

## TRADITIONAL AND ONLINE CONSUMERS IN CHINA: A PRELIMINARY STUDY OF THEIR PERSONALITY TRAITS AND DECISION-MAKING STYLES

Junpeng Zhu, You Xu, Jingyi Huang, Changdar Yeow & Wei Wang

Department of Clinical Psychology and Psychiatry, Zhejiang University School of Medicine  
Key Laboratory of Medical Neurobiology of Chinese Ministry of Health and of Zhejiang Province, Hangzhou, China.

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### SUMMARY

**Background:** Population of online consumers increases rapidly, but the decision-making styles of online consumers and psychiatric denominators such as the personality correlates remain unclear.

**Subjects and methods:** In 196 traditional, and 196 age-, education- and gender-matched online consumers, we have tested the Zuckerman-Kuhlman Personality Questionnaire (ZKPQ) and the Consumer Style Inventory (CSI).

**Results:** After exploratory and confirmatory factor analyses, we have defined a five-factor model CSI with 24 items. Online consumers scored lower on ZKPQ Neuroticism-Anxiety and higher on Aggression-Hostility than traditional ones did, and scored higher on CSI Novelty-fashion consciousness and Brand consciousness, and lower on Time consciousness than the traditional consumers did. ZKPQ Neuroticism-Anxiety was positively correlated with CSI Confused by overchoice in both groups, Sociability was positively correlated with Novelty-fashion consciousness and negatively with Time consciousness in traditional group, and Impulsive Sensation Seeking was positively correlated with Novelty-fashion consciousness and Time consciousness in online group.

**Conclusions:** Our study suggests that, regarding the decision-making styles, online consumers display curiosity that lacks security and need other ways to improve their social lives. It also calls further designs to address the contributions of other psychiatric features to the particular decision-making styles in online consumers.

**Key words:** China - consumer decision-making style - online shopping - personality Trait

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### INTRODUCTION

Internet and internet stores have been developed rapidly in China. There have been 235 million people in China using Internet by the end of June, 2008, according to the China Internet Network Information Center (2008). The population of online or internet consumers has reached 194 million up to December, 2011 (China Internet Network Information Center 2012). In the meantime, many researches on the online shopping have provided supports for managers to compete with each other. Some researches have focused on the factors affecting the behaviors of online consumers (e.g., Constantinides et al. 2008, Papatla 2011, To et al. 2007, Rohm & Swaminathan 2004, Bridges & Florsheim 2008), the consumer decision-making style is one example that affects these behaviors (reviewed in Chang et al. 2005). Meanwhile, LaRose (2001) reported that some pathological shopping behaviors were closely correlated with online environment. Other investigators (Faber et al. 1995) demonstrated that compulsive buyers also suffered from eating disorders.

The consumer decision-making style characterizes the way that he approaches the purchase and the consumption experience he has (Sproles & Kendall 1986, Hafstrom et al. 1992), and varies by store types such as the supermarkets (Darden & Ashton 1975), catalogue showrooms (Korgaonkar 1981) and home

shopping (Darian 1987, McDonald 1993). One questionnaire measuring the consumer decision-making style is the Consumer Style Inventory (CSI; Sproles & Kendall 1986). It categorizes the decision-making styles of shoppers into perfectionism and high-quality consciousness, brand consciousness, novelty-fashion consciousness, recreational, hedonistic shopping consciousness, price consciousness, impulsiveness, confused by overchoice, and habitual, brand-loyal orientation, etc. The CSI has been tested in many different countries including Germany, Greece, India, Korea, Malaysia, New Zealand, UK and the US (Hafstrom et al. 1992, Durvasula et al. 1993, Lysonski et al. 1996, Mitchell & Bates 1998, Walsh et al. 2001, Mokhlis 2009).

The CSI has also been trialed in Chinese culture by different groups of investigators. For instance in China, Fan & Xiao (1998) using 29 items and Hiu et al. (2001) using 18 items demonstrated a five-factor model, Tai (2005) using 34 items demonstrated a ten-factor, while Li et al. (2010) using 25 items demonstrated an eight-factor one. Besides, with eight-factor model, Zhou et al. (2010) has compared the decision-making styles between the coastal and inland regions, and Park et al. (2010) has discussed their relationships with the consumer innovativeness. Therefore, further demonstration of a stable CSI construct would help to characterize consumer's behavior. Moreover, information from visual, auditory, smell and tactile inputs are dominantly

linked to the evaluation or cognition of a product (Schifferstein & Cleiren 2005, Krishna 2010, Balaji et al. 2011). Internet users however, often feel lonely, psychopathic, or less social support and display less activity (Swickert et al. 2002, Engelberg & Sjöberg 2004, McElroy et al. 2007). According to the cognitive-behavior theory, these cognitive and personality types might predict different decision-making styles of the online consumers when compared to those of the traditional ones. Citrin et al. (2003), for instance, have demonstrated that a lack of tactile information had a negative impact on purchasing of material objects online. Although investigators have examined the decision-making styles of online consumers in the US (Coward & Goldsmith 2007) and in China (Yang & Wu 2007, Yu et al. 2011), no single study has included both traditional and online consumers.

On the other hand, as demonstrated in traditional consumers, the decision-making styles vary and are related to some personality traits. Park et al. (2010) found that consumers' sensory innovativeness which was similar to sensation seeking, was related to brand consciousness, fashion consciousness, impulsive shopping, habitual shopping, recreational orientation, or brand loyalty. Shiv & Fedorikhin (1999) found in a binary choice context, choices were partly affected by impulsivity. Pentecost & Andrews (2010) have shown that impulse buying is of great importance to fashion purchases. While in online environment, consumers were more willing to innovate and take risks and more impulsive than non-Internet consumers (Donthu & Garcia 1999), in addition, their impulsive tendency was positively related with their attitudes toward the virtual stores (Lee 2007). Therefore, one might ask whether personality traits differ between online and traditional consumers, or how the different consumer decision-making styles are related to the different personality traits. Furthermore, as personality traits often underline psychiatric disorders (Costa & Widiger 1994, Svrakic & Cloninger 2010), they might be correlated with some pathological decision-making styles.

In personality research world, consistent evidence provides support that the normal personality has a five-factor structure (Costa & Widiger 1994, Goldberg & Rosolack 1994, Digman 1996, Samuel & Widiger 2008), the Zuckerman-Kuhlman Personality Questionnaire (ZKPQ, Zuckerman et al. 1993) is just one of them which measures Impulsive Sensation Seeking, Neuroticism-Anxiety, Aggressive-Hostility, Activity and Sociability. The ZKPQ Impulsive Sensation Seeking scale in particular, which integrates the impulsivity and the sensation seeking traits, might be correlated closely with some CSI scales. Recently, it has been shown that ZKPQ scales could specifically predict the functioning styles of personality disorder (Huang et al. 2011). A sensation seeking trait is particularly associated with the alcohol/ drug abuse, unprotected sexual activity and excessive gambling which are often reported in psychiatric disorders (reviewed in Roberti 2004).

Therefore, the current study was designed to answer the following questions. Firstly, although CSI has shown its promises in different cultures, could its structure be stable in Chinese, both among traditional and online consumers? Secondly, since internet users might have unique cognition and personality styles, are there any differences of the decision-making styles between traditional and online consumers? Or consequently, are CSI and ZKPQ scales correlated with each other in traditional or online consumers?

Based on previous reports, we have hypothesized that (1) the CSI styles of traditional and online consumers would differ significantly from each other, especially online consumers might score higher than traditional ones on novelty-fashion consciousness and brand consciousness (Yu et al. 2011); (2) the CSI styles would be correlated with ZKPQ traits, especially Impulsive Sensation Seeking might be correlated with brand consciousness, novelty-fashion consciousness, or impulsive shopping, and these correlations might be more pronounced in online consumers.

## SUBJECTS AND METHODS

### Participants

Totally 440 healthy volunteers participated in the current study. Some data were removed either because of participant's age was out of three standard deviations of the mean or because the participant had scored more than three on a ZKPQ lie scale (see below). Participants who had purchased goods online once in their lives were enrolled in the online group, otherwise in the traditional group. Finally, 196 participants (64 men and 132 women, aged 22.32 years with 3.91 S.D., ranged 17-42 years) were included in the traditional group, and 196 (68 men and 128 women, aged 22.32±4.00, ranged 17-39) in the online group. There was no significant difference between either gender ( $\chi^2=0.18$ ,  $OR=1.10$ , 95% CI: .72~1.67,  $p=0.67$ ), age ( $t=0.00$ , 95% CI: -0.79~0.79,  $p=1.00$ ) or education level ( $t=-1.93$ , 95% CI: -0.30~0.00,  $p=0.06$ ) distribution in the two groups.

### Measures

Participants were asked to answer two inventories in a quiet room. A brief overview of each inventory is given below.

#### *Consumer Style Inventory (CSI)*

The CSI used in the current study was the very original version developed by Sproles and Kendall (1986), which includes 44 items that correspond to the decision-making styles. Each item consists of a 5-point Likert scale (1 – very unlike me, 2 – moderately unlike me, 3 – somewhat unlike like me, 4 – moderately like me and 5 – very like me). The Chinese version of CSI has been used in several studies (Fan & Xiao 1998, Hiu et al. 2001, Zhou et al. 2010, Li et al. 2010).

### **Zuckerman-Kuhlman Personality Questionnaire (ZKPQ)**

In ZKPQ, one point is given to each chosen item corresponding to personality traits. The test provides five measurements: (1) Impulsive Sensation Seeking (19 items), which describes a lack of planning and a tendency to act quickly on impulse without thinking, and a general need for thrills and excitement, a preference for unpredictable situation and friends and the need for change and novelty; (2) Neuroticism-Anxiety (19 items), which describes an emotional upset, tension, worry, fearfulness, obsessive in decision, lack of self confidence and sensitivity to criticism; (3) Aggression-Hostility (17 items), which describes a readiness to express verbal aggression, rude, thoughtless or antisocial behavior, vengefulness, spitefulness, a quick temper and impatience with others; (4) Activity (17 items), which describes a need for general activity and impatience and restlessness when there is nothing to do, and the need for work activity and a preference for challenging and hard work and a lot of energy for work and other tasks; and (5) Sociability (17 items), which describes a liking of big parties, interacting with many people and having many friends and intolerance for social isolation. In this questionnaire, 10 items of another scale of dissimulation, infrequency or lying, were randomly inserted into the test body. Any score above 3 on the infrequency scale suggests either inattention to the content of the items and acquiescence or a very strong social desirability set; therefore, the infrequency scale was used as a test validity indicator for individuals (Zuckerman et al. 1993). The test has proved to be reliable in Chinese culture (Wu et al. 2000).

### **Statistical analyses**

Answers to the CSI 44 items were subjected to the principal axis factor analysis, using a computer program Statistica-Factor Analysis (Statsoft Inc., <http://www.statsoft.com/>). The factor loadings were rotated orthogonally using the varimax normalized methods. Items which were loaded less heavily (below .4) on a target factor, or cross-loaded heavily on more than one factors were removed from subsequent analyses one-by-one. After each removal, the remaining items were subjected to a new round of principal axis

factor analysis. The procedure continued until no further item was needed to be removed.

The fit of the remaining data (i.e., components extracted as latent factors) thereafter was evaluated by the confirmatory factor analysis (CFA) for the structural equation modeling using AMOS (Arbuckle 1997). Indices used to assess the overall fit model were the goodness of fit index, the adjusted goodness fit index, the comparative fit index (Bentler 1990),  $\chi^2/df$ , the Tucker-Lewis Index (Tucker & Lewis 1973, Bentler & Bonett 1980) and the root mean square error of approximation (Steiger 1990, Bollen & Long 1993). Once factors and the related items were identified, the internal reliabilities (Cronbach's alpha) were calculated for each factor by another computer program – Reliability and Item Analysis (Statsoft Inc., <http://www.statsoft.com/>).

Scale scores of ZKPQ and of CSI (with defined items after the principal axis factor analysis and CFA) were calculated in two groups. To examine the possible effect of group or gender, we conducted a two-way ANOVA (Group  $\times$  Gender) for each ZKPQ/ CSI scale. The effect size ( $\eta^2$ ) was also calculated for these comparisons. The relationships among scores of CSI and ZKPQ in two groups were assessed by the Spearman rank order correlation test. A p value <0.05 was considered to be significant. In addition, for the correlations,  $|r| \geq 0.20$  was considered meaningful.

## **RESULTS**

Answers to the 44-item CSI were analyzed by the principal axis factor analysis first. The principal axis factor analysis disclosed 12 factors with eigenvalues greater than 1, and each one of the first eight factors accounted for more than 3% of the variance respectively. Then through CFA, all the five-, six-, seven- and eight-factor models were calculated, but the fit of the five-factor model was more interpretable and thus was considered as the best model (Table 1). Together considering that a five-factor solution was also suggested by the scree test of the principal axis factor analysis, we chose a five-factor solution for subsequent analyses. Finally, 24 items of the CSI (CSI-24) were kept for further analyses (Table 2).

**Table 1.** Fit models of the Consumer Style Inventory in 392 participants

Model	$\chi^2/df$	Goodness of Fit Index	Adjusted Goodness of Fit Index	Comparative Fit Index	Tucker-Lewis Index	Root Mean Square Error of Approximation
Eight-factor	2.32	0.87	0.84	0.86	0.83	0.06
Seven-factor	2.25	0.88	0.85	0.86	0.84	0.06
Six-factor	2.34	0.88	0.85	0.87	0.85	0.06
Five-factor	2.14	0.89	0.87	0.89	0.88	0.05

**Table 2.** Factor loadings of the final 24 Consumer Style Inventory items after the principal axis factor analysis in 392 participants

	Factor 1	2	3	4	5
1. Expensive brands are usually the best	0.05	0.08	0.01	0.75	-0.06
3. The more expensive brands are usually my choice	-0.09	0.18	0.05	0.62	0.04
4. The well-known national brands are best for me	-0.01	0.09	0.25	0.41	0.10
12. My standards and expectations for products I buy are very high	0.10	0.12	0.46	0.14	-0.13
13. I make special effort to choose the very best quality products	0.08	0.08	0.56	0.07	-0.15
15. In general, I usually try to buy the best overall quality	0.03	0.07	0.64	0.10	0.08
16. Getting very good quality is very important to me	0.05	0.09	0.63	0.05	0.05
17. The higher the price of a product, the better its quality	0.06	0.09	0.00	0.59	-0.06
18. When it comes to purchasing products, I try to get the very best or perfect choice	0.08	0.18	0.51	0.20	-0.01
20. Fashionable, attractive styling is very important to me	0.06	0.66	0.13	0.15	0.03
21. I keep my wardrobe up-to-date with the changing fashions	-0.11	0.78	0.02	0.12	-0.07
22. I usually have one or more outfits of the very newest style	0.01	0.74	0.04	0.16	0.03
26. It's fun to buy something new and exciting	0.07	0.49	0.21	0.03	-0.01
27. Going shopping is one of the enjoyable activities of my life	-0.01	0.57	0.11	0.06	-0.14
32. I look carefully to find the best value for the money	0.04	0.02	0.51	-0.12	-0.23
34. I really don't give my purchases much thought or care	0.07	-0.11	-0.27	-0.02	0.56
35. I shop quickly, buying the first product or brand I found that seems good enough	0.08	0.01	-0.02	-0.01	0.79
37. I make my shopping trips fast	-0.05	-0.06	0.01	0.06	0.77
39. All the information I get on different products confuses me	0.67	0.06	0.29	-0.03	0.03
40. There are so many brands to choose from that often I feel confused	0.78	0.01	0.17	0.03	-0.01
41. Sometimes it's hard to choose which stores to shop	0.68	0.00	0.05	0.04	-0.06
42. The more I learn about products, the harder it seems to choose the best	0.73	0.03	0.07	0.08	0.02
43. Nice department and specialty stores offer me the best products	0.11	0.07	0.31	0.45	0.08
44. I cannot choose products by myself	0.45	-0.05	-0.10	-0.02	0.08

Loadings higher than 0.40 are in bold face for clarity

The five factors found in our study were as follows. Factor 1 was called “Confused by overchoice”. Consumers scoring high on this dimension were often difficult to make decisions but to seek help from others. When facing an abundant of information, they might easily get confused or upset. Factor 2 was named as “Novelty-fashion consciousness”. Consumers scoring high on the factor were likely to gain excitement and pleasure from seeking out new things, sometimes, they were impulsive when purchasing. Factor 3 was named as “Perfectionism and high-quality consciousness”. Consumers scoring high on this dimension tended to seek the very best quality products and had high standards and expectations for consumer goods. Factor 4 was named as “Brand consciousness”. Consumers scoring high on this dimension were oriented toward the expensive and well-known international or national brands and felt price was an indicator of quality. Factor 5 was called “Time consciousness”. Consumers scoring high on this dimension made shopping trips rapidly and did not give much thought before shopping.

When considering ZKPQ scales, two-way ANOVA showed that online group scored lower than the traditional group did on Neuroticism-Anxiety ( $F(1,388)=4.18, p<0.05$ ) and higher on Aggression-Hostility

( $F(1,388)=4.09, p<0.05$ ) (Table 3). Women scored higher than men did on Neuroticism-Anxiety ( $F(1,388)=9.47, p<0.01, \eta^2=0.024$ ). A group and gender interaction effect was also found when referring to the Aggression-Hostility scale ( $F(1,388)=5.77, p<0.05, \eta^2=0.015$ ), the online shopping men scored ( $6.65\pm 3.03$  S.D.) significantly higher than the online shopping women ( $5.34\pm 3.20$ ), traditional shopping men ( $5.27\pm 2.29$ ) and traditional shopping women ( $5.45\pm 2.84$ ) did.

When considering CSI scales, online group scored higher than traditional group did on Novelty-fashion consciousness ( $F(1,388)=10.76, p<0.01$ ), Brand consciousness ( $F(1,388)=12.65, p<0.01$ ), but lower on Time consciousness ( $F(1,388)=6.78, p<0.05$ ) (also see Table 3). Women scored higher than men did on Confused by overchoice ( $F(1,388)=7.88, p<0.01, \eta^2=0.020$ ), Novelty-fashion consciousness ( $F(1,388)=20.23, p<0.01, \eta^2=0.050$ ), but lower on Time consciousness ( $F(1,388)=10.59, p<0.01, \eta^2=0.027$ ). A group and gender interaction effect was found on Time consciousness ( $F(1,388)=5.22, p<0.05, \eta^2=0.013$ ), the traditional shopping men scored ( $10.27\pm 2.92$ ) significantly higher than the traditional shopping women ( $8.52\pm 2.85$ ), online shopping men ( $8.72\pm 3.39$ ) and online shopping women ( $8.41\pm 2.85$ ) did.

**Table 3.** Internal alphas (n=392) of Zuckerman-Kuhlman Personality Questionnaire and Consumer Style Inventory and the respective scale scores (mean±S.D.) in traditional (n=196) and online (n=196) groups

	Traditional	Online	Effect size $\eta^2$
<b>Zuckerman-Kuhlman Personality Questionnaire</b>			
Impulsive Sensation Seeking ( $\alpha$ : 0.68)	9.09±3.47	9.22±3.35	0.002
Neuroticism-Anxiety ( $\alpha$ : 0.80)	8.59±4.08	7.65±3.93*	0.011
Aggression-Hostility ( $\alpha$ : 0.66)	5.39±2.67	5.79±3.20*	0.010
Activity ( $\alpha$ : 0.68)	7.34±3.26	7.36±3.34	0.000
Sociability ( $\alpha$ : 0.71)	7.33±3.01	7.73±3.47	0.006
<b>Consumer Style Inventory (28 items)</b>			
Confused by overchoice (5, items; $\alpha$ : 0.80)	14.49±4.49	13.92±4.28	0.004
Novelty-fashion consciousness (5, items; $\alpha$ : 0.80)	14.42±4.40	15.76±4.24*	0.027
Perfectionism, high-quality consciousness (6, items; $\alpha$ : 0.74)	21.30±4.13	22.07± 4.35	0.009
Brand consciousness (5, items; $\alpha$ : 0.72)	13.17±3.69	14.67±4.05*	0.032
Time consciousness (3, items; $\alpha$ : 0.75)	9.09±2.98	8.52±3.03 *	0.017

\*  $p < 0.05$  vs. Traditional group

**Table 4.** Correlations among scale scores of Zuckerman-Kuhlman Personality Questionnaire and Consumer Style Inventory in traditional (n=196) and online (n=196) groups

	Impulsive Sensation Seeking	Neuroticis m-Anxiety	Aggression -Hostility	Activity	Sociability
<b>Traditional group (N=196)</b>					
Confused by overchoice	0.17	0.44*	0.02	-0.11	-0.13
Novelty-fashion consciousness	0.10	0.06	0.06	0.17	0.25*
Perfectionism, high-quality consciousness	-0.02	0.07	0.05	0.15	0.07
Brand consciousness	0.05	0.03	0.03	0.04	-0.02
Time consciousness	0.08	-0.01	-0.07	-0.06	-0.23*
<b>Online group (N=196)</b>					
Confused by overchoice	0.10	0.36*	-0.01	0.01	-0.01
Novelty-fashion consciousness	0.28*	0.11	0.11	0.09	0.19
Perfectionism, high-quality consciousness	-0.05	0.11	0.03	0.13	-0.06
Brand consciousness	0.18	0.02	0.15	0.12	0.01
Time consciousness	0.21*	-0.11	-0.06	0.01	-0.01

$p < 0.05$  and  $|r| \geq 0.20$

In traditional group, ZKPQ Neuroticism-Anxiety was significant-positively correlated with CSI-24 Confused by overchoice (n=196,  $r=0.44$ ), Sociability was significant-positively correlated with Novelty-fashion consciousness ( $r=0.25$ ), and negatively with Time consciousness ( $r=-0.23$ ). In online group, Impulsive Sensation Seeking was significant-positively correlated with Novelty-fashion consciousness (n=196,  $r=0.28$ ), and with Brand consciousness ( $r=0.21$ ). Neuroticism-Anxiety was significant-positively correlated with Confused by overchoice ( $r=0.36$ ) (Table 4).

## DISCUSSION

Using both exploratory and confirmatory factor analyses on CSI, we found five factors, namely, Confused by overchoice, Novelty-fashion consciousness, Perfectionism and high-quality consciousness, Brand consciousness, and Time consciousness. They were com-

parable to those found in previous studies (e.g., Sproles & Kendall 1986, Hafstrom et al. 1992, Fan & Xiao 1998, Hiu et al. 2001).

Online group scored lower than traditional group did on ZKPQ Neuroticism-Anxiety as it has been reported previously (Chen & Lee 2008). Our finding that women scored higher on this personality trait than men did was also consistent with a previous documentation (Wu et al. 2000). In addition, Neuroticism-Anxiety was positively correlated with CSI-24 Confused by overchoice in both groups. The Confused by overchoice style characterizes consumers as being easily upset and confused when facing an abundant of information and incapable to make decisions. This behavior fits nicely with the Neuroticism-Anxiety trait, which includes emotional upset, tension, worry, fearfulness, lack of self-confidence and sensitivity to criticism (Zuckerman et al. 1993). It has been shown that Neuroticism influences on the willingness to buy online (Bosnjak et al. 2007), and

individuals with higher Neuroticism were likely to use the Internet to avoid loneliness (Butt & Phillips 2008). Other empirical studies have shown that higher neuroticism is associated with poorer decision-making performance (Denburg et al. 2009). Consistently, higher Neuroticism-Anxiety might contribute to the higher Confused by overchoice found in women.

In our study, we also found that online consumers scored higher on Aggression-Hostility, especially, online shopping men scored higher than all the others did. There was no previous study directly supports this finding, but some investigations have shown that men who frequently use internet feel lonely or psychopathic (Swickert et al. 2002, Engelberg & Sjöberg 2004, McElroy et al. 2007).

Online consumers scored significantly higher on CSI Novelty-fashion consciousness and Brand consciousness than the traditional consumers did. One reason might be that fashion products are more readily available online due to the less constrain of space and time. Besides, discovering new trends is a dominant reason for shopping online (Parsons 2002). Several studies have shown that the Brand consciousness help to reduce the perceived risks when purchasing online (Chang et al. 2005, Yu et al. 2011). Also, van den Poel & Leunis (1999) have found that offering a well-known brand was one of the three risk-relievers for reducing the perceived risks. The result that women scored higher on Novelty-fashion consciousness in our study was consistent with the finding that women were greater fans to fashion (Parker et al. 2004, Pentecost & Andrews 2010). Moreover, our traditional consumers scored higher on Time consciousness, and this finding was further confined to the traditional shopping men, which was consistent with a previous study describing the gender differences on CSI scales in Germany (Mitchell & Walsh 2004).

Impulsive Sensation Seeking describes a lack of planning and tendency to act quickly on impulse without thinking, and a general need for thrills and excitement or a need for change and novelty (Zuckerman et al. 1993). Although Donthu & Garcia (1999) reported that online consumers were more impulsive than others, we did not detect any differences between Impulsive Sensation Seeking of online and traditional consumers. However, we found that this trait was positively correlated with Novelty-fashion consciousness and Time consciousness in online consumers. In online environment, individuals tended to act impulsively and with low self-regulation (McKenna & Bargh 2000). Another supporting evidence comes from a study showing that popular e-commerce sites include features undermining self-regulation and stimulations of the impulsive, compulsive or addictive buying behavior, or the efficiency-promoting manner (LaRose 2001, Kim & LaRose 2004).

Interestingly, Sociability was positively correlated with Novelty-fashion consciousness and negatively with Time consciousness in traditional group. As suggested

by other investigators (Tauber 1972, Kim & LaRose 2004), traditional shopping had been taken as one of the social activities, individuals with higher Sociability would like to spend more time going shopping with their friends or families, and to display more fashion-related purchasing behaviors.

However, one must be aware of three limitations of our current study. First, our study is a preliminary one, although we had chosen a five-factor model of CSI, it might not be the most optimal one. Second, we had included online consumers using a criterion of having had purchased through Internet once or more, whether and how their online shopping behaviors were affected by their traditional shopping experience remain unknown. Third, ZKPQ we used is a higher-trait structured questionnaire, it might not be able to detect more detailed personality differences between online and traditional consumers. Nevertheless a facet version, the Zuckerman-Kuhlman-Aluja Personality questionnaire (Aluja et al. 2010) might unfold the lower-level personality differences and their relationships with the decision-making styles in the two groups.

## CONCLUSION

We have identified a five-factor structure of the Consumer Style Inventory, and have demonstrated that online consumers displayed higher scores of Novelty-fashion consciousness and Brand consciousness, but lower scores of Time consciousness than the traditional consumers did. In addition, Novelty-fashion consciousness and Time consciousness were correlated with Impulsive Sensation Seeking in online consumers. Based on our findings, one might be interested in looking for further relationships between other psychiatric features and the particular decision-making styles in online consumers. For instance, psychiatric patients with higher Impulsive Sensation Seeking might be easily trapped into an online shopping when facing novel and fashionable websites. Knowing his own personality proneness and having his self-monitoring ability would guarantee an online consumer a wise purchasing decision.

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**Conflict of interest:** None to declare.

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Correspondence:

Wei Wang, MD, PhD

Department of Clinical Psychology and Psychiatry, Zhejiang University School of Medicine

Yuhangtang Road 866, Hangzhou, Zhejiang 310058, China

E-mail: wangmufan@msn.com; DrWang@Doctor.com