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The Determinants of Fake News Adaptation during COVID-19 Pandemic: A Social Psychology Approach

Choon Ling Kwek[1], Ke Shin Yeow[1], Li Zhang[1], Kay Hooi Keoy[2]*, and Genaro Japos[3]

[1]Faculty of Accountancy, Finance & Business, Tunku Abdul Rahman University College, Kuala Lumpur, Malaysia
[2]Institute of Computer Science and Digital Innovation, UCSI University, Malaysia
[3]School of Graduate Studies, North Eastern Mindanao State University, Philippines
*Email Correspondence: keoykh@ucsiuniversity.edu.my / alankeoy@gmail.com

Abstract

Because of COVID-19, people have felt the social distance and have resorted to the internet for information needs. Hence, fake news has become prevalent as people rely on information explored online. This research aims to examine the social-cultural impacts of fake news adaptation behavior from the social psychological perspective by investigating the relationship between collectivism, social support, sense of belonging, social endorsement, fear of missing out, perceived credibility, issue involvement, and adaptation on fake news among young adults in Malaysia. A quantitative research approach with an online self-administered survey was conducted, and 451 responses were obtained through snowball sampling. In the data analysis, measurement and structural equation modeling were adopted. Findings showed that the relationships among adaptation behaviors on fake news were significantly supported. This research consummates the understanding of the influences of social-cultural (collectivism) on the judgment formation of adaptation among internet users on fake news.

Keywords: adaptation, collectivism, social support, social endorsement, perceived credibility, issue involvement

1.0 Introduction

The influences of fake news are rampant during the worldwide pandemic of coronavirus disease 2019 (COVID-19) as the cognitive ability of audiences to differentiate the unreliable and false information is being affected by high fear, uncertainty, and unknowns during COVID-19 (United Nations, 2020). Fake news creates negative consequences for the brand reputation, effectiveness, consumers' trust, and loyalty by developing confusion and doubt in the audiences (Rapp & Salovich, 2018). Consequently, it is vital to identify and evaluate the determinants of fake news adaptation, especially during the COVID-19 pandemic.

The relationship between culture and fake news acceptance through the mediation of comprehensibility of internet users was elaborated in the extant literature (Rampersad & Athiyabi, 2020). This research aims to investigate the influences of the social culture (collectivism) on the fake news adaptation behavior of internet users through the psychological process of the collectivist while dealing with online news information.

Study Objectives

The purposes of this research are to: (1) examine the various positive relationships between collectivism, social support, social endorsement, sense of belonging, fear of missing out, perceived credibility, issue involvement and adaptation on fake news; (2) the mediator role of perceived credibility towards the various relationships between social support, social endorsement and adaptation on fake news; (3) the mediator role of fear of missing out towards the various relationships between sense of belonging, social endorsement and adaptation on fake news; (4) the mediator role of social endorsement on the various relationships between fear of missing out, collectivism and perceived credibility; (5) the mediator role of social support on the relationship between collectivism and perceived credibility; (6) the mediator role of sense of belonging on the relationship between collectivism and fear of missing out; and (7) the moderator role of issue involvement towards the relationship between perceived credibility and adaptation on fake news.

Literature Review

Adaptation on Fake News

Hutcheon (2013) defines adaptation as a strategy of participation as the audiences prefer to adapt the stories, shows, and films they are familiar with. Content adaptation can be measured through the engagement of the online information receivers on the online content such as likes, comments, shares or change own perception or behavior based on the online content generated (Akbar et al., 2015). Hence, adaptation to the fake news is considered as the participation of the online users on the fake news.

Collectivism

Bhawuk (2017) describes collectivism as a form of culture that cultivating the interdependent concept of self. Lobburi (2011) refers collectivism as the intensity of the relationship with family and friends, and the individual performance or behavioral outcomes. In general, collectivism can be described as the social culture that contains heavy dependency on relationship and concerns in group objectives rather than self-objectives.

Sense of Belonging

McBeath (2015) defines the sense of belonging as a human need which included the need to belong, need for affection between people, and the need for relatedness. Baumeister and Leary (1995) argue that the individual may experience higher risk by involving in a psychological disorder such as the feeling of grief, weakened immune system or even cause of anxiety and stress when an individual lacks a sense of belonging.

Fear of Missing Out

Fear of missing out is the desire to stay continually interconnected with others' doing (Wheeler, 2017). Talwar et al. (2019) state that fear of missing out is a form of psychological insufficiency incompetence and relatedness needs for an individual. Young adults will elicit a sense of anxiety when they see peers and friends post or communicate about the social events which they were absent (Alt, 2015).

Social Support

Baumeister and Leary (1995) posit that social support can be developed from social relationships and positive interactions with others. McBeath (2015) further argues that social and peer support will create a strong mental health implication as higher support from friends and family would reduce the possibility of an individual experiencing negative feelings and mental health implications.

Social Endorsement

Social endorsement reflects the voice of agreeing by observing the number of likes, shares

and comments of the post in social media such as Facebook (Borah & Xiao, 2018; Chung, 2016). Bond et al. (2017) reveal that endorsement constitutes heuristic cues when an individual develops decision-making. It further elaborates that the opinion or belief of an individual may be derived from the support of others acts.

Perceived Credibility

Wiggins (2017) defines credibility as believability, accuracy, trust and perceived reliability. Tandoc et al. (2018) argue that trust and credibility will be depended on the belief that news items are dependable, competent, and integrity. In other words, perceived credibility reflects the sense of trust of the internet users on the information.

Issue Involvement

Quick et al. (2011) refer issue involvement as the perceived importance of an issue in one's life. Individuals will be "involved" in an issue or message when the topic is intrinsic important, resonates with the individuals, or may significantly impact their lives (Quick & Stephenson, 2007). In essence, issue involvement can be deemed as the sense of involvement of the internet users towards the information which is related to the COVID-19 health disease.

Perceived Credibility and Adaptation on Fake News

The information credibility is built and established in the speech of the presenter because the perception of information receivers would be easily influenced based on what they see and listen during the speech. In the context of social media, the younger online users are found to easily believe what they explored on the online posts, they do not further verify the source or ask further for the post information (Manalu et al., 2018). Hence, the hypothesis is proposed as:

H1: Perceived credibility positively relates to adaptation on fake news

Fear of Missing Out and Adaptation on Fake News

Talwar et al. (2019) assert that individual prefers to rely on online social media for informational rewards and follow the consistent flow of social events while they are feeling deficiencies and seeking relatedness with society. It further states that individual with high fear of missing out and heavily engaged in social media network is more reckless online, and the cognitive ability of the individual to identify the reality of the fake news might be influenced. By adopting the statement, the hypothesis is proposed as:

H2: Fear of missing out positively relates to adaptation on fake news

Social Endorsement and Perceived Credibility

Chung (2016) discovers the post that receiving high social endorsement (e.g., the number of likes) will affect the perception of the audience on that presented post on social media. Social endorsements shape the audiences' perceptions of the content as the information receivers may overturn their skepticism about a message or unfamiliar source when the message contains a large amount of endorsement from other internet users (Borah & Xiao, 2018). As a result, the hypothesis is proposed as:

H3: Social endorsement positively relates to perceived credibility

Social Support and Perceived Credibility

Hajli et al. (2015) reveal that social support can strengthen the group relationship by providing informational and emotional support. Hence, consumers who are group dependent and concerned about the credibility of the information are more willing to seek social support from their surrounding while purchasing a product from the website. In other words, social support creates a certain level of the perceived credibility of the information received through social media. Consequently, the hypothesis is proposed as:

H4: Social support positively relates to perceived credibility

Fear of Missing Out and Social Endorsement

Wheeler (2017) argues that individuals are more likely to generate a sense of validation by receiving "Likes" with a post on social media (social endorsement) while they are experiencing the fear of missing out within their group. Sherman et al. (2016) also posit that number of "Likes" on social media is a quantifiable form of social endorsement for young adults. Young adults who experience higher fear of missing out on their social group, have a greater motivation to post information on social media in order to grab attention and gain more "likes" (social endorsement) from social media. With the above arguments, the hypothesis is proposed as:

H5: Fear of missing out positively relates to social endorsement

Sense of Belonging and Fear of Missing Out

According to Beyens et al. (2016), fear of missing out mediates the relationship between the sense of belonging and adolescents' Facebook usage. Individual who fears missing out on social opportunities may want to stay continually connected with each other's and update themselves with the latest information by using social media website. Talwar et al. (2019) also highlight the relationship between a sense of belonging and fear of missing out by stating that a sense of belonging and seeking popularity are the key motivators of fear of missing out. Hence, the hypothesis is proposed as:

H6: Sense of belonging positively relates to fear of missing out

Collectivism and Social Support

Goodwin and Plaza (2000) argue that significant friendship support among individuals can be found in the "collectivist" and "familiarity" society because they have strong relationship ties and high dependency on each other. Lobburi (2011) states that collectivists consider social support as a process of social interaction and communication, in which collectivists prefer to seek social support when they meet uncertainty with online news information. Consequently, the hypothesis is proposed as:

H7: Collectivism positively relates to social support

Collectivism and Social Endorsement

Messing and Westwood (2012) argue that the act of individuals choosing news stories that have been selected by other users is considered a kind of impersonal influence or social endorsement. This kind of selection commonly exists in the collectivist culture because collectivists are group-oriented, they are more likely to refer to others by pursuing the "middle way" in selecting news information (Kastenmüller et al., 2010). As a result, the hypothesis is proposed as:

H8: Collectivism positively relates to social endorsement

Collectivism and Sense of Belonging

Germani et al. (2020) argue that a collectivistic culture supports and expects a strong sense of belonging among the members of the group as they prefer to have a closer interconnection and relationship among themselves. Love (2007) highlights that the interdependence of collectivists leads to greater identification and feeling of belonging to the group. It further asserts that the sense of belonging is vital in the collectivist society culture as it enhances the sense of emotional safety, and it provides the individual with a feeling of "fit" with their group. Hence, the hypothesis is proposed as:

H9: Collectivism positively relates to sense of belonging

Mediator roles of Perceived Credibility

McBeath (2015) posits that social support enhances perceived trustworthiness, confidentiality, and shared experiences for the audiences. The significant relationship between perceived credibility and the willingness to share the news is supported in the McCroskey and Young (1981) study by stating that internet users be would highly willing to adapt to the news information that they believe is reliable. As a result, the mediation hypothesis is proposed as:

H10: Perceived credibility mediates the relationship between social support and adaptation on fake news

Borah and Xiao (2018) state that social endorsement enhances the audiences' perceived credibility on the content by overturning the audiences' skepticism about a message or unfamiliar source with high social endorsement (i.e., number of likes, shares, and comments. In other words, social endorsement is one of the factors that can enhance the internet users' perceived credibility on fake news information with a high number of "likes", positive comments or shares (Borah & Xiao, 2018). By adopting the above arguments, the mediation hypothesis is proposed as:

H11: Perceived credibility mediates the relationship between social endorsement and adaptation on fake news

Mediator roles of Fear of Missing Out

Beyens et al. (2016) state that individuals with a strong sense of belonging toward social media or certain social groups will have a high probability to experience fear of missing out as they tend to stay continually connected with social media. Talwar et al. (2019) highlight that the fear of missing out leads to the adaptation of fake news as the information receivers may be inattentive to the news information while they are feeling anxiety with the fear of missing out. Consequently, the indirect relationship between a sense of belonging and adaptation to fake news is formed with the mediation of fear of missing out, and the hypothesis is proposed as:

H12: Fear of missing out mediates the relationship between sense of belonging and adaptation on fake news

Talwar et al. (2019) mention that a sense of belonging is the key driver for the fear of missing out as individuals continuously seek acceptance among the group due to their group consciousness. This is due to the fact that social endorsement provides a sense of acceptance and validation to internet users, and it raises the desire of internet users to generate social endorsement for a sense of acceptance among the social group (Sherman et al., 2016). Thus, the indirect relationship between a sense of belonging and social endorsement is formed with the mediation of fear of missing out and the hypothesis is proposed as:

H13: Fear of missing out mediates the relationship between sense of belonging and social endorsement

Mediator roles of Social Endorsement

Messing and Westwood (2012) argue that collectivism positively relates to social endorsement as collectivists tend to "fake good" with the social endorsement to conform the acceptance with others by taking advantage of their group-dependency characteristics as described in Hofstede's cultural dimensions theory. Chung (2016) posits that internet users who possess with collectivist mindset would be more likely to follow the majority and "fake good" with a high social endorsement to conform the acceptance with others while in the process of interpreting online information. Thus, the hypothesis is proposed as:

H14: Social endorsement mediates the relationship between collectivism and perceived credibility

Wheeler (2017) asserts that fear of missing out affects social endorsement as the information receivers who are experiencing fear of missing out tend to gain a sense of validation by gaining social endorsement on social media. Chung (2016) argues a positive relationship between social endorsement and perceived credibility. The information received with high social endorsement will affect how audiences perceive it by strengthening their believability or revealing their skepticism with the endorsement. As a result, the hypothesis is proposed as:

H15: Social endorsement mediates the relationship between fear of missing out and perceived credibility

Mediator roles of Social Support

The significance of social support is emphasized in the collectivist society (Goodwin & Plaza, 2000) as collectivist is more willing to seek social help from others when they encounter problems (Lobburi, 2011). Collectivists would more likely to seek social support when they find uncertainty with news information. With the great social support, the perceived credibility of the collectivists on the news information would be strengthened. Hence, the hypothesis is proposed as:

H16: Social support mediates the relationship between collectivism and perceived credibility

Mediator roles of Sense of Belonging

The relationship between collectivism and the sense of belonging is proven as the scholars indicate that collectivists contain a strong sense of belonging with the group they belong to with their group-concern characteristics (Germani et al., 2020; Love, 2007). Beyens et al. (2016) posit that individuals with a high sense of belonging in the social media community are more reluctant to miss out on any information on the community and have a high probability to experience the fear of missing out on the group. As collectivists are group conscious and interdependent with others, they have a strong sense of belonging to their social group (Germani et al., 2020). Hence, the hypothesis is proposed as:

H17: Sense of belonging mediates the relationship between collectivism and fear of missing out

Moderator role of Issue Involvement

In the Quick et al. (2011) study, the issue of involvement on the trait reactance is evaluated by using the psychological reactance theory, the higher the perceived importance of the issue, the state reactance should be increased. Yoon and Tinkham (2013) evaluates the moderator role of issue involvement by HSM, the issue involved is found significantly affect the motivation and capacity to process the relevant information as the individual with low personal relevance (issue involvement) are less motivated, and less likely to engage with the relevant news information post, even there is high perceived credibility level on the post information. Thus, the hypothesis is proposed as:

H18: Issue involvement moderates the relationship between perceived credibility and adaptation on fake news. The relationship between perceived credibility and adaptation on fake news becomes stronger when there is high issue involvement

Conceptual Framework

With the adoption of the S-O-R model, a conceptual framework was proposed as in Figure 1. The framework illustrates that Collectivism (C) as the stimuli; Social Support (SS), Social Endorsement (SE), Sense of Belonging (SOB), Fear of Missing Out (FoMO), Perceived Credibility (PC), and Issue Involvement (II) are considered as the organism; and Adaptation on Fake News (AOFN) is classified as the response in this study.

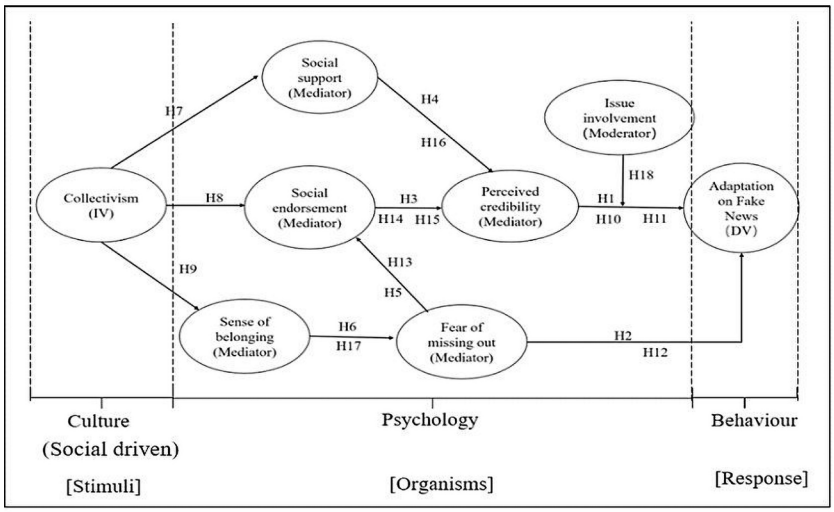


Figure 1. *Conceptual Framework*

2.0 Methodology

Research design and data collection method

By considering the research objectives and data collected, the quantitative correlational research design is more appropriate for this research as the main purpose of this research is to examine the interrelation among the variables. Setia (2016) advocates that a cross-sectional study should be adopted in this research in order to describe the current situation in the particular time frame in relation to the adaptation behavior on the fake news in Malaysia during Covid-19. An online self-administered survey is adopted in this study as it achieves the research objectives by allowing the data to be collected quantitatively with a little restriction such as social distances during COVID-19 (Malhotra, 2019, p. 223). Primary data will be collected via an online self-administered survey among young internet users in Malaysia to ensure the timing of assessments is up-to-date and aligns with the study follow-up period. With the convenience of the online survey and respondents' network, the respondents can be accessed easily.

Sampling design

In this research, young adults who aged within the range of 18 to 26 years old in Malaysia would be targeted as samples because this population group highly engages in internet and social media (Malaysian Communications and Multimedia Commission, 2018), unable to evaluate the quality of information (Manalu et al., 2018), and being educated with collectivism parenting style based on collectivism society culture from the childhood (Keshavarz & Baharudin, 2009). Hence, this population group is selected as the target population to identify the impacts of social-cultural on the fake news adaptation from the social psychology perspective. Snowball sampling is adopted in this study as it was also adopted in the previous fake news research studies (Datta et al., 2020; Kumar et al., 2021), and it allows the initial respondents to suggest other potential respondents who may fit with the target population of interest (Malhotra, 2019) who have shared "fake news" in the social media. The data generated can be representative and relevant to the study (Baltar & Brunet, 2012) and achieve large sample size in a limited time with the respondent's network. Ultimately, a total of 451 samples were collected in this research.

Measure

The questionnaire design is divided into two parts, Part A and Part B. Part A consists of the

demographic aspects, including gender, age range, education level, time spent on social media, and news share experiences on social media. Whereas Part B consists of the measurements of eight constructs. Six measurement items for the adaptation of Fake News (AOFN) are adopted from Soundy et al. (2016), and Gardner (2019). Three measurement items for Perceived Credibility (PC) are adopted from Gardner (2019). Three measurement items for Social Endorsement (SE) are adopted from Chung (2016). Moreover, six measurement items for social support (SS) are adopted from Kliem et al. (2015). Sense of Belonging (SOB) consists of seven measurement items that are adopted from Guo and Cheng (2016), and Hui et al. (2014). Six measurement items for the Fear of Missing Out (FoMO) measurement are adopted from Alt (2015). Besides, six measurement items for Collectivism (C) are adopted from Lui and Rollock (2018), Arpaci and Baloğlu (2016), and Srite and Karahanna (2006). Lastly, Issue Involvement (II) consists of six measurement items which are adopted from Chua and Banerjee (2018), and Segev et al. (2014). All the questionnaires were measured by 7 points Likert scale, anchored by "strongly disagree" (1) to "strongly agree" (7).

Data Analysis Method

For the data analysis methods, the statistical programs SPSS version 25 and SmartPLS version 3.2.9 are adopted in this study to perform the statistical analysis. Preliminary analysis (non-response bias, common method variance, and multivariate normality), descriptive analysis (demographic and constructs), measurement model, and structural model will be explicated in the data analysis and finding sections.

3.0 Results and Discussion

Preliminary Data Analysis

In this research, the non-response bias analysis revealed that there is no non-response bias because the five demographic variables of the early and late respondents are not significantly different from each other as the p-value for all demographic variables is larger than 0.05 (Behar-Horenstein & Feng, 2017). Based on the result of the Harman single-factor test, the percentage variance extracted is 30.6%, which is lower than the threshold value of 50% (Podsakoff et al., 2003). Consequently, the common method bias issues do not exist in this research. For the multivariate normality, the result of Mardia's normality test indicated that the data is not normally distributed as the b-value of the multivariate kurtosis is 96.6028, which is higher than the threshold value of 3 (Yuan et al., 2005).

Descriptive Analysis

Table 1 shows the demographic profile of respondents, it is observed that 47.9% of the respondents are female, 39.7% of the respondents are male, and 12.4% of the respondents prefer not to answer their gender in the online survey. Within 451 respondents, the majority of the respondents (39.7%) are between 21-23 years old. For the academic qualification, 41.2% of the respondents are bachelor's degree holders. The majority of the respondents (55.2%) are spending an average of 2 to 3 hours on social media per day for the last 3 months. All the respondents perform shared experiences on social media or phone messages for the last 3 months.

Constructs and Correlational Analysis

As shown in Table 2, the mean values of the various variables are within the range from 16.27 (SE) to 36.70 (SOB), and the distribution of standard deviation values for the variables are within the range from 2.737 (SE) to 8.022 (SOB). Table 2 also indicated the correlations of every construct at the 0.01 probability level. All the variables have significant positive correlated relationships, except the insignificant correlated relationship between PC and II.

Table 1. *Demographic Profile of the Respondents*

Demographic Variables	Description	Frequency (n)	Percentage (%)
Gender	Male	179	39.7
	Female	216	47.9
	Prefer not to answer	56	12.4
Age	Below 18 years old	18	4
	18-20 years old	116	25.7
	21-23 years old	179	39.7
	24-25 years old	121	26.8
	Above 26 years old	17	3.8
Academic qualification	Foundation/Pre-University	60	13.3
	Diploma	103	22.8
	Degree	186	41.2
	Master	20	4.4
	Others (Vocational Qualification/ Professional Certification)	82	18.2
Average time spends on social media	Less than 1 hour	30	6.7
	1 hour to 2 hours	102	22.6
	2 hours to 3 hours	249	55.2
	More than 3 hours	70	15.5
Social media post shared experiences	Yes	451	100
	No	0	0

Table 2. *Summary of the Mean, Standard Deviation and Pearson Correlation of Construct*

	Mean	*SD*	*C*	*SS*	*SOB*	*FoMO*	*SE*	*PC*	*II*	*AOFN*
C	28.56	4.647	1							
SS	32.03	5.676	0.596**	1						
SOB	36.7	8.022	0.577**	0.625**	1					
FoMO	30.1	6.597	0.477**	0.541**	0.528**	1				
SE	16.27	2.737	0.293**	0.357**	0.293**	0.251**	1			
PC	17.57	3.13	0.173**	0.307**	0.250**	0.273**	0.407**	1		
II	30.28	6.333	0.295**	0.301**	0.409**	0.363**	0.134**	-0.004	1	
AOFN	34.88	6.585	0.469**	0.505**	0.551**	0.541**	0.396**	0.329**	0.546**	1

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

Assessment of Measurement Model

Since the proposed framework is a reflective model, factor loadings, construct reliability, convergent validity, and discriminant validity will be examined through PLS-SEM (Hair et al., 2017). Table 3 shows all the factor loadings of the indicators range from 0.702 to 0.878, which can be considered as satisfy as all the loadings are higher than 0.7

and a majority of the loadings are higher than the threshold value of 0.708 as suggested by Hair et al. (2017). Table 3 also affirmed that the inter-item consistency reliability values of Cronbach alpha within the range from 0.807 to 0.899, which is larger than the suggested value of 0.7 by Nunnally (1978).

For the Average Variance Extracted (AVE), the AVE values for all constructs are ranging from 0.547 to 0.750, which are exceeding the threshold value of 0.5. Apart from that, the t-values of all factors are ranging from 17.63 to 58.2, which is above 1.96 (at 95% confidence level). In other words, all the factors are significantly loaded toward their respective latent constructs. In short, the measurement model possessed an adequate convergent validity with the result generated in PLS-SEM.

Table 3. *Convergent validity of the constructs*

Construct	*Model*	*Indicators*	*Outer loadings*	*t-value*	*Cronbach 's Alpha*	*Average Variance Extracted (AVE)*
AOFN		AOFN1	0.781	27.86	0.869	0.604
		AOFN2	0.771	26.43		
	Reflective	AOFN3	0.816	33.15		
		AOFN4	0.745	26.44		
		AOFN5	0.786	33.28		
		AOFN6	0.762	28.00		
C		C1	0.717	17.63	0.840	0.556
		C2	0.725	21.15		
	Reflective	C3	0.788	34.10		
		C4	0.708	20.66		
		C5	0.767	22.13		
		C6	0.767	22.58		
FoMO		FoMO1	0.756	23.42	0.849	0.570
		FoMO2	0.724	22.26		
	Reflective	FoMO3	0.808	33.24		
		FoMO4	0.758	25.20		
		FoMO5	0.754	24.20		
		FoMO6	0.724	21.75		
II		II1	0.734	23.88	0.899	0.667
		II2	0.832	44.93		
	Reflective	II3	0.860	58.20		
		II4	0.867	45.16		
		II5	0.755	23.53		
		II6	0.843	49.76		
PC		PC1	0.878	42.39	0.834	0.750
	Reflective	PC2	0.871	35.53		
		PC3	0.850	34.43		

Table 3. *Continued*

Construct	*Model*	*Indicators*	*Outer loadings*	*t-value*	*Cronbach 's Alpha*	*Average Variance Extracted (AVE)*
SE		SE1	0.856	41.80	0.807	0.721
	Reflective	SE2	0.852	41.43		
		SE3	0.838	40.43		
SOB		SOB1	0.758	21.95	0.862	0.547
		SOB2	0.775	29.15		
		SOB3	0.738	25.84		
	Reflective	SOB4	0.725	24.88		
		SOB5	0.732	24.34		
		SOB6	0.745	27.20		
		SOB7	0.702	20.17		
SS		SS1	0.720	19.75	0.851	0.573
		SS2	0.721	23.60		
	Reflective	SS3	0.777	25.52		
		SS4	0.743	23.72		
		SS5	0.766	27.53		
		SS6	0.812	32.74		

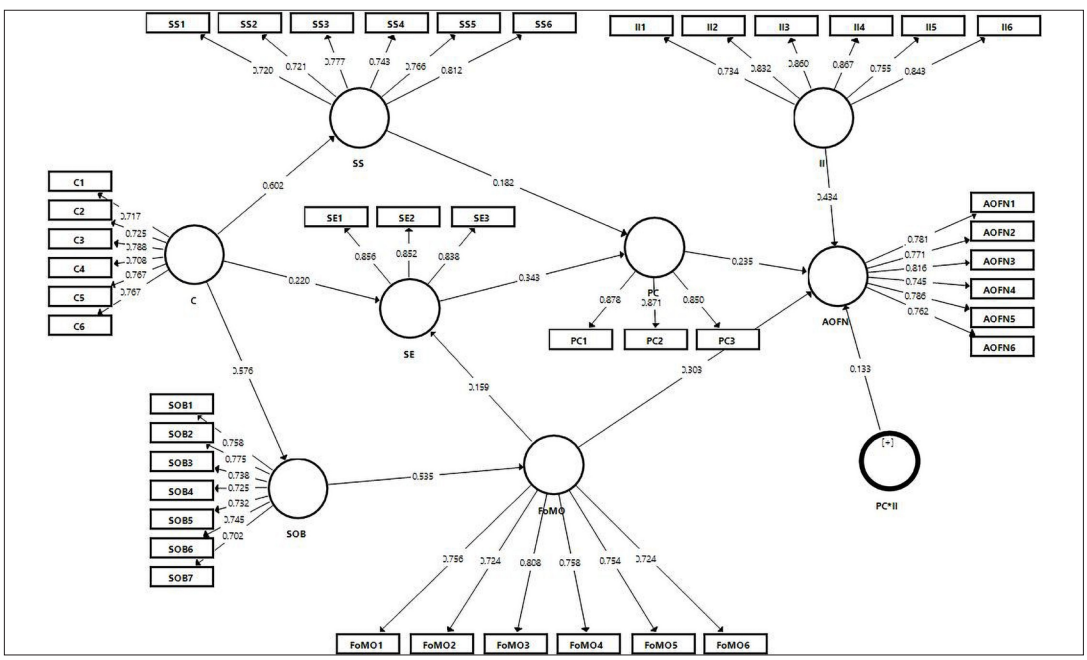


Figure 2. *Outer loadings of the indicators*

As stated by Voorhees et al. (2016), heterotrait-monotrait ratio of correlations (HTMT) is the most ideal approach to investigate the discriminant validity of the constructs compared with Fornell and Larcker's (1981) and cross-loading. The results (Table 4) show the values of correlations among the latent variables are lower than the threshold value of 0.85 as suggested by Kline (2010), and there is no value of 1 being included in the lower limit and upper limit of the confidence interval (Preacher & Hayer, 2008). In conclusion, the measurement model achieved adequate reliability, convergent validity, and discriminant validity. The proposed hypotheses can be evaluated in the following assessment of the structural model.

Table 4. *Discriminant Validity of Constructs*

AOFN	*AOFN*	*C*	*FoMO*	*II*	*PC*	*SE*	*SOB*	*SS*
C	0.547* CI. 90 (0.446, 0.642)**							
FoMO	0.636* CI. 90 (0.562, 0.699)**	0.569* CI. 90 (0.473, 0.654)**						
II	0.619* CI. 90 (0.545, 0.688)**	0.336* CI. 90 (0.227, 0.436)**	0.418* CI. 90 (0.327, 0.502)**					
PC	0.387* CI. 90 (0.278, 0.493)**	0.205* CI. 90 (0.110, 0.317)**	0.325* CI. 90 (0.216, 0.431)**	0.056* CI. 90 (0.028, 0.055)**				
SE	0.476* CI. 90 (0.387, 0.558)**	0.358* CI. 90 (0.266, 0.452)**	0.306* CI. 90 (0.211, 0.402)**	0.157* CI. 90 (0.088, 0.237)**	0.496* CI. 90 (0.401, 0.583)**			
SOB	0.637* CI. 90 (0.564, 0.701)**	0.674* CI. 90 (0.601, 0.738)**	0.621* CI. 90 (0.547, 0.687)**	0.464* CI. 90 (0.374, 0.546)**	0.296* CI. 90 (0.186, 0.394)**	0.352* CI. 90 (0.259, 0.441)**		
SS	0.587* CI. 90 (0.501, 0.664)**	0.707* CI. 90 (0.63, 0.775)**	0.641* CI. 90 (0.558, 0.705)**	0.344* CI. 90 (0.245, 0.433)**	0.363* CI. 90 (0.247, 0.433)**	0.431* CI. 90 (0.333, 0.522)**	0.730* CI. 90 (0.661, 0.785)**	

**The results of HTMT (all of them less than 0.85)*
*** The value of 1 does not include in the lower limit and upper limit of confidence interval (CI)*

Assessment of Structural Model

For the structural model, assessment of collinearity (VIF), the significance of the path coefficient, determination of coefficient (R^2), effect size (f^2), predictive relevance (Q^2) based on blindfolding, and advanced predictive relevance conducted via PLSpredict would be analyzed. Assessment of collinearity (VIF) test must be assessed before the evaluation of the structural model as it can be used to ensure the research does not contain any potential bias in the regression results. All the VIF values (Table 5) are less than 3, indicating that the issue of collinearity does not exist in this research.

Table 5. *Latent Collinearity Assessment (VIF)*

	AOFN	*C*	*FoMO*	*II*	*PC*	*SE*	*SOB*	*SS*
AOFN								
C						1.309	1	1
FoMO	1.311					1.309		
II	1.179							
PC	1.099							
SE					1.15			
SOB			1					
SS					1.15			

Based on the statistical findings, the R2 value for AOFN is 0.505, illustrating that 50.5% of the total variance of AOFN (DV1) is explained by its exogenous variables (H1, H2, H10, H11, H12, H18). Moreover, 19.3% of the total variance of PC (DV2) is explained by its exogenous variables (H3, H4, H14, H15, H16). There are 10.3% of the total variance of SE (DV4) is explained by its exogenous variables (H5, H8, H13), whereas 28.4% of the total variance of FoMO (DV5) is explained by its exogenous variables (H6, H17). Furthermore, 36.1% of the total variance of SS (DV3) is explained by its exogenous variable (H7), and 33.1% of the total variance of SOB (DV6) is explained by its exogenous variable (H9). Pursuant to the rules of thumb suggested by Cohen (1988), the R^2 levels for the targeted endogenous variables AOFN, FoMO, SS, and SOB are 0.505, 0.284, 0.361, and 0.331 as respectively, which can be considered substantial determination coefficient as the R^2 values are higher than 0.26. PC has a moderate determination coefficient as its R^2 value is higher than 0.13, but lower than 0.26, whereas SE is considered as having a weak level of explanation as its R^2 value is higher than 0.02, but lower than 0.13.

For the measurement of effect size, the assessment of f^2 level is adopted as stated by Ramayah et al. (2017). By referring to Cohen (1988), f^2 levels of 0.35, 0.15, and 0.02 are identified as large, medium, and small effect size respectively. Based on the statistical findings, PC (f^2=0.103) and FoMO (f^2=0.143) have a small effect size on AOFN, whereas SE (f^2=0.128) and SS (f^2= 0.036) have a small effect size on PC. C (f^2=0.041) and FoMO (f^2=0.022) have weak effect sizes on SE. SOB (f^2=0.401) has a large effect size on FoMO. C possesses a large effect size on SS and SOB with f^2 levels of 0.567 and 0.498 as respectively.

Apart from that, the assessment of Stone-Geisser's Q^2 is also being used to analyse the overall predictive relevance of the endogenous construct in the model (Ramayah et al., 2017; Geisser, 1974; Stone, 1974). Based on the statistical findings, the Q^2 values of AOFN, PC, SE, FoMO, SS, and SOB are 0.301, 0.142, 0.073, 0.159, 0.203, and 0.178 as respectively, all the endogenous variables have adequate predictive relevance effects as the Q^2 values are above zero as stated by Hair et al. (2017) and Fornell and Cha (1994).

Table 6. *Assessment of PLS Predict*

Items	*PLS*			*LM*			*ERROR (PLS-LM)*		
	RMSE	***MAE***	***Q^2 predict***	***RMSE***	***MAE***	***Q^2 predict***	***RMSE***	***MAE***	***Q^2 predict***
AOFN5	1.09	0.823	0.222	1.099	0.832	0.208	-0.009	-0.009	0.014
AOFN1	1.239	0.987	0.184	1.277	1.006	0.133	-0.038	-0.019	0.051
AOFN6	1.13	0.857	0.247	1.162	0.877	0.204	-0.032	-0.02	0.043
AOFN3	1.276	0.971	0.257	1.354	1	0.164	-0.078	-0.029	0.093
AOFN2	1.326	0.993	0.246	1.363	1.002	0.204	-0.037	-0.009	0.042
AOFN4	1.402	1.107	0.200	1.437	1.111	0.160	-0.035	-0.004	0.040
FoMO5	1.351	1.057	0.106	1.383	1.084	0.063	-0.032	-0.027	0.043
FoMO6	1.409	1.132	0.080	1.427	1.11	0.056	-0.018	0.022	0.024
FoMO1	1.426	1.143	0.140	1.44	1.123	0.124	-0.014	0.020	0.016
FoMO3	1.217	0.964	0.136	1.201	0.940	0.159	0.016	0.024	-0.023
FoMO4	1.286	0.984	0.124	1.293	0.982	0.114	-0.007	0.002	0.010
FoMO2	1.565	1.302	0.088	1.603	1.308	0.043	-0.038	-0.006	0.045
PC2	1.187	0.902	0.027	1.29	0.925	-0.150	-0.103	-0.023	0.177
PC3	1.218	0.912	0.018	1.366	0.978	-0.235	-0.148	-0.066	0.253
PC1	1.182	0.869	0.007	1.307	0.916	-0.214	-0.125	-0.047	0.221
SE2	1.059	0.857	0.049	1.126	0.877	-0.075	-0.067	-0.020	0.124
SE3	1.042	0.821	0.057	1.062	0.816	0.0210	-0.02	0.005	0.036
SE1	1.031	0.826	0.066	1.074	0.814	-0.014	-0.043	0.012	0.080
SOB2	1.353	1.086	0.195	1.424	1.101	0.109	-0.071	-0.015	0.086
SOB1	1.422	1.118	0.200	1.455	1.101	0.162	-0.033	0.017	0.038
SOB7	1.409	1.130	0.229	1.467	1.161	0.165	-0.058	-0.031	0.064
SOB3	1.42	1.186	0.161	1.443	1.160	0.134	-0.023	0.026	0.027
SOB6	1.399	1.137	0.146	1.451	1.170	0.082	-0.052	-0.033	0.064
SOB4	1.45	1.193	0.163	1.498	1.220	0.107	-0.048	-0.027	0.056
SOB5	1.408	1.129	0.144	1.496	1.179	0.035	-0.088	-0.050	0.109
SS6	1.065	0.798	0.269	1.162	0.845	0.128	-0.097	-0.047	0.141
SS2	1.149	0.893	0.143	1.215	0.920	0.042	-0.066	-0.027	0.101
SS5	1.163	0.908	0.179	1.227	0.939	0.085	-0.064	-0.031	0.094
SS3	1.098	0.827	0.237	1.177	0.866	0.124	-0.079	-0.039	0.113
SS4	0.993	0.773	0.206	1.038	0.796	0.132	-0.045	-0.023	0.074
SS1	1.245	0.901	0.177	1.334	0.949	0.055	-0.089	-0.048	0.122

PLSpredict also being employed as an advancement for Q^2 assessment to ensure the accuracy of predictive relevance for the research. Shmueli et al. (2019) assert that PLSpredict offers a mean value to assess a model's out of sample predictive power. According to Table 6, the Q^2predict values for the PLS-SEM for all indicators are greater than zero. It states that error of MAE would be recognized for the predictive relevance effect while the research is not normally distributed. As comparison about the MAE values, the findings indicate that the PLS-SEM analysis produces a medium prediction power as the result has majority of the indicators (23 out of 31 indicators; PLS-SEM<LM). In conclusion, majority of the indicators fulfil the requirement [Q^2predict >0; MAE error values are negative (PLS-SEM<LM), moderate predictive powers are existed for the AOFN model (Shmueli et al., 2019). In short, results summarized the model being developed contains certain level of predictive relevance in Q^2 and medium predictive relevance in Q^2predict.

Direct Effect Test

In this research, a total of nine direct hypotheses were developed to examine the direct relationship between the variables. According to the results showed in Table 7, PC ($\beta = 0.235$, $p < 0.05$), and FoMO ($\beta = 0.303$, $p < 0.05$) are found to have a significant positive direct effect on AOFN, indicating that H1 and H2 are supported. Besides, SE ($\beta = 0.343$, $p < 0.05$), and SS ($\beta = 0.182$, $p < 0.05$) are also found to have significant positive impacts on PC, indicating that H3 and H4 are statistically supported. H5 is also supported as FoMO ($\beta = 0.159$, $p < 0.05$) posits a significant positive effect on SE. Moreover, SOB possesses a significant positive effect on FoMO with the path coefficient of $\beta = 0.535$, and $p < 0.05$, thus H6 is supported. Lastly, H7, H8, and H9 are also validated as C possesses significant positive influences on SS, SE, and SOB with the path coefficient $\beta = 0.602$, $p < 0.05$; $\beta = 0.22$, $p < 0.05$; and $\beta = 0.576$, $p < 0.05$ as respectively. All the direct hypotheses do not have zero strapped in between the lower limit and upper limit of the 95% confidence interval. Overall, all nine direct hypotheses are significantly supported by the results generated through the bootstrapping procedure in PLS-SEM.

Mediation Effect Test

There are eight mediation hypotheses being developed to investigate the indirect relationships between the variables. As exhibited in Table 7, H10 ($\beta = 0.113$, $p < 0.05$), H11 ($\beta = 0.063$, $p < 0.05$), and H12 ($\beta = 0.298$, $p < 0.05$) are supported to have significant indirect effects on AOFN. For the mediation effect on SE, H13 is supported with $\beta = 0.15$ and $p < 0.05$. The mediation effects on PC are validated as H14 ($\beta = 0.09$, $p < 0.05$), H15 ($\beta = 0.068$, $p < 0.05$), and H16 ($\beta = 0.185$, $p < 0.05$) are supported with the results exhibited in Table 6. H17 is supported to have mediation effect on FoMO as the results of $\beta = 0.309$ and $p < 0.05$ are statistically validated. Additionally, there is no zero straddle in between the lower limit and upper limit of the confident interval for all the mediation hypotheses. In other words, all the eight mediation hypotheses are statistically supported.

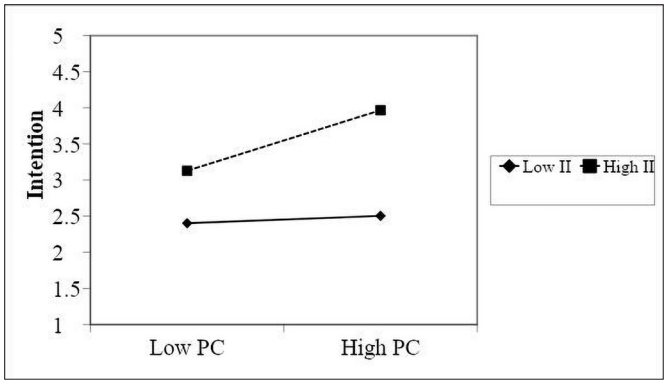
Moderation Effect Test

As shown in Table 7, the moderation (H18) is statistically significant with the results of $\beta = 0.184$, $p < 0.05$. Furthermore, there is no zero straddle in between the lower limit and upper limit of the Confident Interval for H18. Hence, the moderation is considered as statistically supported with the results generated. At the meantime, R^2 and f^2 are measured between the direct relationship between PC and AOFN. With the comparison, R2 of AOFN has changed about 2.4% (additional variance) with the addition of the interaction term (PC*II), illustrating that the effect size of the moderating effect is small (0.0426) as referred to the guidelines suggested by Cohen (1988).

Table 7. *Path Coefficients Assessment of the Structural Model*

Hypotheses	Relationship	Path Coefficient	Standard Deviation	T-value	P-value	Confidence Interval (BC)		Decision
						LL	UL	
H1	PC→AOFN	0.235	0.042	5.549	0	0.167	0.306	Supported
H2	FoMO→ AOFN	0.303	0.04	7.604	0	0.239	0.37	Supported
H3	SE→PC	0.343	0.05	6.887	0	0.257	0.421	Supported
H4	SS→ PC	0.182	0.056	3.247	0.001	0.085	0.269	Supported
H5	FoMO→SE	0.159	0.056	2.835	0.002	0.061	0.248	Supported
H6	SOB→ FoMO	0.535	0.039	13.619	0	0.46	0.592	Supported
H7	C→SS	0.602	0.041	14.825	0	0.525	0.661	Supported
H8	C→SE	0.22	0.054	4.052	0	0.135	0.31	Supported
H9	C→SOB	0.576	0.04	14.506	0	0.503	0.634	Supported
H10	SS→PC→ AOFN	0.113	0.027	4.179	0	0.062	0.168	Supported
H11	SE→PC→ AOFN	0.063	0.025	2.499	0.013	0.02	0.114	Supported
H12	SOB→FoMO→ AOFN	0.298	0.036	8.157	0	0.224	0.366	Supported
H13	SOB→ FoMO→SE	0.15	0.031	4.814	0	0.09	0.209	Supported
H14	C→SE→ PC	0.09	0.024	3.746	0	0.047	0.139	Supported
H15	FoMO→SE→PC	0.068	0.024	2.782	0.005	0.024	0.119	Supported
H16	C→SS→PC	0.185	0.038	4.832	0	0.112	0.261	Supported
H17	C→SOB →FoMO	0.309	0.039	8.025	0	0.234	0.383	Supported
H18*	PC*II→ AOFN	0.184	0.052	3.519	0	0.069	0.243	Supported

Note: BC= Bias Corrected, LL= Lower Limit, UL= Upper Limit
**One-tailed p-value for moderation*
 # Based on the results of t-value, p-value, CI, R^2, f^2 and simple slope analysis



Note: predictor variable (X) = Perceived Credibility (PC); (Y) = Adaptation on fake news (AOFN); moderator variable (Z) = Issue Involvement (II)
($Y = b_0+b_1X+b_2Z+b_3XZ$)

Figure 3. *Linear interaction effect analysis*

Based on the Figure 4, there is no parallel between the two slopes as the line labelled for high II has a steeper gradient compared to low II. It illustrates the positive relationship between PC and AOFN would be stronger when II is high. In other words, II does moderate the relationship between PC and AOFN. As suggested by Gardner et al. (2017), strengthening moderation relationship would be defined while there is the same directionality of the path coefficient between independent variables and moderator. As exhibited in Table 6, both of the path coefficients of PC and PC*II are positive (path coefficient of PC = 0.235, path coefficient of PC*II = 0.184), thus there is a strengthening moderation effect between the PC and PC*II. There is sufficient evidence to prove the significance of the moderating effect, H18 is supported.

4.0 Conclusion

Based on the social psychological perspective, this research concludes that the social-cultural related variables do influence the fake news adaptation behavior by investigating the relationships among collectivism, social support, sense of belonging, social endorsement, fear of missing out, perceived credibility, issue involvement, and adaptation on fake news among young adults in Malaysia. All the direct, mediated and moderated hypotheses were supported in the study. For the theoretical contribution, individuals are proved easily in adapting the fake news with social-cultural influences as their psychological activities might be affected by the collectivist culture. The research study also concludes that issue involvement does moderate the relationship between perceived credibility and fake news adaptation as an issue of involvement affects the motivation of the audiences to believe and engage with the news information. The audiences can avoid being the fake news victim by filtering the social influences and developing a critical judgment on the news information with the understanding generated.

By using limited social psychological variables, this research intends to evaluate the determinants of the fake news adaptation behavior among internet users in Malaysia. Therefore, it is recommended to assess other social psychology variables such as prosocial behavior, social identity, social cognition, interpersonal relationships, and change in attitude as the determinants of fake news adaptation behavior in the future.

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