Information Communications Technology (ICT) and Tourism Experience: Can Serotonin become a measurement for tourism experience?

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Abstract

The fact that tourist evaluations are different for the same service quality creates difficulties for tourism business in benchmarking their ranking standard. The present study examines the difference of tourists' evaluations through the serotonin concept. Serotonin (5-HT) is a neurotransmitter to play a key role in inhibiting aggression and regulating mood. Inhibiting aggression implies decreasing power motive and regulating mood implies increasing affiliation motive. The two study hypotheses are (1) an increase in serotonin would increase friendliness and (2) a decrease in serotonin would increase anger. Serotonin levels were scored by evaluation rate of 14340 hotel guests for two years (2015-2016) and Linguistic Inquiry Word Count was used to score affiliation and power motives. Findings indicate that a tourist with a high serotonin evaluation would possess affiliation resulting in overestimate service quality and a tourist with low serotonin evaluation would have a power resulting in underestimate service quality

Keywords: serotonin evaluation; power; affiliation.

1 Introduction

Failure to understand tourist evaluations creates critical issues in tourism industry. For the same service quality at the same time in the same destination, there are two possibilities for tourists' evaluation: one is positive and the other is negative. How can hoteliers or business owners tailor their improvements according to the two contradicting opinions?

In this study, tourists' evaluation is predicted by serotonin. Serotonin (5-HT) is a neurotransmitter in the central nervous system with many functions, two of which are to inhibit aggression and anger and to regulate human mood. Inhibiting aggression and anger is controlling and serves to decrease power motive for human behavior. In contrast, regulating human mood is to increase the motive of affiliation to let a person cooperate with other people. According to Moore (1997) serotonin affects affiliation and power behavior.

Affiliation behavior is establishing, maintaining, or restoring friendship or friendly relations among persons or groups. Power behavior is establishing, maintaining, or restoring influence over other persons or groups (Langens and McClelland, 1997). The affiliation and power may be the two most important human social motives which are opposite each other. The dualism of egos and destructiveness (Freud, 1901) is considered as the dualism of affiliation and power, respectively.

In related to affiliation and power motive, Barbuto and Scholl (1998) compare Maslow's (1954) safety (cleanliness and security) with power motive and Maslow's

belonging (love and respectfulness) with affiliation motive. In Maslow hierarchy, safety need must be fulfilled before meeting belonging; that is, power need is prior to affiliation need. A tourist with high power motive might thus feel differently with a tourist with a high affiliation motive for the same service quality. The power tourist might feel dissatisfied with respectfulness service because what he cares is cleanliness not respectfulness. In contrast, the affiliation tourist might have positive evaluation for both respectfulness and cleanliness due to his fulfilment of both needs. Serotonin level of guests affects the way they should be treated (Tran, 2015; Tran, Maisel, Barbosa, & Zedonek, 2017; Goodall, 1988). The purpose of this study is thus to examine the effects of affiliation and power customers on their evaluation affected by serotonin pleasure.

2 Literature

2.1 Serotonin

Previous literature has reported that serotonin monitoring environment affects anxiety-like behavior. The more dissatisfied and anxious animals feel, the less amount of serotonin they possess. Serotonin belongs to the group of biogenic amines is simple chemicals that facilitate the transfer of signals between the cells of the body. are around 300,000 serotonergic neurons located in several nuclei at hindbrain and midbrain. As a result, serotonergic system connects almost all areas of central nervous system. Serotonergic neurons are involved in cardiovascular regulation, mood, appetite, respiration, pain sensitivity, learning, sexual behavior, cognition, etc. Thus, it plays an important role in anxiety disorders to schizophrenia as well as violence, attention deficit disorder, substance abuse, and obsessive control.

Serotonin is one of the oldest systems to be involved in various inhibitory responses throughout the central nervous system. As a result, when a person lacks serotonin production, utilization or sensing can lead to serious changes in the brain functioning in general, and its aggressive behavioral aspects in particular. A person lacks one of the serotonin receptors, 5-HT 1A, is known to lead to the increased anxiety. The decrease of the level of serotonin generated by the action of enzyme mono amino oxidase that is associated with violent behavior and antisocial personality disorder.

2.2 Serotonin and Evaluation

Serotonin is an evaluation standard because it is a neurotransmitter to proceed or inhibit emotions of people. Ressler and Nemeroff (2000) report that serotonin (5-HT) is a major neurotransmitter to regulate emotion. Williams, Marchuk, Gadde, Barefoot, Grichnik, & Helms (2003) report that stressful people produce lower cerebrospinal fluid serotonin. Canli and Lesch (2007) and Ebstein (2006) report that the polymorphism from serotonin is related to psychopathology. In the present study, the word “serotonin evaluation’ is an independent variable to affect the affiliation or power tourists. The more serotonin a person has, the more positive evaluations he/she gives (Bertolino, Arciero, Rubino, Latorre, De Candia, & Mazzola, 2005).

2.3 Affiliation and Power

People possessing a high need for affiliation are concerned with maintaining close social relationships or the need to make friends. The need for affiliation is defined as “a concern over establishing, maintaining, or restoring a positive affective relationship with another person or group of persons” (Heyns, Veroff, and Atkinson 1958, p. 205). Guests with a high need for affiliation are often concerned with establishing or maintaining positive affective relationships, while those with a low need for affiliation

may be uncomfortable socializing with others except for a few close friends or family. Barbuto and Scholl (1998) reported that this need is similar to Maslow's (1954) needs for love, affection, and belonging. When affiliation increases, a person might be more tolerant in evaluation resulting in overestimation.

Power concept in ancient Greek means "strife" that is opposite to "love". Freud (1961) considers power as aggressive or destructive instinct. Murray (1938) states that power motive includes abasement (apologizing and confessing), autonomy (independence and resistance), aggression (ridiculing and attacking others), blame avoidance (following the rules to avoid blame), deference (cooperating and obeying others) and dominance (controlling others). McClelland (1975, 1985), Winter (1973, 1993) define power motive as a concern over establishing, maintaining, or restoring the influence or control over other persons. The negative side of power is aggression, anger and boredom due to not finding pleasure in lives. When power increases, a person might become more disciplined and aggressive so that he/she might be stricter in evaluation resulting in underestimation. Therefore, the study has two following hypotheses:

Hypothesis 1: Tourists with a high serotonin evaluation would have a high need for affiliation resulting in overestimate service quality.

Hypothesis 2: Tourists with a low serotonin evaluation would have a high need for power resulting in underestimate service quality.

3 Method

3.1 Sample

The sample of the present study includes 14340 comments of hotel guests from 16 Hotels of Innisfree Hotels between 2015 and 2016 in the Revinate Review (2017). Serotonin Evaluation was measured by a Likert-Scale from 1 (strongly disagree) to 5 (strongly agree). Hotel guests answered this question: "In general, how did you evaluate the hotel and its service?" Affiliation and Power were scored by LIWC2015 from 14340 guest comments of poor, average, good, and excellent service were gathered from 16 hotels of Innisfree during the 2-year period (2015-2016).

3.2 Linguistic Inquiry and Word Count (LIWC) 2015

In order to measure the personality, there are also two ways: conscious and unconscious; the conscious method through self-report questionnaire and the unconscious method through Thematic Apperception Test (TAT). In the self-report questionnaire, customers report their evaluation, affiliation, or power through selecting their choice in a Likert-scale. In the TAT method, customers report their personality through projecting their unconscious needs when viewing ambiguous pictures. The result of the conscious method indicates attitude and experience while the one of the unconscious method shows needs and expectations. Winter (1994) has revised the TAT method from narrative statements of ambiguous pictures to narrative statements of memory imagery. Schultheiss (2013) reports that the computer software Linguistic Inquiry and Word Count has replaced the subjective coding by the objective approach and predicted well-validated criteria.

The software LIWC 2015 has made a great contribution in scoring motives without subjectivity (Sharp & Hargrove, 2004; Campbell & Pennebaker, 2003). The internal consistency of the affiliation motive measured by corrected alpha for affiliation, achievement, and power is .80.

3.3. Results

The two relationships in ANOVA of regression analysis are fit the data with power-serotonin ($F=13.46$, $df=14338$, $p<.001$) and affiliation-serotonin ($F=97.32$, $df=14338$, $p<.001$) . The two models (1) and (2) are significant ($p<.001$). In the affiliation model, the coefficient of serotonin is positive ($.45 >0$) so that an increase in serotonin leads to an increase in affiliation. In the power model, the coefficient is negative (-.04) so that a decrease in serotonin leads to an increase in power.

Affiliation = +.45*Serotonin Evaluation + 3.03 (1)

Power = -.04*Serotonin Evaluation + 1.02 (2)

4 Discussion

The present study has identified serotonin as a measurement for tourist experience. Evaluations of hotels written by tourists reflecting levels of serotonin have an impact on their motives: high serotonin leads to happy and pleasure and low serotonin leads to anger and dissatisfied. The study findings are consistent with previous research in biology when researchers recognized the impact of serotonin on personality.

Therefore, at the same service quality, if tourists who possess high serotonin evaluation would write positive comments but the ones who possess low serotonin evaluation would write negative comments. The implications of this conclusion is to better understand how interpret tourism evaluations.

The concept loyalty which believes significant relationship between previous and contemporary is no longer true. Serotonin makes it change: contemporary has no relationship to previous. Loyalty should be changed into the nostalgia model including serotonin. For example, people no longer remember McDonald's for their advertising, but rather, they associate McDonald's the decreasing prices or increasing value. Hoteliers do not need to promote loyalty points; instead, they only bring some instant treat to promote their guests.

The study sample is in tourism and the results would be limited to generalize to other industries. In the future, there would be more application of the study in different industries.

The contributions of this study for the academic literature include: (1) Serotonin is recognized as an important factor not only for biology but also sociology. (2) Tourists from different cultures would be happy to be served in a high serotonin environment. Therefore, serotonin can narrow the gap of cultural difference. (3) The economic industry will be prosperous when tourists with high serotonin levels revisit business creating positive and prosperous environment.

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