phones to pursue partnership goals in all phases of a relationship, including formation (meeting, screening, and getting to know new partners), maintaining existing relationships, and breaking up. Cell phone usage depends on the type of relationship (Bergdall, 2012).

We are in an age of unprecedented technology. Few articles in family journals address online behavior, intimacy patterns, and the influence on how couples and families communicate through technology. The purpose of this article is to use a multi-theoretical model to describe how technology is affecting married and family life. Recommendations for future research and applications are presented (Hertlein, 2012).

LITERATURE REVIEWS

The impact of social media on family relationships

The development of technology and the increasing popularity of social media make people dependent on online forms of social interaction and reduce the social community's participation in real life (Rajeev, Soans, & Aroor, 2016).

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Social networks are now a source of spiritual and cultural wealth and valuable information; they familiarize us with contemporary social, political, and other developments and trends and provide an opportunity to learn about the world. On the other hand, in some families where the media predominates, direct and emotional contact is rare and has been replaced by virtual relationships such as communication via social networks (Rozana Petani & Matilda Karamatic Brcic, 2014). Many studies show the impact of social networking on family relationships in both positive and negative directions. Excessive social media affects romantic relationships due to jealousy, envy, suspicion, stalking, and infidelity. Social media use is also associated with low relationship commitment due to the presence of alternative attractions online and also due to time and emotional investments made externally. Complex relationships (Abbasi & Alghamdi, 2017). The use of technology that enhances proximity and decreases partner proximity is a significant predictor of relationship satisfaction (Campbell, 2014). The degree of preference for online social interaction, depression, loneliness, distress, etc., if using social networks lacks guidance (Caplan, 2003).

Emerging technologies allow close relationships to be maintained, foster a sense of connection, and help students better adapt to new environments (Little & Seller, 2009). Mothers and mothers-to-be often become social media users sharing their emotions and real-life parenting experiences (Boursier, 2018). A significant link between increased social-emotional difficulties in toddlers and low-income parents' tendency to use mobile technology to reassure their children or keep them quiet, especially among parents who exhibit lower perceived control over their children's behavior and development (Radesky, Peacock-Chambers, Zuckerman, & Silverstein, 2015).

The impact of family planning messages on family planning behavior

Many studies found that family planning messages positively affect dependent family planning behavior and the frequency and mode of receiving messages (L'Engle et al., 2012), increasing awareness of the search for health problems (Ross, Hart, Jorm, Kelly, & Kitchener, 2012). Family life messages related to adult family happiness (Wang, Wang, Viswanath, Wan, Lam, & Chan, 2014). The family planning notices can positively or negatively affect the recipient (Schnepper, Blechert, & Stok, 2020). Messages influence lifestyle behavior in various forms (Daniel, Ayten, & Bukola, 2021), choice (Bannon & Schwartz, 2006), encourage motivating or preventive behavior (Gallagher, & Updegraff, 2012), which is related to intention (Marroquín-Ciendúa, Sandoval-Escobar, & Sierra-Puentes, 2020).

Socio-economic development policies and family planning programs place particular emphasis on social networks. The most significant policy challenge is the weak,

the illiterate. Therefore, building short, easy-to-remember family planning messages determines the effectiveness of policy implementation (Islam & Hasan, 2000). Studies show that the socialization and memorability of messages are enhanced by several features of repetition in their form and structure, responders' receptivity, content, and context (Stohl, 1986), and prominence (Hammond, 2021). Messages affect behavior (Yoshimura-Rank, 2013) and change behavior (Joseph, 2006). Statements relate to intent (Purva Abhyankar, Daryl & Rebecca Lawton, 2008). Negative messaging is more effective than positive messaging in the short term (Garg, Govind, & Nagpal, 2021). Women are exposed to family planning messages in the media and the use of contraceptives (Ahmed & Seid, 2020). Therefore, effective family planning notices in the mass media must be aware of the direct experiences of the message recipients (Borzekowski, 1996).

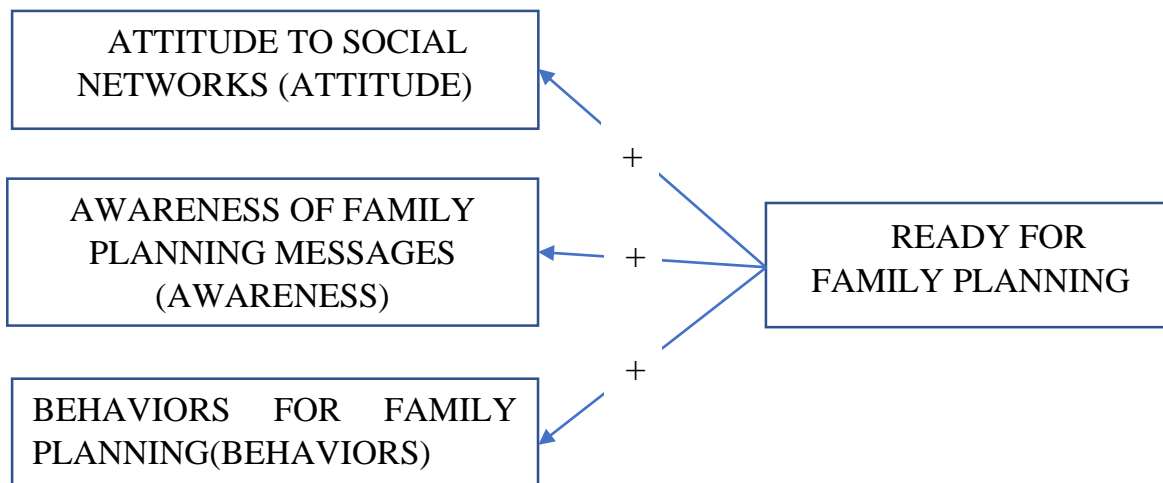
The impact of family messaging and social media on family planning behavior

Social media will continue to diversify family communication methods, acting as a mediator between family planning messages and intentions (Man Ping, Joanna, & Alice, 2015). According to the theory of planned behavior, the news of family inheritance through social networks affects the individual's perception as the subjective norm variable about the possible consequences of performing the behavior (Ajzen, 2010). Social media pressures the recipient of a message to participate or not to engage in conduct (Ajzen, 2006). Social anxiety is one of the most critical factors determining the effectiveness of goal-oriented cognitive and behavioral performance, affecting individuals' positive and negative motivation through the social control system. association (Curley et al., 1986; Trautmann et al., 2008; Vieider, 2009; Collins & Collins, 2002; Sen, 2008; Loewenstein, & Lerner, 2003).

Many studies found that social media is an informal channel for those involved to access family planning information. Through social media, participants describe they feel more comfortable sharing information about family planning because the digital space allows for greater privacy and reduces stigma regarding planning. Open family planning (Zinke-Allmang et al., 2022). Develop education-appropriate messages to convey family planning messages and avoid misconceptions (Abita & Girma, 2022). Many studies support that broadcasting family planning notices in the media is more likely to implement family planning measures. Exposure to family planning media messages strongly impacts current practice and intention to use family planning (Olaley & Bankole, 1994). The issue is how mass media can promote family planning (Olaley & Bankole, 1994).

From the research overview, the authors have built a research model (Figure 1) below:

Figure 1: The Research Model



Based on the literature reviews, the following hypotheses have been formed:

- H1. Attitude to social networks has a positive and meaningful relationship with ready for family planning.
- H2. Awareness of family planning messages has a positive and meaningful relationship with ready for family planning.
- H3. Behaviors for family planning have a positive and meaningful relationship with ready for family planning.

RESEARCH METHOD

The study was conducted in the Northwest region of Vietnam in September 2022. These places have many ethnic minorities living and participating in many family planning policies of the Vietnamese government. The survey participants were married adults. The research team used qualitative method through in-depth interviews with eight experts who are sociologists, public policy researchers, psychologists, and local civil servants to build the questionnaire (Thanh, Tung, Nguyen, Pham, & Nguyen,

2021; Nghi, Thu, & Dinh, 2022). The questionnaire was built based on the results of the literature reviews and experts' opinions and consists of two parts. Part 1 collects demographic information of research participants, such as age, gender, education, and occupation. Part 2 collects research participants' attitudes toward social networks and their perception of family planning messages.

After discussion and consensus among experts, an initial Vietnamese version of the questionnaire was created. A language expert then contributed to the creation of a final version of the questionnaire. This final version was pre-tested on 40 representative people for demographic characteristics such as age, sex, education, and occupation. Followed by minor tweaks were made to improve the question structure to make it easier to understand and apply it to the official survey. The questionnaire was sent directly to the respondents by purposeful sampling method. As a result, 200 valid votes were obtained, achieving a 100% response rate. Demographic information of study participants (Table 1).

Table 1: Demographic characteristics of survey participants

		Age					
		25-30 years		31-35 years		above 50 years	
		N	% of N	% of N	% of N	N	% of N
Gender	Female	19	20.2%	60	63.8%	15	16.0%
	Male	15	14.2%	75	70.8%	16	15.1%
Occupation	Other	14	20.0%	46	65.7%	10	14.3%
	Farmer	5	12.8%	28	71.8%	6	15.4%
	Housekeeper	7	21.9%	21	65.6%	4	12.5%
	Worker	8	13.6%	40	67.8%	11	18.6%
Education	Bachelor	10	17.2%	39	67.2%	9	15.5%
	High school	24	16.9%	96	67.6%	22	15.5%
Ethnic	Ethnic minority	24	16.6%	99	68.3%	22	15.2%
	Kinh people	10	18.2%	36	65.5%	9	16.4%
Location	Delta	10	18.2%	36	65.5%	9	16.4%
	High mountains	24	16.6%	99	68.3%	22	15.2%

RESEARCH RESULTS

SPSS 20 software was used to analyze the scale's reliability and the exploratory factor. The analysis results suggest removing and merging some observed variables to help the scale to evaluate concepts more accurately.

Analyzing the Reliability of the Scales

Testing the reliability of the scales through Cronbach's Alpha coefficient to identify and remove junk variables avoids creating misleading factors when analyzing exploratory factor analysis. Cronbach's Alpha coefficient is

variable in the range [0-1]. If a measurement variable has a total correlation coefficient of Corrected Item - Total Correlation ≥ 0.3 , then that variable meets the requirements (Cronbach, 1951; Taber, 2018). The verification criterion is that Cronbach's Alpha coefficient must be greater than 0.6, and the correlation coefficient of the sum variable in each scale must be greater than 0.3 (Hair, Black, Babin, & Anderson, 2010). Table 2 shows that the scales of the factors are all standard. Therefore, all the rankings of the elements are reliable and used for subsequent factor analysis.

Table 2: Summary of Reliability and Relative Minimum Variables of Scales

Scales	Number of variables observed	Reliability coefficients (Cronbach Alpha)	The correlation coefficient of the smallest total variable
ATTITUDE	6	0.829	0.537
AWARENESS	4	0.788	0.567
BEHAVIORS	6	0.852	0.596
READY	5	0.786	0.449

After testing Cronbach's Alpha, the author uses the Exploratory factor analysis (EFA) method to preliminary evaluate the scales' unidirectional, convergent and discriminant values. EFA was used by extracting the Principal Components Analysis Factor and Varimax rotation to group the factors. With a sample size of 200, the factor loading of the observed variables must be greater than 0.5; variables converge on the same element and are distinguished from other factors. In addition, the Kaiser-Meyer-Olkin (KMO) coefficient, which is an index used to consider the adequacy of factor analysis, must be in the range of $0.5 \leq$

$KMO \leq 1$ (Cerny & Kaiser, 1977; Kaiser, 1974; Snedecor, George, Cochran & William, 1989).

The analysis results in Table 3 show that all factor loading coefficients of the observed variables are greater than 0.5, Bartlett test with Sig meaning. = 0.000 with KMO coefficient = 0.911. The 21 items are extracted into four factors with Eigenvalues greater than one and Cumulative variance percent = 57.423%. Thus, the research model consisting of 1 independent variable and three dependent variables is used for multivariate linear regression analysis and regular variable regression to test the proposed hypothesis.

Table 3: Exploratory factor analysis

Rotated Component Matrix ^a				
	Component			
	1	2	3	4
BEHAVIORS6	.755			
BEHAVIORS5	.714			
BEHAVIORS2	.694			
BEHAVIORS1	.685			
BEHAVIORS4	.681			
BEHAVIORS3	.640			
ATTITUDE1		.736		
ATTITUDE5		.699		
ATTITUDE6		.679		
ATTITUDE2		.673		
ATTITUDE4		.666		
ATTITUDE3		.659		
READY4			.739	
READY3			.729	
READY2			.711	
READY5			.670	

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READY1			.558	
AWARENESS2				.800
AWARENESS3				.746
AWARENESS4				.680
AWARENESS1				.656
Extraction Method: Principal Component Analysis.				
Rotation Method: Varimax with Kaiser Normalization.				
a. Rotation converged in 6 iterations.				

Pearson correlation analysis

The author uses Pearson correlation analysis to analyze the correlation between quantitative variables. Table 4 shows that, at the 95% significance level, the correlation coefficient indicates that the relationship between the

dependent and independent variables is statistically significant (Sig. < 0.05). The magnitude of the correlation coefficients ensures that the variables used to analyze the multivariate linear regression model and the control variable regression are in the next step.

Table 4: Pearson correlation analysis results

Correlations					
		READY	ATTITUDE	AWARENESS	BEHAVIORS
READY	Pearson Correlation	1	.441**	.454**	.459**
	Sig. (2-tailed)		.000	.000	.000
	N	200	200	200	200
ATTITUDE	Pearson Correlation	.441**	1	.396**	.540**
	Sig. (2-tailed)	.000		.000	.000
	N	200	200	200	200
AWARENESS	Pearson Correlation	.454**	.396**	1	.514**
	Sig. (2-tailed)	.000	.000		.000
	N	200	200	200	200
BEHAVIORS	Pearson Correlation	.459**	.540**	.514**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	200	200	200	200

** . Correlation is significant at the 0.01 level (2-tailed).

Linear regression analysis and Moderation regression

Multivariable linear regression analysis on the relationship between 3 independent variables, attitude, awareness, behaviors, and one dependent variable ready. Table 4 shows that all the proposed hypotheses are accepted,

which means that both the independent variables have a statistically significant impact on the dependent variable. Furthermore, the coefficient of determination ($R^2 = 0.312$) proves that the built multivariable linear regression model fits the data set = 0.312%.

Table 5: The results of regression analysis

Coefficients ^a										
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	1.019	.221		4.612	.000	.583	1.455		
	ATTITUDE	.230	.072	.229	3.201	.002	.088	.372	.689	1.452
	AWARENESS	.237	.064	.260	3.714	.000	.111	.363	.716	1.396
	BEHAVIORS	.199	.075	.202	2.643	.009	.050	.347	.601	1.663

a. Dependent Variable: READY
b. $R^2 = 0.312$
c. $F = 29.579$; $df=3$; $p.value = 0.000$

Table 5 shows that the hypotheses proposed are accepted. The attitude variable affects the ready variable with a regression coefficient ($\beta = 0.230$) and 95 % significance level ($p.value = 0.000$). The awareness variable affects the ready variable with the regression coefficient ($\beta=0.237$) and the 95% significance level ($p.value = 0.002$). Behavior variable affects the ready variable with a regression coefficient ($\beta=0.119$) and 95% significance level ($p.value = 0.009$).

DISCUSSION AND CONCLUSION

Firstly, research results (table 5) show that the factor attitude to social networks has a positive and significant relationship with readiness for family planning. Today's results show that family planning messages significantly influence the willingness to implement family planning in previous studies. Specifically, studies have found that a positive attitude towards messages affects the ability to recall information as well as determines how memorable messages affect behavior (Smith, Nazione, LaPlante, Kotowski, Atkin, Skubisz, & Stohl, 2009; Medved, Brogan, McClanahan, Morris, & Shepherd, 2006). Family messages reflect long-term family relationships and result in happiness throughout the members' lives (Patricia A Thomas, Hui Liu, Debra, & Umberson, 2017). Messaging has a role to play in social media to maintain family relationships (Bargh & McKenna, 2004). Family planning messages on social media significantly influence the level of family planning implementation (Baym, 2007).

Secondly, research results (table 5) show that awareness of family planning messages has a positive and meaningful relationship with readiness for family planning. This result further adds to the evidence from previous studies that the correct perception of family planning messages in the mass media increases family planning behavior (Ajaero, Odimegwu, Ajaero, & Nwachukwu, 2016). However, attitudes towards family scheduling messages depend on social media and its use (Gehan EL Nabawy Ahmed Moawad, Gawhara Gad Soliman Ebrahim, 2016). The impact of social media on households can change the quality of family relationships and related actions such as family planning (Mesch, 2006).

Thirdly, research results (table 5) show that behaviors for family planning have a positive and meaningful relationship with readiness for family planning. This result further confirms the relationship between behavior and willingness to participate. The effects of behaviors for family planning through social media are predictive of preparedness for family planning behaviors (Nathanson, Eveland, Park, & Paul, 2002). The behaviors for family planning factors are influenced by factors such as media exposure, communication programs, and family planning education based on institutional basis necessary information (Goni &

Rahman, 2012) and the extent and scope of communication (Palen & Hughes, 2007). In addition, the behaviors for the family planning factor depend on the quality of social media messages so that those accessing the messages maintain or influence the intention to practice family planning behaviors (Pettigrew, 2009).

Finally, the results of this study show that social media has a significant role in communicating family planning policy. Effective communication depends on the relationship and exposure to family planning messages in the mass media (Ahmed & Seid, 2020). Local governments in Vietnam need to improve the quality and regularity of letters in the mass media and use other forms of communication, such as traditional organizations, blogs, and associations. Youth workshops to make family planning messages more acceptable (Ajaero, 2016). More research is needed to understand how family planning messages on social media affect family planning behavior (Radesky, Miller, Rosenblum, Appugliese, Kaciroti, & Lumeng, 2014).

LIMITATIONS

As with other empirical studies, there are limitations to this study that should be considered when discussing the results. First, our survey method reflects the subjective perception of the respondents toward the questions being investigated. Personal data has inherent disadvantages that are hard to avoid in surveys (Pakpour et al., 2016; Luan & Thanh, 2022). Our data is collected over a single period, so there are certain limitations in the analysis and evaluation of the results (Xin & Zhanyou, 2019; Chien & Thanh, 2022). Future research should combine cross-sectional study and long-term research..

The purposeful sampling method has limitations and does not fully reflect population characteristics (Tung, Hang, Huong, & Hop, 2021). Our survey was conducted in a Vietnamese cultural context. Therefore, more general statements are needed than could be made by applying the development research model and research conclusions to other countries. Other countries and cultures (Chien & Thanh, 2022). Further research should consider factors such as age, education, occupation, and the number of children exposed to family planning messages at different levels (Islam, Islam, & Banowary, 2009). Spatial-demographic variables for the relationship between access to mass media messages and the use of family planning (Ajaero, Odimegwu, Ajaero et al., 2013). Consider the cultural, geographical, and socioeconomic context (Ahmed & Seid, 2020). Moreover, Table 4 shows that the coefficient of determination R^2 of the model has a low rate (<0.5), affecting research reliability. The following study will increase the sample size to get an appropriate coefficient.

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CONFLICT OF INTEREST

All authors declare that there is no conflict of interest.

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