Do You Want to Spend More Money When Feel Stressed?—A Primary Exploration of Consumer’s Monetary Valuation of Products

Shan-Shan XU\textsuperscript{1,2,a,*}, Bao-Chun ZHAO\textsuperscript{3,b}

\textsuperscript{1}PhD candidate of Marketing and Tourism Management Department, Economy and Management School, Wuhan University, Wuhan, Hubei, China

\textsuperscript{2}Marketing Department, Management School, Central-South University for Nationalities, Wuhan, Hubei, China

\textsuperscript{3}E-commerce Department, Management College, Central-South University for Nationalities, Wuhan, Hubei, China

\textsuperscript{a}ssx133@126.com, \textsuperscript{b}zhaobaochun@foxmail.com

*Corresponding author

Keywords: Stress, Construal-level Theory, Cognitive Appraisal, Monetary Valuation.

Abstract: Stress can affect consumers’ appraisal, judgment, and decision making. States of stress decreases their monetary valuations of products, which reflect differences in how stressed or unstressed people mentally construe the products they evaluate. The current research finds by experiments that compared with unstressed people, stressed people appear to mentally represent the product they are assessing at a lower level of construal, and focus more on the potential disadvantages, which leads them to perceive the product as being less valuable.

Introduction

Consumer behavior in a stressed context has been noticed in academic world, spreading from medical field to marketing research. Andreasen (1984) focused on how stress, which comes from changes of states of life, influence consumers’ behavior preference and their satisfaction. The research found that, consumer with higher stress will be less satisfied by purchase of products or service. Phan, Hung, and Gorn (2011) investigated how the opposite side of stress, which is relaxation, influence consumers' monetary valuation of product. The result showed that on the basis of construal-level theory, consumers' monetary valuation of product will be promoted when fully relaxed.

A report of “Eye on Asia TM” (2008) showed that, 94% Chinese felt very stressful. This ratio is larger in China than in Korea (91%), Singapore (90%), and Japan (82%). This report focused on Asian people of different perspectives, on the basis of knowing consumer’s life-style and behavior mode, and explored their thoughts and attitudes. The situation becomes more and more serious to date. How these thoughts and attitudes affect brands development has been researched. The result showed that, although most Chinese people is realizing their situation of bearing lots of stress from life, they don't think they can find a good way to release it, or even to regulate it. The stressful context will still be there. We can affirm that firms care about what consumers will do under a stressful situation. They also care about how consumers are affected, and if so, whether they will change their preference and judgment to the product and brand. Therefore, it is important to be noticed both theoretically and practically that what influence of stress will be on consumer, and whether a subsequent change on brand evaluation or preference.

Monetary valuation of products seems to be a significant dimension when consumers make their purchase decision. Consumers are willing to spend more money when they are in a relax context (Phan, Hung, and Gorn, 2011), because of the higher monetary valuation. While in the opposite side, is there a certain lower monetary valuation of products? We cannot make sure if stress will make consumers suppressed on purchase or not, still less did we know if any lower monetary valuation were caused by stress. In real life, stress is often here or there around people, but there is no certain consistency in subsequent reactions when they make purchase. Some prefer shopping
when feel pleased, while some people “reward themselves” by shopping when feel stressed. Furthermore, a few researchers considered purchasing behavior as a way to cope with stress, with evidence of data and theories (e.g., Faber et al., 1987; O’Guinn and Faber, 1989). Is there an opposite reaction in line with the opposite context? Therefore, we propose our research questions as follow:

What’s the monetary valuation when consumer is stressed? Namely, would they spend less when feel stressed? Or spend more?

Theory Background and Research Framework

Early studies refer to stress of individual started from medical field, and then expanded in psychological realm. Now, marketing scholars pay more attentions on this subject, especially consumer-related (Moschis, 2007, et al). Doing researches of reasons why consumers experience stress and how they cope with stress is good for both researchers and marketers (Duhachek, 2005, Viswanathan et al, 2005). Most of them take individuals as objects of study, concentrating on two sides: the antecedents and source of stress (Selye, 1956, Andreasen, 1984, et al), consumer’s reaction and behavior under stress which including cognitive and emotional response (Duhachek, 2005, et al), coping (Duhachek and Iacobucci, 2005, et al), and the change of consumer’s purchase intention or behavior (Moschis, 2007).

Source of Stress

By document collection we found that, life-events were considered to be the source of personal disorder. Life events created the instability of internal strength of individuals, and stress is a signal that individuals try to rebuild the stability and balance (Pearlin 1981). Most literatures hold the viewpoint that life-events or life status changes are the sources resulted in stress (Andreasen, 1984; Moschis, 2007; Aneshensel, 1992 et al). People may change their consumption habits to deal with stress caused by life status changes (Lee, et al, 2001). When feel stressed, there is still a possibility that people cope with it by shopping (e.g., Faber et al., 1987; O’ Guinn and Faber, 1989).

Although life-events were thought to be the original of stress, but recently, the process regarding to the purchase decision was also considered as stressful event, and included into life-event scale (e.g., Moorman, 2002; Tausig, 1982). Especially in the research area of marketing, there is a particular environment of stressful sources, which was consumption context (Moschis, 2007). Consumption-related stress can be experienced before and after purchase or consumption (e.g., Mick and Fournier 1998); it can derive from discrepancies between desired and actual states related to various stages in consumer decision making.

Cognitive Appraisal

Selye (1956) believed that, change is a fundamental mechanism of stress. Stress involves internal and external changes which threatened individual’s balance. When the balance was broken, people will feel the stress. When people are in stressful situations, they will have emotional response, changing their emotional state, adjusting their cognitive response, and then chose suitable coping strategies. If the stress becomes inevitable to people, then how to cope with it will be key point to different results (Lazarus and Folkman, 1984).

Psychologists focus more on researches of people’s emotional reaction to stress and their cognitive relations. The cognitive appraisal theory (Lazarus and Folkman 1984) is comprehensive to explain something. According to the theory, emotion is formed by combined action of environmental event, physiological status and cognitive process. Cognition among them is a crucial factor to decide the nature of emotion. In other words, even the same stimulus results in various emotional responses because of different appraisals by people. Similarly, one activity could be thought as stressor when it caused psychological disorder, and could also be considered as a coping strategy when it helps rebuild balance. The results depend on its short-term effect on people. But in the long term, that might cause different consequences (Moschis, 2007). For example, alcohol drinking may release stress, but can result in adverse outcomes in case of overtaking in long term.
Lazarus (1985) proposed that, individual’s subjective appraisal (stress perception) is always the determinant in the dynamic process of stress, according to cognitive appraisal theory. After secondary appraisal of stress perception, coping response was generated. Mediators of stress response such as controllability, social supports and personality variables, make effects by influencing individual’s subjective perceptual appraisal process of potential stressors. If equilibrium is disrupted then there is a tendency to redress balance, and thus to relieve the frustrations and unpleasant social experiences accompanying disequilibrium (Gierveld and Dykstra 1993). People change their cognition or behavior to release stress and repair their psychological balance. When we take it from marketing research perspective, consumer’s monetary valuation can be viewed as a cognitive appraisal to products. Hence, their appraisal is likely to be changed in the context of stress. Here we may get hypothesis 1:

**H1: Stressful consumers have lower monetary valuation than non-stressful consumers.**

**Psychological Distance and Construal Level**

In a stressful context, when people felt external stimuli they will react differently depending on how they judge their abilities and the environment. Then people will construe to those stimuli continually, which can be simplified as high-level and low-level construal (Trope & Liberman, 2003). People with higher level construal will pay more attention on abstract, general and ordinary traits of the stimulant, preferring choices of desirability; while holding a lower level of construal will make people focus more on specific, contextual and sophisticated features, and prefer more feasibility. Construal level theory is a Social psychology theory of purely cognitive orientation (Dhar & Kim, 2007); working on a basis of a social cognitive perspective that people’s response to objects depends on their psychological representation. People’s psychological representation has different levels of construal, which depend on the psychological distance between their perception and the objects, influencing their judgments and decisions. Construal level theory has been used in marketing area to study consumer’s product valuation and purchase decision, and etc. (Dhar & Kim, 2007; Kardes, Cronley, & Kim, 2006; Trope, Liberman, & Wakslak, 2007; Lynch & Zauberman, 2007). When they are valuating, judging, and making decisions, individuals concern more about the information and experiences matched their construal levels (Nussbaum, Trope, & Liberman, 2003; Trope & Liberman, 2000). When individuals formed their primary and secondary appraisal, valuating their self-capability and the association strength of stressful events and themselves, there will be different levels of psychological representation degree, and coping response at different levels of construal will be formed.

As we mentioned, Under higher levels of construal, goal directed activities (e.g., going on a vacation in Mexico) are more likely to be evaluated in terms of their overall desirability (e.g., how appealing Mexico is), whereas under lower levels of construal, these activities are more likely to be evaluated in terms of their feasibility (e.g., the timing of the vacation, the cost, the amount of travel involved). As in marketing research area, when consumers feel stressful, their psychological distance to the products will be shortened after their primary appraisal. They may think the stressful events are related to their own benefits, which makes their psychological representation more detailed and sophisticated. In this way, they will have a lower level of construal. Hence we get our second hypothesis:

**H2: Stressful consumers have lower level of construal than non-stressful consumers.**

The levels of construal make effects on individual’s judgments and decisions systematically (Kim & John, 2008). Liu (2008) found that, the interruption of individual’s decision making process results in higher level construal of decisions, decreasing sensitivity of price, and preference of high desirability and low feasibility. When people feel stressful, there will be coping response of cognitive appraisal adjusting to balance the damage caused by stressors. Stress can change individual’s cognitive appraisal, judgments, and decisions by transforming their construal levels. Transformations of construal levels are determined by individual’s primary appraisal to stressors. When people confirm the stressfulness, the psychological distance will be shortened. Then, their construal level will be at a lower place. Under higher levels of construal, potential courses of
actions tend to be evaluated more in terms of their potential advantages, whereas under lower levels of construal, potential disadvantages tend to carry more weight (Eyal et al. 2004), which may decrease the monetary worth because the products and services should be perceived less valuable. Here the third hypothesis comes:

\[ H3: \text{Compared to consumers under higher levels of construal, consumers under lower levels of construal will have lower monetary valuations to products.} \]

From the above, we get our framework of the research model as follow:

![Research Model Diagram](image)

**Experiment Design and Hypothesis Test**

We found 103 junior students majoring in management and business from Management School of South-Central University for Nationalities, and rewarded them full complement of regular grades.

**Manipulation**

All the participants were divided into two groups at random. Stress will be triggered in one group, which was marked as control group, while the other was marked as contrast group who always stay in peace. Before we gave any stimulus, we tested the levels of construal of all participants and noted as high level construal and low level construal. Then, we showed a passage to the control group. Participants in control group were asked to image that there will be an important examination to select exchange student for counterpart school abroad. It’s a very rare opportunity for them to make good communication with foreigner professors and gain a lot in study. The examination was supposed to be difficult and low passing rate. Meanwhile, participants in contrast group were showed a passage of fairytale with happy ending, using soft, gentle and smooth words, to keep peaceful feelings, neither stressful nor relaxed. After that, we tested their perception of stress in both two groups, by Perceived Stress Scale (PSS) (Cohen, Kamarck, and Mermelstein, 1983). After perceived stress was reported, the participants were showed a digital camera in an online shopping website. The image and the description of characteristics of this product were showed and then participants were asked to give their monetary valuation. Questions for valuating included “the highest price you are willing to pay for this camera”, “what’s the possibility do you think you can buy this camera at the price you offered?” and “what’s the actual price of this camera do you think?” We used the same measurement of monetary as Phan, Hung, and Gorn (2011) did. Finally, after finishing the test of their monetary valuation, we measured their levels of construal again to check the scope of changes, if there were any.

We collected 103 questionnaires, getting rid of 8 invalid questionnaires, and at last 95 questionnaires were left.

**Results**

1. **Effects of stress on monetary valuation.** After reliability test, we got an alpha of .942. Manipulation of stress resulted that stressfulness of control group is higher than contrast group (M control =3.7340; M contrast =2.0604; F (1, 94) = 1100.662; p=.000), showing in figure 2.
ANOVA analysis results showed that, under stressfulness, participants’ monetary valuation is significantly lower than non-stressful participants’ monetary valuation (M control =-1140.4255; M contrast =802.0833; F (1, 94) =81.790; p=.000). That is to say, stress makes consumer’s monetary valuation decreased, as shown in figure3. H1 was supported.

2. Effects of stress on levels of construal. Stress caused reduction of levels of construal (M control =-.9547; M contrast =1.2170; F(1,94)=60.397; p=.000), showing in figure 4. H2 was supported.

3. Effects of variations of levels of construal on variations of monetary valuation. Levels of construal have been tested twice both before and after showing the stimuli to participants aiming at making them stressful. On the basis of different levels of construal in both tests, we made them into four groups: deceasing levels of construal group (i. e high levels of construal in first test, and then decreased after stressful stimuli); steady low levels of construal group (i. e low levels of construal in first test, and still low in second test); steady high levels of construal group (i. e high levels of construal at first, without any stressful stimuli and still high levels of construal); and increasing levels of construal group (i. e low levels of construal in first test, without any stressful stimuli and higher levels of construal in second test).

We analyzed the discrepancy of levels of construal of four groups, and found significant differences (M decreasing=-2.4203; M steady low=.4444; M steady high=.1042; M increasing=2.3299; F(3,94)=476.502; p=.000). Then we checked if there is any discrepancy of premium of product monetary valuation in different levels of construal. As we expected, the decreasing levels of construal resulted in decline of consumer’s product monetary valuation (M decreasing =-1182.6087; M steady low=-1100.0000; M steady high=960.4167; M increasing=643.7500; F(3,94)=27.404; p=.000). Hence, H3 was support.
4. Discussion. While in a low levels of construal, if consumer feels stress, we don’t know whether there will be any influence yet, during this experiment. Still, when their levels of construal are low, consumer’s monetary valuation of product is low. But we cannot know whether the low monetary valuation comes from low levels of construal or stressful stimuli. Furthermore, some participants’ levels of construal went up a little without stressful stimuli. Though it didn’t make any effects on the results of this experiment, we haven’t found any interpretation for this phenomenon. We speculate its connections with environment factors.

Conclusions and Discussion

Theoretical and Practical Significance

In real life, a lot of people are under a great stress. Although sometimes people try everything to release it, in China, making purchase as a coping strategy against stress is not a general choice. Consumer’s lower monetary valuation to product when stressful may be one reason that they don’t purchase. This research has done a little part of exploring the effects of stress on consumer. By manipulating an experiment we certified this viewpoint roughly, from perspective of construal level theory. According to the results, we know that stressful consumers have lower monetary valuation than non-stressful consumers, because stress lowered their levels of construal to the product. When levels of construal are getting down, stressful consumers take more specific and detailed information into account, and are more likely to notice latent defects of products. Maybe it is because stress inspired highly arousing of strain and anxiety, resulting in more diagnostic processing to information (Pham, 1996). In contrast, consumers with high levels of construal concern more about abstract information, and hardly tense up.

Regarding to marketing area, stress will make consumer’s paying willingness get lower. That means, if we would like them to pay more, we’d better make them feel stress-free, peaceful, pleasant, and even relax. For example, some light music in a marketing environment would make consumers feel comfortable and easy, or an installment payment would disperse their perception of monetary valuation.

Limits of This Research

There are some limits in this study. First, the stressful stimuli may not appropriate in other situations. The participants in our experiment are all college students, so we take the examination as stimulus for stress. But this stimulus may not be applicative to other samples. In medical area, researchers used noise to trigger stressfulness of participants (Cohen and Weinstein, 1981). For this research, we haven’t got a good condition to work that way. Second, we didn’t make classification of stress into positive or negative, just the general perception of having stressfulness or not by people. Still we don’t know whether an effect will be on consumer’s response when stress worked positively, which worth deeply researching. Last but not least, theory of levels of construal illuminates individual’s process of cognitive appraisal in psychological area, but we cannot make sure if it is the only way to make interpretations of consumer’s judgment, valuation, and decisions. And in future research, we should work more on the above problems.


References


