# A Study of Fear and Anxiety of COVID-19 in Relation to Purchasing Involvement of University Students in Thailand

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**ABSTRACT**

The objective of this study was to discover the correlation of fear and anxiety of COVID-19 as antecedents of purchasing involvement of students in a Thai context. This quantitative study collected data online from 350 students from two universities located in an urban area of Bangkok as the sample. To measure fear of COVID-19, the Scale developed by Ahorsu, Lin, Imani, Saffari, Griffiths and Pakpour, was used. The Coronavirus Anxiety Scale developed by Lee, S. A. was used to measure COVID-19 anxiety. To measure purchasing involvement, the Purchasing Involvement Scale developed by Karaatli was used. The Pearson's Correlation Coefficient and t-test for data analysis found that all five hypotheses were supported by the analysis results, indicating a moderate correlation between fear and anxiety of COVID-19 and purchasing involvement. Moderate correlation between genders were found in fear and anxiety of COVID-19, and purchasing involvement. The findings could provide information to marketers and advertisers regarding purchasing involvement to promote and sell products especially during future crisis, albeit needs to be extended to other contexts.

**KEYWORDS:** Fear of Covid-19, Coronavirus anxiety, Purchasing involvement of students

## 1. Introduction and Research Problem's Significance

"Life is 10% of what you experience and 90% of how you respond to it." (Neddermeyer, n.d.)

The **"**Psychology of Pandemics", emerged as a priority during the COVID-19 pandemic, for treating pandemic-associated psychopathological problems as well as for the general public health (Taylor, 2019). Psychological stressors that incorporate fear, anxiety, phobia and panic were manifested substantially during and succeeding the COVID-19 outbreak (Mertens et al., 2020). While checking regularly for symptoms of the Coronavirus as well as conducting their own offline and online investigations (Cao et al., 2020), often information regarding the virus was misconstrued and incorrect (Hashemi et al., 2020). Ultimately, this resulted in experiencing fear and anxiety about the prospect of their families and themselves contracting the Coronavirus (Asmundson & Taylor, 2020; Pakpour &

Griffiths, 2020).The transformation of daily living routines radically to coincide with the external environment, caused fear and panic in several persons (Huang & Zhao, 2020; Rajkumar, 2020; Qiu et al., 2020). Social distancing, isolation, lockdowns and working from home mandatorily compelled people to create a cyber-world and communicate via social media and communication devices (Elhai et al., 2021). Excessive technology usage could result in stress and anxiety but to alleviate stress and anxiety people often revert back to the using technology (Brand et al., 2016).

**The Concept of Fear and Anxiety**

Heshmat (2018), in Psychology Today, stated that fear and anxiety are closely related to having knowledge of danger or a possibility of injury. Barlow (2002) specified that fear is largely perceived as reaction to a specific, foreseeable danger, whereas anxiety is perceived as an unclear, aimless, future-oriented fear. Hence, fear and anxiety are both associated with specific factors, situations or contexts (Horwitiz, 2013). According to the American Psychological Association (2020), fear is "a basic, intense emotion aroused by the detection of imminent threat, involving an immediate alarm reaction that mobilizes the organism by triggering a set of physiological changes". Several pandemic related stressors like fear, anxiety, trauma, mood disorders, fatalities etc. are related to a person's psychopathology (Taylor et al., 2020).

In the General Adaption Syndrome (GAS), Selye (1936) suggested that the body has a certain capacity of energy to deal with stressors, irrespective of whether the stressors are physical or psychological, in the following stages:

1.Alarm/Mobilization (Fight/Flight): The body becomes aware of the existence of the stressors and reacts by activating the nervous system. If stressors prolong the body enters the second stage.

2. Resistance (Adaptation): The body collects all the energy to fight with stressors in order to recover. If new stressors are encountered or the previous stressors continue, the body enters the third stage.

3. Exhaustion (Burnout): Finally the body is consumed of all energy and lacks potential to deal with the stressors. Exhaustion works best for emergencies but if prolonged and lead to **"*emotional exhaustion*"**.

The stages enumerated above could apply to pandemics since it impacts emotions, cognitions and behaviors negatively (Schaller& Park, 2011). If the pandemic is perceived as an external threat, people may need a way to cope by engaging in buying impulsively (Campbell, Inman, Kirmani & Price, 2020). Shigemura et al., (2020), posited that the reactions of COVID-19 in the general population impact well-being, leading to escalated levels of fear and panic behaviors like storing for the long-term. Consumers who make purchases online or offline could make decisions without much thought or involvement, in response to the environmental circumstances.

**The Concept of Purchasing Involvement**

Consumer behavior emerged in the 1940s is a sub-discipline of marketing (Tadajewski, 2009). Earlier consumer behavior focused on classical schools with priority given to economics, but today it blends ideas from many different social sciences like psychology, social anthropology, anthropology, ethnography, marketing, and behavioral economics

(Sheth, 1985). Consumer behavior is related to all activities concerned with purchase, as well as emotional, cognitive and behavioral responses that proceed or follow all activities (Kardes, Cronley & Cline, 2011). Consumer involvement is the motivation (involves the psychological and physiological effort) to search for different classes of products before the selection and decision to buy a product (Schiffman & Hansen, 2011). Mittal (1989), agreed that analogous to motivation, involvement requires a goal or destination. The goal is the product, hence the term product or purchase involvement (Antil, 1984; Mittal & Lee, 1989).

Purchasing involvement can be defined as the interest, energy and thought exhibited by people while buying a product, once a drive has been triggered by the need for the product (Quester, Pettigrew & Hawkins, 2011). Purchasing involvement is regarded as an individual difference variable since it is a self-relevant activity of purchasing activity of an individual (Slama & Taschian, 1985). Facets determining purchase involvement are:

1. Attitude, lifestyle, needs, interest and price- A judicious consumer will most often evaluate and explore several alternatives before a purchase decision (Bezenco & Blili, 2011).

2. The utility and characteristics of the product- can determine the degree of purchase involvement (Harari & Hornik, 2010) but brand loyalty may lead to low involvement

3. Situational factors-like buying for a loved one and social pressures or the presence of colleagues can affect purchase involvement accordingly (Ozdipciner, Li & Uysal, 2012).

The question that needs to be answered was, ***"Can fear and anxiety of COVID-19 impact online purchasing involvement of students?***

## 2. Review of Related Literature

Consumer behavior is concerned with an enduring individual difference rather than a situation (Mina &Campos Jr, 2018). A consumer's decision to buy a product can be implemented using three strategies (Quester, Pettigrew & Hawkins, 2011), which are:

1. Habitual Decision-making- the consumer hardly uses any cognition regarding a purchase but selects a product based on past habits.

2. Limited Decision-making -the consumer searches for little information before making any decision to purchase.

3. Extended Decision-making-the consumer searches for a vast amount of information before making any decision to purchase. This implies high purchase involvement.

The concept of purchase involvement is confused with other concepts in marketing, like shopping enthusiasm or need for cognition. According to Babin, Darden, and Griffin (1994), shopping enthusiasm can include feelings of pleasure and excitement experienced while gathering and processing information about products. Need for cognition is an individual's tendency to be involved in activities that require higher mental ability or thinking (Caccioppo & Petty, 1982). For habitual and limited decision-making, the individual may use limited cognitive agility or may not be enthusiastic to shop, but could still be involved with the purchasing process. On the other hand, the amount of involvement could be higher for extended decision-making. A person can be involved with the purchase, to increase happiness or to decrease risks but not necessarily experience need for cognition or high shopping

enthusiasm. Kassarjian (1981), viewed differences in intensity or effort people invest with shopping irrespective of the product or situation. Some people are more invested in the decision process, like search and effort (Bloch, Sherell & Ridgway, 1986; Bloch & Richins, 1983). Purchasing involvement may be initiated by several factors.

The degree of uncertainty and fear that pursued during the COVID-19 pandemic resulted in psychological changes regarding consumer's behaviors (Duan & Zhu, 2020; Meyer et al., 2020). Studies in the field of marketing have incorporated fear and anxiety as psychological disorders, which positively and negatively trigger preventive defense mechanisms amid consumers, consequently causing a connection with their purchase involvement and the behavioral changes such as the degree and extent of required information search, shopping habits, purchase preferences and spending patterns. (Di Crosta et al., 2021; Ang et al., 2000; Duan & Zhu, 2020; Meyer et al,, 2020; Green & Murphy, 2014). The level of involvement with regards to a purchase is contingent upon decision-making (Hawkins et al. 2020). This simply means that the decision to buy an expensive item involves more decision making than vice versa. Hawkins et al. (2020), agree that often consumers may not be rational with purchases and use emotions when buying. Viser-Keiser et al., (2016), asserted that the sense of fear is a powerful negative emotion which thereafter weakens rational decision-making causing illogical consumer behavior. When making decisions during several points in time, fear can induce impatience and individuals are likely to forgo greater future returns for less immediate returns (She et al., 2016). Zeelenberg et al. (2008), viewed emotions as assisting the right decisions and evaluations as well as evicting a person from situations that are potentially dangerous so as to reduce and avoid risks that is important for making judgments. Emotions can impact product appraisal by the target (i.e. being elated after getting a discount) or the situational factor (i.e. shopping after a stressful incident) (Pham, Cohen, Pracejus & Hughes. 2001). Frijda et al., (1989), indicated that anxious persons manifested high uncertainty and stronger motivation to purchase in order to reduce risk. Manyande et al., (1992), viewed moderate levels of anticipated fear and anxiety as essential tools for coping behaviors for motivation to adapt to a situation.

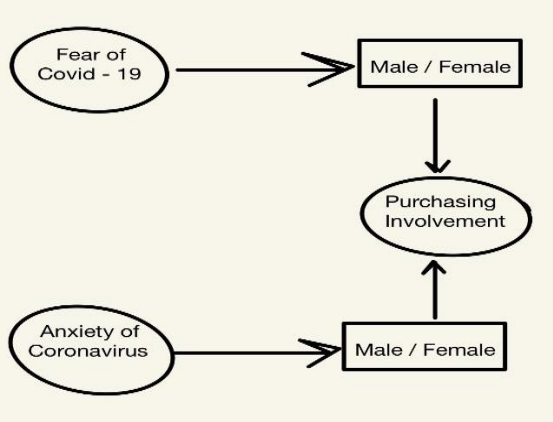
Stress can also initiate compulsive shopping (Roberts & Jones, 2001), anxiety and pleasure and fun (Trotzke et al., 2015). A report by the Big Commerce platform indicated that the COVID-19 pandemic rapidly changed how, when and why people purchase (Meyer et al., 2020), which could result in daily habits being replaced with substitute and competent methods of buying as well as utilizing particular products (Sheth, 2020). Taylor et al., (2020), discovered that fear of infection during COVID-19, is the basic phenomenon of the syndrome and stress is perceived as an adjustment ailment which can vacillate in accordance to the degree of perceived threat (Asmundson & Taylor 2020). Weber (2006), posited that fear can trigger motivation to eliminate risk and take measures accordingly. A person's emotional, utilitarian or hedonistic motivations can impact both planned and impulse buying (Leverin & Liljander, 2006; Yu & Bastin, 2010). During a crisis consumers are more utilitarian and switch to economical products

with the intention of procuring as much benefit as they can to satisfy basic needs (Ang et al., 2000).

Research on panic buying or impulsive buying during a crisis is ubiquitous in contrast to research on purchasing involvement. Shou et al., (2013) and Tsao et al., (2019) perceived that panic buying is not the result of supply scarcity but rather high levels of fear and anxiety. Furthermore, this fear and anxiety are experienced because of perceived lack of time or quantity that occur due to natural disasters, pandemic and strikes (Badgaiyan & Verma, 2015; Wu et al., 2020) which could eventually lead to obsessive purchases.

Atkin et al., (2007) discovered gender differences in the search frequencies and buying behaviors of men and women. Kacen (2000) believed that consumption has been gendered since early times. Women prefer excess information during the interaction process of buying in comparison to men who wish to have quick answers. Thus, men are hunters and women are gatherers. Women tend to exert more time and energy in detailed searching and hence possess a better sense of risks for a product than men who focus on the most relevant cue. Although males and females have similar purchase goals, each gender displays different purchase involvement depending on the product involved, promotional offers and desires in fulfilling the satisfaction. (Kotler & Keller, 2016). Subsequently, the socialization process of men and women coupled with other physiological and psychological and social factors can be responsible for different behaviors (Meyers & Maheswaran, 1991). The greater degree and extent of fear and anxiety of COVID-19 among females are higher than males even though the death rates and the serious illness among males are much higher (Bhopal & Bhopal, 2020; Gebhard et al., 2020; Jin et al., 2020; Peckham et al., 2020). Additionally, women are more prone to emotional states (Fujita et al., 1991), especially negative reactions like fear more often (Brebner, 2003; Fischer et al., 2004) Tokgozoglu and Canpolat (2020), stated that women manifested higher anxiety then men in social situations. Exploration in countries like China, United States and Cuba discovered that fear, anxiety and stress related to the pandemic were much higher for women than men (Broche-Pérez et al., 2020; Fitzpatrick et al., 2020; Liu et al., 2020; Park et al., 2020). The pandemic resulted in fear, panic and decreased wellbeing (Shigemura et al., 2020), which consequently affected purchase involvement intensity. Stress, anxiety and depression were common symptoms experienced by students in Malaysia, Thailand, Indonesia and China during COVID-19 (Lyon & Matson, 2020).

The literature review indicated that fear and anxiety play a prominent role in consumers' buying behaviors. Purchasing involvement is a general construct, concerned with the absorption in purchasing activities during a critical and indefinite crisis (Veryzer & Karaatli, 2008). Persons residing in urban areas with better internet facilities, often shop online (Zhen et al., 2018).Hence, the research framework was proposed as follows:




**3. Objective** and Hypotheses

Objective

The objective of this study was to find the correlation of fear and anxiety of COVID 19 as antecedents of purchasing involvement.

Hypotheses

H1: There is a significant relationship between Fear of COVID-19 and purchasing involvement of students.

H2: There is a significant relationship between Coronavirus anxiety and purchasing involvement of students.

H3: There are significant differences between male and female students on fear of COVID- 19.

H4: There are significant differences between male and female students on Coronavirus anxiety.

H5: There are significant differences between male and female students on purchasing involvement.

**4. Methodology and Data Analysis**

To measure fear of COVID-19, the scale developed by Ahorsu et al., (2020) was used, consisting of 7 items on a five-point Likert scale from 5, strongly agree to 1, strongly disagree. The Cronbach Alpha was α =.950 for the total scale. To measure anxiety of COVID-19, the Coronavirus Anxiety Scale developed by Lee, S. A. (2020) was used consisting of 5 items on a five-point Likert scale from 5, strongly agree to 1, strongly disagree .The Cronbach Alpha was α =.956 for the total scale. To measure purchasing involvement, 21 items from the Purchasing Involvement Scale developed by Karaatli (2015) were used. The Cronbach Alpha was α =.820 for the total scale.

The simple random sampling technique targeted 350 Thai and foreign students online from two international universities over a period of 2 months, yielding a final sample of 304.

For the first and second hypotheses, Pearson's Correlation Coefficient was utilized to find out the relationship between fear of COVID-19 and purchasing involvement and between Coronavirus anxiety and purchasing involvement. The t-test was used for testing the third, fourth and fifth hypotheses to investigate differences among the male and female students on fear of COVID-19, Coronavirus anxiety and purchasing involvement.

**5. Findings and Discussion**

**Table 1** The Correlation between Fear of COVID-19 and Purchasing Involvement of Students

| Fear of COVID-19 and Purchasing Involvement | n=304 | Pearson's Correlation Coefficient (r) | Significant value (p) |
|---|---|---|---|
| Significant | | .511** | 0.000 |

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

Table 1 showed that the Pearson Correlation Coefficient between fear of COVID-19 and purchasing involvement was significant at a 0.01 level. The Pearson correlation coefficient value of ($r = .511$, $p < 0.01$), indicated a moderate positive correlation between fear of Covid-19 and Purchasing Involvement of students.

Therefore, Hypothesis 1 was supported by the data and revealed that when students experienced fear of COVID-19, it had a moderate impact on their purchasing involvement.

The moderate correlation of fear and purchasing involvement could be attributed to differences in intensity or effort students invested with shopping irrespective of the product or situation as the literature review points (Kassarjian, 1981). Some students may be more invested in the decision process, like search and effort, while others may not (Bloch, Sherell & Ridgway, 1986; Bloch & Richins, 1983). Viser-Keiser et al., (2016) asserted that the sense of fear is a powerful negative emotion which thereafter weakens rational decision-making causing illogical consumer behavior. The COVID-19 pandemic itself resulted in fear, panic and decreased wellbeing (Shigemura et al., 2020), which could consequently affect purchase involvement intensity. Ang et al., (2000), discovered that during a crisis consumers are more likely to assess products with the intention of procuring as much benefit as they can and shopping during a crisis is often planned so as to avoid excess buying (Hampson & McGoldrick, 2013). Emotions can impact product appraisal under the target (i.e. being elated after getting a discount) or the situational factor (i.e. shopping after a stressful incident) (Pham, Cohen, Pracejus & Hughes. 2001). In this study, only half of the students were actually absorbed in the process of buying as a consequence of fear of COVID-19.

**Table 2** The Correlation between Coronavirus Anxiety and Purchasing Involvement of Students

| Coronavirus Anxiety and Purchasing Involvement | n=304 | Pearson's Correlation Coefficient (r) | Significant value (p) |
|---|---|---|---|
| Significant | | .377** | 0.000 |

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

Table 2 indicated that the Pearson Correlation Coefficient between Coronavirus anxiety and purchasing involvement was significant at a 0.01 level. The Pearson correlation coefficient value of ($r = .377$, $p < 0.01$), indicated a moderate positive correlation between Coronavirus anxiety and Purchasing Involvement of students. Therefore, Hypothesis 2 was supported by the data and showed that when students experienced Coronavirus anxiety, it had a moderate impact on their purchasing involvement.

Heshmat (2018), agreed that anxiety is related to emotional states of having uncertainty, rational conflict, dissatisfaction, and nervousness. Anxiety can include some types of fears that are related to the future rather than the present. Subsequently, during natural disasters, pandemics and strikes, panic buying is a common phenomenon. Panic buying does not occur as a result of supply

scarcity but rather high levels of fear and anxiety owing to lack of time or quantity (Shou et al., 2013; Tsao et al., 2019). The moderate level of involvement in purchasing of students could be an outcome of panic which positively and negatively triggers preventive defense mechanisms among consumers, consequently causing a connection with their purchasing involvement and the behavioral changes such as the degree and extent of required information search, shopping habits, purchase preferences and spending patterns. (Di Crosta et. al, 2021; Ang, 2000; Duan & Zhu, 2020; Meyer et al., 2020; Green & Murphy, 2014). Manyande et al., (1992), reiterated that moderate levels of anticipated fear and anxiety are an essential tool for coping behaviors and can be regarded as motivation to adapt to a situation. A person's emotional, utilitarian or hedonistic motivations can impact both planned and impulse buying (Leverin & Liljander, 2006; Yu & Bastin, 2010). Consequently, Coronavirus anxiety leads to moderate levels of purchasing involvement of students.

**Table 3** The Comparisons between Male and Female Students on Fear of COVID-19

| Mean *(SD)* | | | Levene's Test of Equality of Variance | |
|---|---|---|---|---|
| Male n=122 | Female n=174 | t-value | F-Value | p-value |
| 2.49*(.73*) | 3.16 (*1.20*) | -5.42** | 141.017*** | 0.00 |

***Remarks:*** *SD is shown as italic in the brackets; independent sample t-test is performed*
*** Significant difference of the mean at p < 0.05 level*

Table 3 indicated that there was a significant difference in fear of COVID-19 between males (M=2.49, SD=.737) and females (M=3.16, SD=1.20) under the conditions t =-5.42 and p=0.00. Therefore, the hypothesis was supported, as female students revealed more fear of COVID-19 in comparison to male students.

Several pandemic related stressors like fear, anxiety, trauma, mood disorders, fatalities etc. are related to a person's psychopathology (Taylor et al., 2020). Subsequently, the socialization process of men and women coupled with other physiological and psychological and social factors can be responsible for different behaviors (Meyers & Maheswaran, 1991). The greater degree and extent of fear and anxiety of COVID-19 among females is higher than males even though the death rates and the serious illness among males are much higher (Bhopal & Bhopal, 2020; Gebhard et al., 2020; Jin et al., 2020; Peckham et al., 2020). The female students in this study as with other studies manifested more fear than male students for fear of COVID-19, considering the fact that women are more prone to emotional states (Fujita et al., 1991), especially negative reactions like fear (Brebner, 2003; Fischer et al., 2004). In addition women displayed more fear of natural disasters and agonized more about consequences of environmental changes (Sundblad et al., 2007).

**Table 4** The Comparisons between Male and Female Students on Coronavirus Anxiety

| Mean *(SD)* | | | Levene's Test for F Equality of Variance | |
|---|---|---|---|---|
| Male n=122 | Females n=174 | t-value | F-Value | p-value |
| 1.76 *(.79)* | 1.10 *(1.12)* | -2.870** | 46.942*** | 0.04 |

***Remarks:*** *SD is shown as italic in the brackets; independent sample t-test is performed*
*** Significant difference of the mean at p < 0.05*

Table 4 indicated that there was a significant difference of Coronavirus anxiety between male (M=1.7, SD=.793) and female students (M=2.10, SD=1.12) under the conditions t = -2.870 and p=0.04. Therefore, the hypothesis was accepted as there were significant differences between male and female students in relation to Coronavirus anxiety.

Heshmat (2018), elaborated that anxiety is related to emotional states of having uncertainty, rational conflict, dissatisfaction, and nervousness. The COVID-19 pandemic may cause future oriented fear, often referred to anxiety (Heshmat, 2018). The COVID-19 pandemic itself resulted in fear, panic and decreased wellbeing (Shigemura et al., 2020). Stress, anxiety and depression were common symptoms experienced by students in Malaysia, Thailand, Indonesia and China during the COVID-19 pandemic (Lyon & Matson, 2020). Tokgozoglu and Canpolat (2020) stated that women are more anxious than men, scoring higher especially in socially related situations. In this study the long-term impact of the COVID-19 pandemic could impact female students' more than male students' as previous studies enumerated. Research in countries like China, United States and Cuba discovered that fear, anxiety and stress related to the COVID-19 pandemic were much higher for women than men (Broche-Pérez et al., 2020; Fitzpatrick et al., 2020; Liu et al., 2020; Park et al., 2020).

**Table 5** The Comparisons between Male and Female Students on Purchasing Involvement

| Mean *(SD)* | | | Levene's Test for Equality of Variance | |
|---|---|---|---|---|
| Male n=122 | Females n=174 | t-value | F-Value | p-value |
| 3.17 *(.52)* | 3.46 *(.31)* | -5.77** | 46.979*** | 0.00 |

***Remarks****: SD is shown as italic in the brackets; independent sample t-test is performed*
*** Significant difference of the mean at p < 0.05*

Table 5 indicated that there was a significant difference in purchasing involvement between male (M=3.17, SD=.58) and female students (M=3.46, SD=.31) under the conditions t = -5.77 and p=0.00. Therefore, the hypothesis was accepted, as there were significant differences between male and female students in relation to their purchasing involvement.

Kacen (2000), believed that consumption has been gendered since early times. The involvement of female students in purchasing involvement was higher than that of males as the search frequencies of women is higher as reported by Atkin et al., (2007). Women prefer excess information during the interaction process of buying in contrast to men who wish to have quick answers. Thus, men are hunters and women are gatherers. Women tend to exert more time and energy in detailed searching and hence possess a better sense of risks for a product than men who focus on the most relevant cue. Although males and females have similar purchase goals, each gender display different purchase involvement depending on the product involved, promotional offers and desires in fulfilling the satisfaction. (Kotler, 2016).

Data for this study was conducted during the COVID-19, when buying goods online was a trend especially in urban areas (Zhen et al., 2018).

## 6. Conclusions and Recommendations for Future Research

The data for this study relied on online questionnaire responses from students during the COVID-19 pandemic, hence, could not obtain responses from the entire sample owing to lack of proximity from students. The qualitative measures used to measure fear and anxiety of COVID-19 were in their early stages but nevertheless obtained high reliability and were robust. Qualitative data like surveys, interviews, and focus groups to gather data were impossible on account of different variations of the COVID-19 being rampant. The data were collected online from students in an urban context, albeit needs to be extended to other contexts like a rural setting.

To make a generalization, procuring a larger sample from other universities is essential. Further research can consider more consumers from diverse cultural backgrounds for an in-depth study.

A broader study on the antecedents, moderators and mediators of purchasing involvement can improve the precision of future studies. This study like previous studies, confirmed that emotions can impact purchasing involvement at least moderately, with scores being higher for females. A replication of this study could provide marketers with more information about purchasing involvement of different genders and various types of consumers so as to search different strategies to increase relevance of products. Irrespective of situational factors, individual differences on purchasing involvement can provide the variations that exist regarding buying behavior and the decision-making process. On this basis, segmentation can be implemented. Genders can also be a crucial variable for segregation of needs and advertising using fear appeals accordingly. Further demographic factors like socio-economic status, age groups and genders can be given priority for a larger study.

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