



Does loneliness make people interested with other people in Instagram? The moderating role of loneliness in envy and fear of missing out

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ABSTRACT

Background: Envy could worsen fear of missing out (FoMO) by encouraging comparison with others via social media use. Studies also found that loneliness could further increase individual's activeness on social media and shifting face-to-face social activities.

Purpose: This research aims to test the moderating role of loneliness in envy and fear of missing out.

Method: 538 respondents aged 18-34 years who use Instagram participated by completing Benign Envy Malicious Scale (BEMAS), UCLA Loneliness Scale, and FoMO scale. The data obtained is then analyzed by moderation regression testing with the following models: 1) Envy and Loneliness Model, 2) Envy, Loneliness, and moderator (Envy x Loneliness).

Findings: The results show that envy, $t(535) = 8.523, p < .001$, and loneliness, $t(535) = 2.389, p < .001$, have a positive influence on FoMO. Furthermore, loneliness is proven to partially moderate the relationship between envy and FoMO, which gives the buffering effect on the relationship; results presented in the article. This finding happened because there are factors for self-exclusion of individuals when experiencing loneliness.

Implication: Further research is suggested to look in the opposite direction from Envy towards FoMO to FoMO against Envy, and this is done to see if jealous behavior is caused by FoMO, which envy can cause mental problems for most individuals.

KEYWORDS

envy; FoMO; Instagram use; loneliness

Introduction

One of the most widely used social media today is Instagram. In Indonesia, more than 70 million people use Instagram, which continues to increase yearly. The creation of social media is to be a place to share interests and a place for social interaction between individuals to form a social network (Perez & Gomez, 2011; Pittman, 2018). Although, historically, the creation of social media was intended as a business tool, social media has the potential to change social life at the individual and community level (Baruah, 2012).

Changes created by social media ought to have positive and negative effects; one of the effects is FoMO which is a state of individuals who feel that other people have a more pleasant experience than themselves. The characteristic of FoMO is wanting to stay connected on social media so as not to miss other people's moments (Przybylski et al., 2013). FoMO has many impacts, including excessive use of social media, maladaptive behavior, depression, loneliness, and disturbed sleep (Adams et al., 2017; Baker et al., 2016; Franchina et al., 2018; Hunt et al., 2018; Oberst et al., 2017; Rogers & Barber, 2019). Social media, especially Instagram, has an essential

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role in causing FoMO because there is an *Instastory* feature that can see the belongings and activities of other people (Rahardjo & Mulyani, 2020).

Envy is one of the variables associated with FoMO. One of the factors that cause envy on social media is comparing personal life with others (Zhou & Zhang, 2019). The response to envy appears in two ways, whether the individual responds and is affected by envy, whether it evokes a process of admiration from the object of envy, or a tendency to do something immoral (Loureiro et al., 2020).

Another important factor that also contributes to FoMO is loneliness. Research reveals how lonely individuals use Instagram to substitute for unsatisfactory offline social activities (Nowland et al., 2018; Yavich et al., 2019). Individuals who experience loneliness will feel isolated or alone even though many people are around them, and the impact of feeling lonely is not only emotionally painful. Loneliness also increases risks to human health, such as sleep disorders and health problems that have the potential to cause death, likewise to mental health, such as the onset of symptoms of depression and cognitive decline (Gil-Or, 2011; Lee & Ko, 2018).

Envy positively affects FoMO because envy encourage individuals to open their smartphones and see what others are doing or having (Wang et al., 2019). This statement makes sense as the consequences of envy grew out of a sense of belonging. Individuals feel unable to achieve something they want, which results in a strong sense of revenge and hatred, so they want to bring down others (Tandoc et al., 2015). FoMO and envy are described as a relationship with negative impacts such as the emergence of depression and loss of life satisfaction (Lin et al., 2018). This finding is even more surprising because envy creates stress and worsens depression (Appel et al., 2016). The conclusion that can be drawn is that the more individual envy increases, the more FoMO triggers. So that individuals could not stop using social media. Generally, envy can trigger individuals to FoMO, but other studies have shown that envy does not continue to harm FoMO directly (Lange & Crusius, 2015). However, another study found that the increasing loneliness of the individual, the more active the individual is on social media and shifting face-to-face social activities. On the other hand, increasing individual FoMO will reduce loneliness because it increases the closeness of online relationships with other people (Nowland et al., 2018).

Based on figure 1, lonely individuals express themselves as excluded by the social environment, making them feel more anxious, depressed, and compared with others. As a result, the desire of individuals to continue to be fixated on social media increases (Franchina et al., 2018). Thus, based on the literature review that we conducted between envy, FoMO, and loneliness, we formulated the following hypothesis:

1. There is an influence between envy and loneliness on FoMO.
2. There is a moderating effect of loneliness on the influence of envy to FoMO.

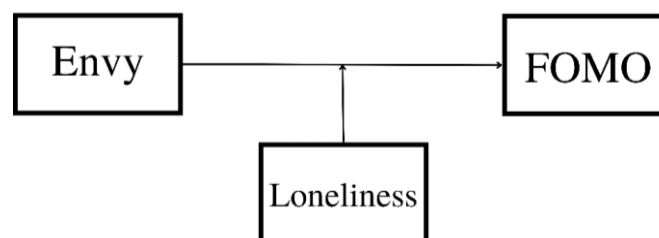


Figure 1. Moderation Hypothetical Diagram of Envy and FoMO with Interaction of Loneliness

Method

Participants

The convenience sampling method was used to find respondents aged 18-34 years, which is the young adult population, and based on Ahlgren (2022), 18-34 years old are active users of Instagram, which consisted of 538 respondents, with 124 males and 414 females. The procedure began by asking Instagram users between 18-34 years old. The participants were also informed

of the study’s description and the research candidate’s suitability. After receiving permission from the participant, the researcher provided a google forms link containing informed consent and a research questionnaire.

Measurement

The envy scale was measured using the Benign Envy Malicious Envy Scale (BEMAS) by selecting the Malicious Envy developed by Lange and Crusius (2015). The reason is that envy influencing FoMO is more inclined towards hostility than motivation (Lange & Crusius, 2015; Wang et al., 2019). BEMAS consists of 5 items, and an example was “Envious feelings cause me to dislike the other person”. The reliability coefficient Cronbach’s alpha was .79 - .89. In this study, 72 respondents obtained a reliability coefficient of .72.

The loneliness scale was measured using the UCLA Loneliness Scale developed by Russell (1996) and consists of 20 items ($\alpha = .89 - .94$). In this study, a reliability coefficient of .89 was obtained from a total of 72 respondents. An example of the item is “How often do you feel that you are no longer close to anyone?”.

Finally, the FoMO scale was measured using a scale developed by Wegmann et al. (2017) and consists of 12 items ($\alpha = .67 - .83$). In this study, from a total of 72 respondents, a reliability coefficient of .86 was obtained. An example of the item was, “I fear not to be up-to-date in my social networking sites”. The instrument used in this study uses a 5-point Likert scale, where point 1 indicates strongly disagree, point 2 is disagree, point 3 is neutral, point 4 is agree, and point 5 is strongly agree.

Data were collected using the online form platform Google Forms in April 2020. The online form provided an option to state a willingness if the information provided could be used in research. The researcher informed that the respondents’ participation is voluntary and has the right to cancel whenever the respondent wants.

Data Analysis

The analysis technique in this research uses moderation analysis, namely regression analysis involving moderator variables as a modeling cause and effect relationship. We tested the hypothesis for moderator analysis using the IBM SPSS 24.0 program. Moderator regression testing was conducted to test the moderator with the following models: 1) Envy and Loneliness Model, 2) Envy, Loneliness, and moderator (Envy x Loneliness).

Result and Discussion

The main objective of this study is to examine whether (a) envy will affect FoMO, (b) loneliness will affect FoMO, (c) loneliness will moderate the influence of envy to FoMO. The research questions will be discussed in several stages of the study results.

Table 1
Descriptive Statistics and The Matrix Relationship Between Variables

	<i>M</i>	<i>SD</i>	1	2	3
Envy	9.07	7.72	1		
Loneliness	42.65	8.95	.25*	1	
FoMO	28.3	4.49	.38*	.19*	1

Note. *N* = 538.

**p* < .05

Respondents in this study consisted of 538 people, with 124 men (23%) and 414 women (77%), with an age range of 18-34 years (*M* = 21.61, *SD* = 2.61). Then, from the Instagram usage duration the results obtained: Usage of Instagram < 1 hour = 100 people (18.6%), 1-3 hours = 204 people (37.9%), 3-5 = hours 117 people (21.7%), 5-7 hours = 65 people (12.1%), 7-9 hours = 20

people (3.7%), and > 9 hours = 32 people (5.9%). Table 1 shows the *mean*, *SD*, and Pearson correlation for the variables studied. The results show that loneliness has a positive correlation with FoMO.

The regression analysis results in Table 2 show that envy influences FoMO, $t(535) = 8.523 > 1.96$ with significant value $p < .05$. Also loneliness variable has an effect on FoMO, $t(535) = 2.389 > 1.96$ with significant value $p < .001$, with the multiple regression both variables have an effect on FoMO, $Adj R^2 = .147$; $F(2, 535) = 47.347, p < .01$. Therefore, the findings support hypothesis 1.

The results of the analysis for hypothesis 2 are also presented in Table 2. A moderation test was run, with envy as the predictor, FoMO as the dependent, and loneliness as a moderator. There was a significant main effect found between envy and FoMO, $b = .376, t(535) = 8.807 > 1.96$ with significance value $p < .001$ and significant main effect of loneliness and FoMO, $b = .096, t(535) = 2.338 > 1.96$ with significance value $p < .001$, and lastly there was a significant interaction of envy and loneliness to FoMO, $b = -.016, t(535) = -2.312 > 1.96$ with significance value $p < .05$. The negative t value means that the interaction has a negative role to envy and FoMO in which it has a decreasing effect to the correlation

Table 2
Regression and Moderation Analysis of The Variables

Predictors	Model 1				Model 2			
	<i>b</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>b</i>	<i>SE</i>	<i>t</i>	<i>p</i>
(Constant)	19.203	1.521			12.9	3.295		
Envy	.604	.071	8.523	.017	1.32	.343	8.807	<.001
Loneliness	.085	.036	2.389	<.001	.226	.075	2.338	.003
E x L					-.016	.007	-2.312	.034
<i>R</i> ²		.150				.158		
ΔR^2						.008		
<i>Adj. R</i> ²		.147				.154		
<i>F</i>		47.347		<.001		33.288		<.001

Note. *N* = 538. E x L = Envy x Loneliness (interaction variable).

With an addition based on Table 3. It was found that participants who reported on lower than average levels of loneliness experienced a greater effect of envy on FoMO, $b = 0.788, t(535) = 7.063 > 1.96$ with significance value $p < .001$, when compared to average or higher than average levels of loneliness, $b = 0.647, t(535) = 8.801 > 1.96$ with significance value $p < .001$; $b = 0.505, t(535) = 5.987 > 1.96$ with significance value $p < .001$, respectively. From these results, it can be concluded that the effect of envy on FoMO is partially moderated by loneliness.

Table 3
Simple Slope Estimates

	Estimate	<i>SE</i>	<i>t</i>
Average	0.647	0.0710	8.801***
Low (-1SD)	0.788	0.1094	7.063***
High (+1SD)	0.505	0.0828	5.987***

Note. The table shows the effect of the predictor (ENVY) on the dependent variable (FoMO) at different levels of the moderator (LON).

*** $p < .001$

The plot of the relationship presented in Figure 2 reveals a considerably different pattern of relationship between envy and FoMO for those higher and lower in loneliness. Based on the result,

Envy had a positive relationship with FoMO. At the same time, when loneliness was high, there was a decreasing effect of envy to FoMO, whereas the relationship of Envy to FoMO was high when loneliness was low. In other words, results support that loneliness had a buffering role in the positive relationship between envy and FoMO. In which define that loneliness can moderate the relationship between envy and FoMO. Therefore, hypothesis 2 is proven.

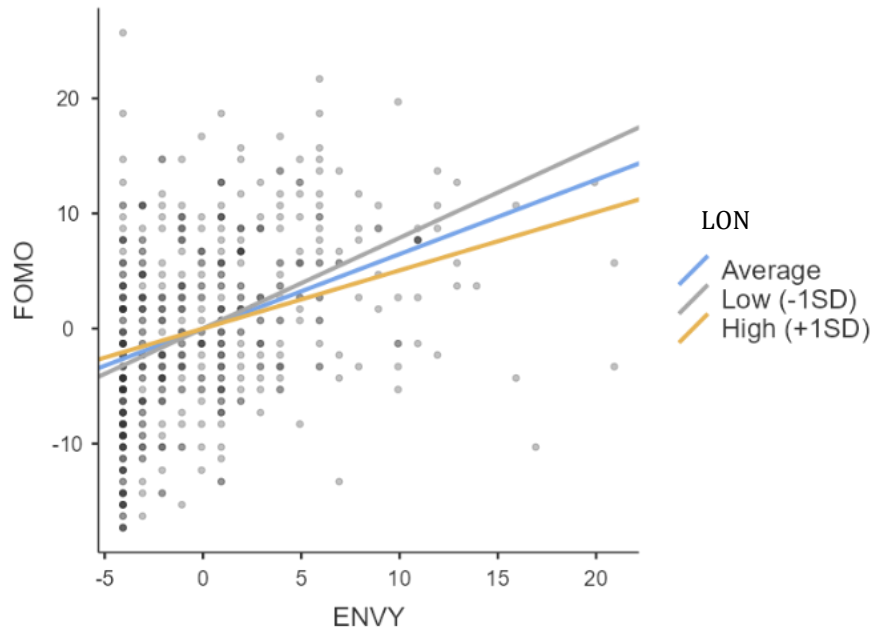


Figure 2. Regression Line Between Variables

FoMO is a variable that affects individual well-being because the emphasized aspect is the impact of the internet and social media when well-being is not met. The envy variable is one of the hereditary factors of well-being, which is the dark side of the human heart. In using the internet and social media, envy is one variable that mediates FoMO (Yin et al., 2019).

Well-being is more conical than any variable when discussing social media, especially Facebook and Instagram. These social media are becoming popular among young adults aged 18 to 34. Because young adults are a generation that is familiar with technological developments, using these two social media, especially Instagram, reduces happiness because of social comparisons between individuals and other individuals (Lemay et al., 2019; Reer et al., 2019). Instagram is also a cause for dissatisfaction with an individual’s life because the Instagram feature explicitly captures moments and shares them. Instagram has become a medium that evokes hatred towards others (Kersebaum, 2020).

Few studies have examined the relationship between envy and FoMO, and the moderation underlying the relationship between envy and FoMO remains largely unknown. The results of our survey study of 538 people used loneliness moderation to investigate the effect of envy on FoMO. Loneliness partially moderates the influence of envy on FoMO, and both envy and loneliness independently influence FoMO (Nowland et al., 2018). This statement means that when moderated with loneliness, envy will decrease in affecting FoMO. It can be concluded from this model that loneliness is a protective factor to prevent someone from FoMO. This can be caused by loneliness which will be a factor for someone to forget their jealousy so that someone cannot think and have negative thoughts about other people (Berezan et al., 2020; Saggaf & O’Donnel, 2019).

FoMO encourages people to find out about other people’s information, whether they are working, feeling, or experiencing. Therefore, a person carefully assesses every aspect of other people’s lives. Envy is likely to arise in their interpersonal relationships with others with

characteristics similar to themselves and when others have advantages relevant to them (Elhai et al., 2016; Roberts & David, 2020; Wang et al., 2019).

The results of several studies explain the concept of envy involving two parties; those who are envious and those who are envied. Therefore, envy is always related to interpersonal involvement with other people, especially peers (Lin et al., 2018). The emergence of envy is manifested by feelings of anxiety, low self-esteem, and helplessness. In addition, envy is also the first symptom that causes individuals to become FoMO. Because envy can be understood as an individual's jealousy of other people's experiences or moments they miss, it makes a person sink even more and spends his time constantly opening the Instagram application. When this is the case, envy can be associated with FoMO (Wang et al., 2019; Yin et al., 2019). The results also reveal that envy can predict FoMO (Liu & Ma, 2018; Tandoc et al., 2015).

Another thing to be achieved is exploring the relationship between envy and FoMO, moderated by loneliness. The results showed that loneliness could partially moderate envy and FoMO. This finding explains that loneliness causes decreasing effect of envy to FoMO. So, if a person feels increasingly lonely, he will not be busy to pay attention to others and reduce the tendency to FoMO (Liu et al., 2019; de Jong Gierveld et al., 2006).

Loneliness is subjective and can only be felt by oneself (Yavich et al., 2019). Because of this, individuals can experience a phase where they feel left out, especially on social media. The results showed that loneliness is related to poor social skills, poor interpersonal relationships, low self-esteem, shyness, and low social adjustment (Srivastava, 2014). In addition, with reduced loneliness, individuals can strengthen interpersonal relationships with other people. For example, envy will arise when the individual is not dwelling on himself but has manifested negative feelings towards others (Tandoc et al., 2015).

Based on figure 2, when someone has low loneliness, it becomes reinforcement so that someone can focus on their friend's social media activities so that envy will come in play to FoMO well. Moreover, when someone has high loneliness, it manifests in a social exclusion that is done so that someone will never think of seeing social media activities done by someone else. Loneliness causes a person to be socially isolated and will never get involved with other people. Individuals will weaken their social relationships with others, and the use of social media is hampered; the individual does not want to be involved with anyone, which is referred to as social exclusion (Berezan et al., 2020; Ge et al., 2017).

Furthermore, the study results reveal that loneliness moderates envy to FoMO contributes an effective 15.8%, but the interaction between envy and loneliness can have a decreasing effect on FoMO (Tandon et al., 2021). It is also supported by the fact that the higher the loneliness, the less the intention to use social media, especially Instagram, the media under study (Pittsman, 2018).

This study only took the subject of Instagram users. Therefore, there are still many other social media platforms to explore. In addition, the respondents in our research were limited to early adult individuals between the ages of 18-34. Social media users among adults ages 35 and above or below 18 still have the potential to be studied. Then, this research also does not see the opposite direction from FoMO towards Envy which is moderated by loneliness. Based on our assumptions, we see a phenomenon that occurs in society when individuals are anxious due to feeling left behind in the development of people's activities on social media, which can make them jealous. In particular, if the loneliness variable moderates it.

Further research is suggested to look in the opposite direction from Envy towards FoMO to FoMO against Envy, and this is done to see if jealous behavior is caused by FoMO, which envy can cause mental problems for most individuals. Furthermore, loneliness can also be used as a mediating variable. Loneliness can be treated as an indirect effect of FoMO on envy.

Conclusion

In conclusion, this study benefits the variables of envy, loneliness, and FoMO to renew knowledge. The results show that envy has a positive effect on FoMO and when moderated by loneliness, envy decreasing in affecting FoMO. This problem is because there are factors for self-exclusion of individuals when experiencing loneliness, which causes individuals not to be attracted to other people, both face to face and on social media.

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