

Fear of Missing Out as a Predictor of Repetitive Negative Thinking

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KEYWORDS:

Fear of Missing Out
FoMO
Repetitive negative thinking
RNT
Malaysia

CITATION:

Wayne, C., Nurul Hidayah Mohamad Farok, & Soo, H. P. Y. (2025). Fear of Missing Out as a Predictor of Repetitive Negative Thinking. *Malaysian Journal of Social Sciences and Humanities (MJSSH)*, 10(3), e003305. <https://doi.org/10.47405/mjssh.v10i3.3305>

ABSTRACT

When individuals are absent from positive social experiences, feelings of apprehension known as Fear of Missing Out (FoMO) may emerge. It may be often accompanied by repetitive negative thinking (RNT) as they persistently dwell on and feel anxious about the missing experiences. However, limited research has been conducted on the predictive relationship between them due to their current emerging state in the field of literature. Thus, this study aimed to examine FoMO as a positive predictor of RNT in Malaysia, an understudied collectivist culture that values interconnectedness. In this cross-sectional study, 80 Malaysian emerging adults aged between 18 and 25 were recruited, whereby they were required to answer the Fear of Missing Out Scale (FoMoS) and Perseverative Thinking Questionnaire (PTQ). Using a simple linear regression analysis, the results found that FoMO significantly and positively predicted RNT. Hence, this study has advanced the scarce knowledge in this field of literature, urging educational institutes to introduce adaptive methods for emerging adults to reframe their FoMO experiences and eventually reduce RNT.

Contribution/Originality: This study is one of the very few studies which have investigated the predictive relationship of FoMO on RNT among emerging adults in Malaysia, offering a primary exploration beyond their established correlation. It provides comprehensive insights and draws public attention to this increasingly prevalent yet unfavourable phenomenon in contemporary society.

1. Introduction

Every individual has the need to connect with others. This source of motivation can be traced back to the evolutionary history of mammals, whereby social connectedness with family members, partners, and friends serves as the biological imperative for individuals

to survive in this dangerous world as they search for safety features in their relationships (Porges, 2015). In the long run, it can bring reciprocal growth and optimization of social health for individuals engaging in close associations.

However, life is filled with instances of unmet need satisfaction. Absence from desirable social experiences, such as skipping a drinking party with friends (Abri, 2017), missing a chance to travel (Zaman et al., 2022), or being out of touch with others' latest status updates (Abel et al., 2016) may not be uncommonly experienced. This may breed the feelings of apprehension known as Fear of Missing Out (FoMO) (Przybylski et al., 2013). Consequently, it may trigger one's compensatory mechanism to instantaneously reconnect with others, bringing unfavourable outcomes to their emotion, behaviour, and cognition (Elhai et al., 2020; Przybylski et al., 2013).

Most notably, its cognitive impacts may often breed themselves subtly yet gradually. Persistent rumination and worry about the missing experiences, broadly discussed under the umbrella term of repetitive negative thinking (RNT), may occupy one's cognitive resources and lead to perceived unproductivity (Ehring et al., 2011; Elhai et al., 2020). In severe conditions, it may predispose individuals to mental illnesses such as depression and anxiety (Ehring et al., 2011; Funk et al., 2023; Taylor & Snyder, 2021), warranting more attention from the public about this phenomenon to allow early identification and protective measures to be taken.

1.1. Research Objectives

The main objective of this study is to explore the underlying explanatory mechanism between FoMO and RNT. It strives to answer the research question: "Will Fear of Missing Out (FoMO) predict repetitive negative thinking (RNT)?"

2. Literature Review

2.1. Fear of Missing Out (FoMO)

Fear of Missing Out (FoMO) was first formally described by Przybylski et al. (2013) as the pervasive worry of being left out from rewarding social interactions, activities, and experiences of others within one's social circles. This may lead to an increasing desire to stay constantly updated with others' current doings to regain the lost experiences and reduce feelings of apprehension, often through unhealthy means such as problematic phone usage (Przybylski et al., 2013).

Being widespread across both physical and digital realms, FoMO is especially apparent upon missing out on social experiences, such as skipping a party rather than missing a television show (Milyavskaya et al., 2018) or failing to fit into a social group in universities (Mazlum & Atalay, 2022). The advancement of technology in today's world has also, more than ever, enhanced one's FoMO experiences by bringing easy access to obtain these real-time updates of others (Abel et al., 2016). This supported the high social media usage among individuals as they strive to get in touch with others' rewarding stories (Przybylski et al., 2013).

Therefore, given its prevalence across multiple settings, FoMO was suggested to be a stable trait (Przybylski et al., 2013; Wegmann et al., 2017), opening room for studies to examine the individual differences of FoMO. For example, large-sample studies by

Przybylski et al. (2013) and Rozgonjuk et al. (2021) found a negative correlation between FoMO and age. This was supported by GlobalWebIndex (2018) as FoMO was found to be the most apparent among young Internet users aged between 16 and 24 across 40 countries surveyed. Altogether, it suggested the importance of looking into the younger population as they may have a higher risk of FoMO experiences across their dynamic life domains.

Despite its ubiquity, FoMO experience is typically unfavourable to one's physical and psychological health due to its association with various adverse outcomes from one's behavioural, affective, and cognitive aspects. For instance, FoMO is linked with instantaneous needs-compensatory behaviours such as distracted driving and learning (Przybylski et al., 2013) and risk-taking behaviours such as alcohol-taking (Abri, 2017) and conformity in product consumption (Argan & Argan, 2019). Individuals with FoMO were also found to experience less positive affect and more negative affect (Milyavskaya et al., 2018), even evoking secondary emotions of guilt or envy over others' positive experiences at times (Abel et al., 2016; Oberst et al., 2017). Their sleep quality can also be adversely affected due to heightened cognitive arousal before bedtime (Almeida et al., 2022).

Among the negative outcomes not limited to the ones discussed, its cognitive impacts are especially pivotal and not to be overlooked as trivial consequences. This is supported by past studies as, in severe cases, FoMO may yield psychopathological symptoms such as depression and anxiety that warrant clinical attention (Dempsey et al., 2019; Elhai et al., 2020; Fioravanti et al., 2021; Wegmann et al., 2017). This may occur if individuals persistently dwell on and feel anxious about the missing experiences commonly known as repetitive negative thinking (RNT), which is one of the underlying factors that may have yielded rising mental health risks among younger populations in today's world (Funk et al., 2023).

2.2. Repetitive Negative Thinking (RNT)

Repetitive negative thinking (RNT) is a stable trait characterized by an adverse pattern of thoughts adopted when encountering unpleasant emotional problems and experiences that have happened in the past, are happening currently, or are about to happen in the future (Ehring et al., 2011). Individuals experiencing RNT may face recurrent and uncontrollable thought intrusion that is hard to disengage from along with perceived unproductivity and occupying of cognitive resources, thus suggesting its negative connotation that can influence one's actual and perceived thinking process.

In the current publications, RNT is widely and prototypically described as consisting of rumination and worry (Ehring & Watkins, 2008; Ehring et al., 2011; Taylor & Snyder, 2021). Both feature the characteristic of being absorbed by one's recurring negative thoughts and are suggested to yield a greater risk of depression and anxiety. The relatively more similarities than differences between both processes have thus led Ehring and Watkins (2008) to subsume them under the concept of RNT. Nevertheless, this also conveyed the importance of reviewing articles regarding rumination and worry to understand RNT comprehensively.

Looking into its prevalence, emerging adults were suggested to have a higher tendency to experience high RNT as they are often required to deal with increasing commitments and expectations from others during this transitioning stage (Schwartz & Petrova, 2019;

Taylor & Snyder, 2021). In some cases, they may struggle to identify one's sense of identity, yielding risky behaviours or depressive symptoms upon ruminating and worrying about their stressors. This was consistent with findings indicating the peak onset of internalizing psychopathology during emerging adulthood, thus suggesting the need to narrow the scope of RNT studies on this age group to facilitate the development of relevant protective strategies (Funk et al., 2023; Schwartz & Petrova, 2019; Taylor & Snyder, 2021).

To amplify the importance of addressing the alarming issue of RNT, many studies have found its association with adverse consequences. For instance, a systematic review by Devynck et al. (2019) suggested one's tendency to engage in problematic drinking to reduce the negative mood brought about by rumination. One's academic (Mennies et al., 2021) and impromptu speech performance (Reilly et al., 2018) can also be negatively impacted due to self-reported interference of worrying and ruminating thoughts. The difficulty in discarding irrelevant past information from their memory may also impair cognitive control among individuals (Zetsche et al., 2018). In severe conditions, RNT can bring clinical consequences due to its transdiagnostic quality across disorders such as depression and anxiety (Ehring et al., 2011; Funk et al., 2023; Taylor & Snyder, 2021), bringing an increasing need to dive deeper into understanding and developing counterstrategies against it.

2.3. Relationship between FoMO and RNT

Missing-out experiences are prevalent in one's life full of choices (Milyavskaya et al., 2018). In settings where two or more options are available concurrently, it may be infeasible for individuals to select all at once. Thus, based on the rational choice theory, they may tend to weigh the costs and gains of each alternative in advance (Scott, 2000). However, the conscious trade-off may lead individuals to experience FoMO as they regret the options not chosen (Milyavskaya et al., 2018). As an illustration, upon needing to choose between gathering with friends or important examinations that clash in time, individuals may tend to pick the latter option. Although it yields relatively more gains, their relatedness needs satisfaction may be compromised, leading to FoMO (Przybylski et al., 2013; Scott, 2000).

Enhanced by curiosity, individuals may experience RNT as they engage in counterfactual thinking by ruminating against the rewarding social experiences they could have gained if they chose the other option instead (FitzGibbon et al., 2021; Milyavskaya et al., 2018). They may also worry about their incapability to catch up with their friends' conversations or in-jokes in the future upon missing out on their current doings (Mazlum & Atalay, 2022; Przybylski et al., 2013). This is apparent even when one chooses to miss out on favourable experiences to engage in alternate activities voluntarily or out of obligation (Mazlum & Atalay, 2022; Milyavskaya et al., 2018), thus suggesting the role of daily life choices in explaining the relationship between FoMO and RNT.

Furthermore, social comparison theory can complement the explanatory mechanism between the variables (Festinger, 1954). It indicates that individuals tend to compare themselves with similar others to determine their self-worth in ambiguous situations. Similarly, individuals with FoMO may experience uncertainties upon missing out on the possible alternatives (Milyavskaya et al., 2018). Thus, they may be motivated to fulfil their relatedness needs through upward social comparison to assimilate with those who have chosen the more rewarding options, supporting the behavioural compensation

resulting from FoMO (Abel et al., 2016; Abri, 2017; Przybylski et al., 2013). Hence, this increases one's tendency to engage in RNT due to the recurrent ruminating and worrying thoughts evoked from the sense of inferiority and lower self-esteem upon comparison (Faelens et al., 2021).

Although individuals with FoMO may also engage in downward social comparison to compensate for their low self-worth, the highly selective positive experiences that tend to be shared online may discourage the process (Yang et al., 2021). Instead, the substantial contrast may enhance the opportunities for upward social comparison, bringing adverse outcomes such as RNT (Faelens et al., 2021; Yang et al., 2021). This is in line with the study by Abel et al. (2016) who suggested that the definition of FoMO typically implies the process of upward social comparison. Thus, this supported its role in complementing the explanation between FoMO and RNT when one misses out on an event at the cost of more rational alternatives.

To examine the relationship between FoMO and RNT, a recent study was carried out by Brailovskaia et al. (2021) amid the COVID-19 pandemic. The variables were found to be significantly positively correlated, thus establishing the foundation of this phenomenon. Although the study's temporal reliability may be questioned for being theorized in a period when one's relatedness needs were temporarily heightened due to lockdown measures, it nonetheless suggested the underlying role of interpersonal separation in explaining the phenomenon from a broader context. In addition to using a large sample size to improve the generalizability (Brailovskaia et al., 2021), this study was suggested to yield a substantial contribution to this emerging stream of literature.

The positive association between FoMO and separate RNT components, rumination and worry, was also consistently observed. For example, the systematic review by Elhai et al. (2020) suggested a moderate-to-large effect on the relationships between the variables. Although the study was acknowledged to be less comprehensive, the inclusion of studies exclusively from recent years may, nonetheless, imply its practicality in today's world. This was also further supported by individual studies showing the positive association of FoMO with rumination (Almeida et al., 2022; Dempsey et al., 2019) and worry (Almeida et al., 2022; Elhai et al., 2016; Rozgonjuk et al., 2021) respectively, suggesting the increasing prevalence of FoMO and RNT in today's world.

Moreover, some studies have gone beyond examining the correlational relationship and supported FoMO as a positive predictor of each component of RNT (Bayın et al., 2021; Milyavskaya et al., 2018; Zhang et al., 2023). Individuals with high FoMO were found to engage in ruminating and worrying thoughts more frequently, serving as a maladaptive coping strategy to express their negative emotions. Noteworthy, each study has employed different scales and methods to measure rumination and worry, which may increase the tendency to capture effects that do not represent the definition of RNT. Thus, it may suggest a need to explore RNT as a whole in relation to FoMO to avoid confusion.

Nonetheless, past studies have also explored the variables from an opposite predictive direction. For instance, the research by Elhai et al. (2018) found that rumination and anxiety significantly predicted FoMO upon controlling for other constructs of negative affectivity. It may be attributed to their roles in magnifying one's negative emotions upon missing out on events, thus positively predicting FoMO (Fitzgerald et al., 2023). However, only small effects were observed, questioning the strength of the study's implications

(Elhai et al., 2018; Field, 2017). In addition to the less clinical importance of studying the consequences of RNT than its factors as a transdiagnostic process when designing protective strategies against mental illnesses, it may discourage the practicality of studying the phenomenon in this direction.

2.4. Research Gaps

To date, however, only sparse research has studied the predictive relationship between FoMO and RNT explicitly to their definitions. Instead, only their correlation was examined due to the emerging state of this phenomenon (Brailovskaia et al., 2021). Thus, it presented a methodological gap for this study to advance the research progression in this literature and establish the relationship of the variables from a specific direction, allowing this study to identify the amount of variance in RNT that can be explained by FoMO (Field, 2017).

Moreover, many studies that researched FoMO considered only its correlational and predictive relationships with rumination and worry separately (Almeida et al., 2022; Bayn et al., 2021; Dempsey et al., 2019; Elhai et al., 2016, 2020; Milyavskaya et al., 2018; Rozgonjuk et al., 2021; Zhang et al., 2023). However, this study proposes that FoMO is more likely to evoke both cognitive states simultaneously. In addition to the extensive feature similarities between rumination and worry (Ehring & Watkins, 2008), studying them on the whole, as in RNT, is crucial to filling in the knowledge gap and understanding the phenomenon more comprehensively.

A population gap can also be identified as the relationship of the variables was examined and established in an individualistic country (Germany) only (Brailovskaia et al., 2021), even though FoMO may be more apparent among individuals in collectivist countries that value interconnectedness such as Malaysia (Hofstede, 1983). It was supported by Kwek et al. (2022), as individuals with a high sense of belongingness are more likely to compensate for their missed interaction opportunities upon separation. However, this may increase the occurrence of FoMO and RNT due to the infeasibility of individuals to join every social situation concurrently (Mazlum & Atalay, 2022; Milyavskaya et al., 2018; Scott, 2000). Thus, in support of the GlobalWebIndex (2018) which showed the highest prevalence of FoMO (41%) among the Malaysian population, it yields growing importance to study this phenomenon in Malaysia, an understudied collectivist country regarding these variables.

2.5. Current Study

Hence, the current study aimed to examine the Fear of Missing Out (FoMO) as a predictor of repetitive negative thinking (RNT) among emerging adults in Malaysia. This study wishes to explore the underlying psychological mechanism of the social dynamics in Malaysia and its possible implications on emerging adults' well-being, enriching the literature on the fields of social and cognitive psychology. Focusing on emerging adults among the general public can also allow early identification of possible psychopathological symptoms, thus protecting healthy individuals from developing mental illnesses due to RNT (Schwartz & Petrova, 2019).

Based on the theoretical framework proposed, individuals with high FoMO may tend to subsequently engage in high RNT due to the unpleasant trade-offs on rewarding events for more rational alternatives (Mazlum & Atalay, 2022; Milyavskaya et al., 2018). This

may be further enhanced by the complementary role of unhealthy upward social comparison that may increase one's sense of inferiority towards the events they regretted not joining (Abel et al., 2016; Abri, 2017; Faelens et al., 2021; Milyavskaya et al., 2018). The positive predictive direction was also supported by empirical research on the relevant stream of literature (Bayın et al., 2021; Zhang et al., 2023). Thus, this study proposed the hypothesis that Fear of Missing Out (FoMO) will positively predict repetitive negative thinking (RNT).

If a significant result is obtained for the current study, interventions can be designed to address the issue of RNT by tackling its predictor, FoMO. For instance, educational institutes can organize talks to deliver strategies for reducing FoMO, such as practising mindful thinking and enjoying the chosen alternatives at present (Chan et al., 2022), to lessen the eventual RNT among emerging adults. Upon exposure to others' rewarding experiences, individuals can also learn to share the joy of others instead of interpreting them as threats to one's social maintenance, thus minimizing the tendency to engage in RNT.

3. Research Methods

3.1. Design

A quantitative, cross-sectional design with one predictor variable (Fear of Missing Out) and one outcome variable (repetitive negative thinking) was carried out to examine the predictive relationship of FoMO on RNT. This study was conducted online using Google Forms by posting the link on the researcher's social media accounts and messaging apps.

3.2. Participants

To participate in this study, one must be an emerging adult aged between 18 and 25 (Arnett, 2000). This criterion was included in line with the higher prevalence of FoMO and RNT found among the age group (Przybylski et al., 2013; Rozgonjuk et al., 2021; Taylor & Snyder, 2021), thus facilitating the derivation of highly applicable implications in the present study. Moreover, consistent with the study's effort to address a population gap, only Malaysians were included. Participants must not also be diagnosed with any mental health condition to allow greater generalizability of this study in the non-clinical population.

In the end, 84 Malaysian emerging adults were recruited through the researcher's personal social media accounts (Facebook, Instagram, LinkedIn) and messaging apps (WhatsApp, Messenger) using a convenience sampling method. Four were excluded due to violating the inclusion criteria of not being diagnosed with any mental health condition, making the final sample size, $n = 80$. This surpassed the minimum target sample of 59 participants calculated using a G*Power v3.1.9.7 software (Faul et al., 2007) with a small-to-medium effect size of 0.14 obtained and converted from Brailovskaia et al. (2021), an alpha level of 0.05, and a power of 0.8.

3.3. Materials

In this study, the Fear of Missing Out Scale (FoMOs) (Przybylski et al., 2013) was used to assess FoMO as it examines one's typical anxious experiences upon missing out on rewarding events and desiring to stay in touch with others' happenings. It is a 10-item, 5-

point Likert scale ranging from 1 “Not at all true of me” to 5 “Extremely true of me,” whereby a higher average score indicates a higher level of FoMO (Moore & Craciun, 2021; Przybylski et al., 2013). The scale presented a high internal reliability with Cronbach’s alpha, $\alpha = .87$ in the original study (Przybylski et al., 2013) and $\alpha = .89$ in intercultural research in Malaysia (Tutar et al., 2022).

The Perseverative Thinking Questionnaire (PTQ) (Ehring et al., 2011), validated to be used in non-clinical samples (Ehring et al., 2011), was chosen to measure RNT by looking into one’s typical thinking style when facing negative experiences. It is a 15-item, 5-point Likert scale ranging from 0 “Never” to 4 “Almost Always,” whereby a higher total score indicates a higher level of RNT (Ehring et al., 2011; Miniati et al., 2023). PTQ consisted of 3 subscales (repetitiveness, intrusiveness & disengagement difficulty, perceived unproductivity, and capturing of mental capacity). It was suggested to be suitable for use in non-clinical samples and has a high internal reliability with Cronbach’s alpha, $\alpha = .95$ (Ehring et al., 2011). A Cronbach’s alpha, $\alpha = .96$, was also obtained in the Malaysian undergraduate sample (Rayniesha & Mutang, 2022).

3.4. Procedure

Participants were required to click the Google Forms link posted online and indicate their voluntary consent to participate in this study. They were then required to fill in the demographic form asking for their gender, age, nationality, and whether they were diagnosed with any mental health condition. Upon meeting the inclusion criteria, they were asked to complete the Fear of Missing Out Scale (FoMOs) and the Perseverative Thinking Questionnaire (PTQ).

3.5. Data Analysis

The collected data were imported into IBM SPSS Statistics (Version 29). Demographic information, such as gender and age, was used for a descriptive analysis to summarize the sample characteristics. Each participant's FoMOs scores were averaged, whereas their respective PTQ scores were summed up. The derived data were then used for descriptive analyses and assumption checks before conducting a simple linear regression analysis to test the predictive linear relationship of FoMO on RNT based on a best-fit regression line (Field, 2017). A bootstrapping method was also used to estimate the parameters from the available sample to achieve higher confidence intervals (Field, 2017).

4. Results

The sample distribution by gender in this study was shown to be 32 males (40.00%), 45 females (56.25%), and three who preferred not to disclose their gender (3.75%). All participants were between 18 and 25 years old ($M = 21.03$, $SD = 1.82$).

The descriptive analysis of the FoMOs scores found that, in the range of 1.10 to 5.00, participants obtained a mean score of 2.73 with a standard deviation of 0.84, thus indicating a low-to-moderate level of FoMO experiences among participants in this study. On the other hand, within the range of 0.00 to 58.00, a mean score of 29.55 with a standard deviation of 12.97 for PTQ scores was obtained, thus suggesting a moderate tendency for the participants to engage in RNT when facing unfavourable issues in this study.

With the assumptions met, a simple linear regression analysis was carried out and it was shown that the model of FoMO significantly predicted RNT and accounted for 15.4% of the variance of RNT, $R^2 = .15$, $F(1, 78) = 14.17$, $p < .001$. As shown in [Table 1](#), FoMO was a significant and positive predictor of RNT, $b = 6.08$, BCa CI [1.55, 10.23], $t(78) = 3.77$, $p < .001$. Therefore, the hypothesis was supported. The results yielded an effect size of 0.18 and a statistical power of 0.96 using the G*Power v3.1.9.7 software ([Faul et al., 2007](#)). A regression equation can also be formed for this study, as shown below:

$$\text{Repetitive negative thinking} = 12.98 + 6.08 (\text{Fear of Missing Out}) \quad (1)$$

Table 1: Simple Linear Regression for Fear of Missing Out Predicting Repetitive Negative Thinking

Variable	<i>b</i>	<i>t</i>	BCa CI		<i>p</i>
			<i>LL</i>	<i>UL</i>	
Fear of Missing Out	6.08	3.77	1.55	10.23	<.001

Note. BCa CI = bias-corrected and accelerated confidence intervals; *b* = unstandardized Beta coefficient; *LL* = lower limit; *UL* = upper limit.

5. Discussion

5.1. Results Interpretation

In this study, FoMO was found to be a statistically significant and positive predictor of RNT, thus supporting the hypothesis that Fear of Missing Out (FoMO) would positively predict repetitive negative thinking (RNT). The strength of this predictive relationship was also shown to be slightly greater than moderate, suggesting a low likelihood of the observed relationship occurring by random chances ([Cohen, 1992](#); [Field, 2017](#)). Hence, it can be predicted that individuals experiencing a high level of FoMO may consequently experience a high level of RNT.

This finding was aligned with the study by [Brailovskaia et al. \(2021\)](#) which suggested a positive correlational relationship between FoMO and RNT. By identifying a specific predictive direction between the variables, this research has supported and expanded on the foundation of the phenomenon established in their study. The results' consistency may also, with caution, imply the prevalence of the trait-like phenomenon across time, supporting the role of forced-choice separation not exclusive to social restrictions during the COVID-19 pandemic. Together, it may provide a valuable understanding of the temporal precedence of the variables upon deprivation of social interactions regardless of the temporal context.

Similarly, the current study has furthered the progression into understanding this phenomenon in line with the correlational relationships found between FoMO and each component of RNT ([Almeida et al., 2022](#); [Dempsey et al., 2019](#); [Elhai et al., 2016, 2020](#); [Rozgonjuk et al., 2021](#)). In their studies, the relationships were positively associated with a moderate to large effect size. Although their variables of interest may differ slightly from RNT in terms of contexts of usage, such as the measuring of one's reflective rumination that was excluded from the definition of RNT that has primarily maladaptive properties ([Almeida et al., 2022](#); [Ehring et al., 2011](#)), the results may nonetheless imply the possible close relevance of FoMO with one's cognitive processes from a broader viewpoint. Thus, this partly explained the moderately sized significant relationship

found in this study, supporting the theoretical framework proposed in describing a proportion of RNT through FoMO.

Moreover, the results supported the past studies that indicate a positive predictive influence of FoMO on independent components of RNT (Bayın et al., 2021; Milyavskaya et al., 2018; Zhang et al., 2023). Upon missing out on an event, individuals with FoMO were suggested to have a higher tendency to express their negative emotions through ruminating and worrying. This was consistent with the present study, as feelings of regret may emerge among individuals upon not choosing the positive experiences, accompanied by a sense of inferiority evoked from the upward social comparison (Faelens et al., 2021; Mazlum & Atalay, 2022; Milyavskaya et al., 2018). Consequently, they may tend to engage in RNT to compensate for their missing-out experiences, supporting the positive predictive relationship found in this study.

In addition, the current research has challenged past studies suggesting the predictive and amplifying role of rumination and anxiety on FoMO (Elhai et al., 2018; Fitzgerald et al., 2023). This may be due to gender differences in play, whereby their sample distribution by gender is imbalanced, with over 70% of their participants being female. As females are suggested to have higher rumination and anxiety by trait across the life span (Espinosa et al., 2022; Lilly et al., 2023), they may have a higher tendency to engage in these negative thought processes upon missing out on life events before eventually developing FoMO through recurrent amplification, resulting in the direction of relationship found in their studies. While both directions can yield a substantial understanding of the phenomenon, with a slightly greater magnitude found in this current study, it has indirectly supported, at least partially, the greater practicality of examining RNT as an outcome variable. However, this argument should be interpreted with caution due to the different methodologies and variables employed in each study when exploring the phenomenon.

Overall, this study supported the theoretical role of choices and the complementary mechanism of social comparison in individuals' lives upon missing out on rewarding experiences from social events that they may regret not participating in (Abel et al., 2016; Abri, 2017; Faelens et al., 2021; Mazlum & Atalay, 2022; Milyavskaya et al., 2018). From a broader perspective, this study has also reflected the negative connotation of FoMO, as it makes individuals more vulnerable to falling into the vicious cycle of engaging in social comparison that, paradoxically, yields a greater sense of missing out given the more events they consciously unattended, in turn reinforcing their compensatory behaviours attempting to reduce the feelings of apprehension (Oberst et al., 2017). As a result, the recurrent FoMO experiences may lead individuals to engage in RNT, bringing possible spillover psychological effects in the long run.

5.2. Limitations and Suggestions

Nevertheless, it is imperative to acknowledge that participants were unrestricted to answer the trait scales based on their emerging adulthood experiences. Thus, the significant results could also imply the occurrence of FoMO and RNT in their earlier life period, such as during their vulnerable adolescence (Oberst et al., 2017), leaving it inconclusive to imply the pervasiveness of the phenomenon among emerging adults. Hence, modifications or adaptations of the scales to prompt recall of experiences only from emerging adulthood can be carried out in the future to aid in a more exclusive understanding.

Moreover, this study may not be able to comprehensively picture the phenomenon within Malaysia and among collectivist countries outside of Malaysia due to individual and global differences present along the collectivism continuum (Hofstede, 1983), leading to the circumscription of the study's external validity. Therefore, replication studies can be carried out in and outside of Malaysia while considering the need to assess the participants' level of collectivism and statistically control its effect for a more unbiased result.

Third variables may also be present in the current study, influencing the strength of the relationship found. For example, the research by Rozgonjuk et al. (2021) indicated that individuals with high neuroticism may have high FoMO as they tend to experience negative emotions such as anxiety and depression. In line with the argument, the effect size of this study may have been understated if a skewed number of participants had low neuroticism, which can weaken the predictive relationship of FoMO on RNT and vice versa. Hence, future research can control the influence of possible third variables in the relationship using multiple linear regression analysis to allow the derivation of a more accurate effect size. Alternatively, a moderation analysis can be done to explore their roles as moderators in the relationship, thus allowing a more comprehensive view of the phenomenon.

5.3. Theoretical and Practical Implications

In the researcher's greatest knowledge, this study presented an initial effort to primarily examine and establish the predictive relationship of FoMO on RNT. Building on the research by Brailovskaia et al. (2021), the current study has filled in the methodological gap and contributed to the statistical understanding of the phenomenon by explaining the amount of variance FoMO can account for RNT. The knowledge and population gaps were also addressed, providing in-depth insight into the underlying mechanism between the variables and hints at the ubiquitous phenomenon of FoMO and RNT experiences in the Malaysian emerging adult context.

Viewing from the bigger picture, this study has enriched the scarce literature between FoMO and RNT, highlighting the increasingly prevalent yet unfavourable phenomenon in the contemporary world. It has expanded on the understanding of one's unhealthy thinking pattern driven by feelings of apprehension upon missed interaction opportunities, demonstrating an effort to bridge the literature from social and cognitive psychology. Ultimately, it drew attention to the importance of cross-disciplinary research to explore this phenomenon comprehensively.

Based on the direction of the predictive relationship found, the current study has also yielded practical implications aimed at reducing FoMO and consequently minimizing RNT. Higher educational institutes in Malaysia can invite licensed counsellors to share practices in dealing with FoMO tailored to emerging adults, such as adopting positive reframing of their ruminating and worrying thoughts upon missed experiences and finding contentment in their chosen alternatives instead (Chan et al., 2022). Talk sessions featuring non-professionals' life experiences in adaptively coping with FoMO that highly resonates with emerging adults can also effectively engage them to adopt similar strategies in the face of FoMO experiences, thus reducing their eventual RNT.

Furthermore, mindfulness practices can be incorporated into Malaysian universities' counselling services to allow easier access for emerging adults to gain awareness of their automatic negative thoughts that intrude into their minds in response to missing-out experiences (Chan et al., 2022). This can help emerging adults think rationally about their experiences beyond the black-and-white deduction of having to get in touch with every aspect of their friends and surroundings. Ultimately, this can protect their mental health from deterioration to a state that warrants clinical attention.

In addition, emerging adults can practice time management skills to make time for their connectedness needs satisfaction while ensuring the fulfilment of other work priorities. By developing schedules to reduce clashes between obligations and social events, they can minimize missing-out experiences and the subsequent unhealthy cycle of RNT. In the face of unavoidable FoMO experiences, they can also learn to take pleasure in others' rewarding experiences and celebrate their happiness. Adopting perspective-taking can hence replace the unhealthy social comparison practices among emerging adults and effectively reduce engagement in thinking about their failures to fit in with others.

6. Conclusion

In short, the present study aimed to offer a novel and primary investigation into the predictive relationship of FoMO on RNT among emerging adults in Malaysia. The results showed that FoMO significantly and positively predicted RNT, supporting the hypothesis proposed. Therefore, this study has contributed to the statistical and theoretical understanding of the prevalent phenomenon, urging the implementation of interventions to reduce RNT by tackling the issues of FoMO. Great possibilities can be explored in the future to enrich the scarce knowledge in this emerging stream of literature.

Ethics Approval and Consent to Participate

This research is approved by the Ethics Review Board of HELP University, Kuala Lumpur, Malaysia. [Approval Code: E202308/31]. Informed consent was obtained from the participants in the introductory part of the questionnaire. All participation is voluntary, and no compensation is given.

Acknowledgement

We would like to extend our gratitude to all participants for their time and contributions to this study.

Funding

Publication of this work was supported by HELP University, Malaysia [Publication Charge Support Grant 25-03-001].

Conflict of Interest

The authors declare there are no conflicts of interest.

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