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Mediating effect of buying motives between physical vanity and online compulsive buying

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This study examines consumer buying motives to determine whether vanity is a direct or indirect antecedent of online compulsive buying. The present research samples university students with online shopping experience in Taiwan. Out of 520 distributed questionnaires, 331 proved useful. A structural equation modeling (SEM) procedure is employed to test the construct validity and hypotheses. Results indicate that vanity of appearance, emotional buying motives and identity buying motives influence online compulsive buying directly. It finds that (1) Identity buying motives mediate between the set "physical view and online compulsive buying" and "physical concern and online compulsive buying." (2) Emotional buying motives mediate between physical concern and online compulsive buying. Understanding the cause and effect of physical vanity, buying motives, and online compulsive buying will help socialist, consumer educators and entrepreneurs study the cause of physical vanity in college students. The present findings suggest that increased awareness in the contexts of education, consumer advice, or therapy could help to prevent or reduce compulsive online buying through encouraging individuals, particularly young students, to develop a critical stance toward materialistic values and messages that online buying offers a psychological benefit in terms of enhancing emotions and identity.

Key words: Physical vanity, buying motives, online compulsive buying, SEM.

INTRODUCTION

Compulsive buying is "growing, dysfunctional consumer behavior with harmful psychological and financial conse-quences" (Dittmar, 2005: 467). Studies find an increasing frequency of compulsive buying in the U.S. (Roberts and Martinez, 1997; Roberts, 1998), U.K. (Dittmar et al., 2007). Neuner et al. (2005) have observed that con-sumers with compulsive buying problems are found in the Internet environment (LaRose and Eastin, 2002). Since understanding dysfunctional consumer behavior is an important factor in predicting compulsive buying (Dittmar et al., 2007), the present research tries to integrate a general social psychological model to predict online

compulsive buying tendencies in Taiwanese consumers.

Emotion and mood influence compulsive buying (Faber, 2004). As a result, the research examines both emotional and identity buying motives as predictors of compulsive buying tendencies. Dittmar et al. (2007) prove that buying motives influence online compulsive buying. The study considers emotional and identity buying motives because both motives happen in the Internet environment (Dittmar et al., 2004).

Vanity is a human trait, and social pressure effects vanity (Durvasula et al., 2001). Netemeyer et al. (1995) divide vanity into four constructs: physical concern, physical view, achievement concern and achievement view. Many products and service such as cosmetics, clothing and body treatment are marketed to people via appeals to vanity (Solomon, 1992), though Huang et al. (2003) research in offline shopping environment

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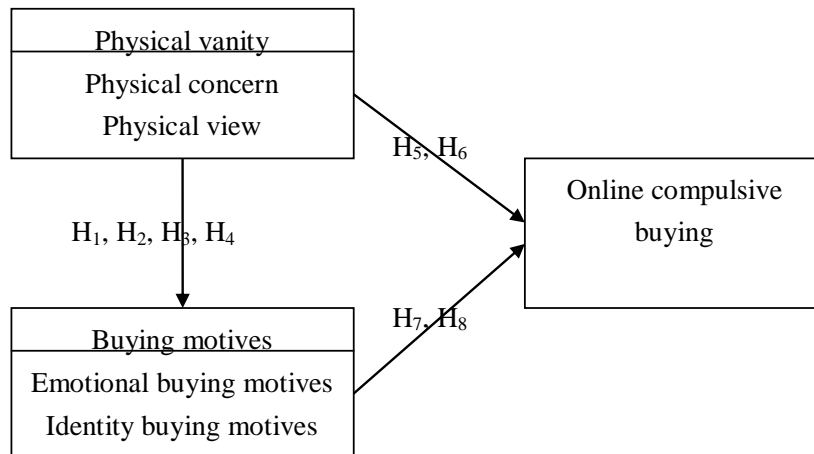
Figure 1. Research conceptual framework.

mentioned that the physical view has a positive relationship with compulsive buying. However, whether or not the vanity of Taiwanese university students transforms into online compulsive buying is a question that is yet to be addressed in the literature.

We choose to examine this model in the context of the Internet because it is fast becoming a serious alternative to conventional stores (Interactive Media in Retail Group, 2004; ZDNet, 2003). Although the Internet is fast becoming a significant buying environment, research about online compulsive buying is only just starting to emerge (Dittmar et al., 2007). The present study investigates the mediating effect of buying motives between physical vanity and online compulsive buying among Taiwan college students. The main objectives are to test the following hypotheses:

1. Identify the influence of physical vanity on online compulsive buying.
2. Recognize the relationship between physical vanity and buying motives.
3. Examine the effect of buying motives on online compulsive buying.
4. Determine the use of buying motives as a mediator between physical vanity and online compulsive buying.

The development of hypotheses

Figure 1 shows the conceptual framework of the research. Two dimensions of physical vanity, physical concern and physical view, have direct influence on online compulsive buying through the mediation of emotional buying motives and identity buying motives.

Physical vanity

Many studies use the term vanity in numerous contexts.

Previous research has defined vanity in sociological, psychological, philosophical, and consumer behaviorist terms (Netemeyer et al., 1995; Bloch and Richins, 1992; Cash and Brown, 1987; Lasch, 1978; Solomon, 1985, 1992). Netemeyer et al. (1995) divide vanity into four constructs: physical concern, physical view, achievement concern and achievement view. Physical concern means that an individual cares about his or her physical appearance. Physical view means that an individual has a "positive (perhaps inflated) view of one's physical appearance" (Netemeyer et al., 1995). Achievement concern means having a positive perception toward one's achievement. Moreover, one believes that other people wish to have the same success as oneself. Achievement view means, therefore, that an individual has a "positive (perhaps inflated) view of one's achievement" (Netemeyer et al., 1995). Because several items of achievement concern and achievement view ("Professional achievements are an obsession with me" and "In a professional sense, I am a very successful person") are inappropriate for university students who are just in the learning stage, the present research will study only the physical concern and physical view dimensions of the vanity trait scale.

Buying motives

When needs are not satisfied, people feel uncomfortable; they often feel a need to relieve their stress through purchasing goods (Schiffman and Kanuk, 2000). From the many types of buying motives in a conventional buying environment, only social-experiential, emotional, and identity buying benefits relate to psychological gains (Dittmar et al., 2007). Because they happen in the Internet environment and because people have the belief that acquiring goods can improve both emotions and identities (Dittmar et al., 2004; Dittmar et al., 2007), the present study focuses on the emotional and identity

buying motives for consideration. Emotional and identity buying motives are essential in both conventional and internet environments (Dittmar et al., 2004). Dittmar et al. (2007) reveal two reasons to study emotional buying motives and identity buying motives. One is that both buying motives help us to understand compulsive buying. The other one is that materialistic values are likely to influence both buying motives. Similarly, their study infers that a concern for physical appearance and a view for physical appearance likely give rise to emotional and identity buying motives because consumers want to keep an appealing appearance at all times to maintain their mood and identities.

Online compulsive buying

Compulsive buying describes "chronic, repetitive purchasing that becomes a primary response to negative events or feelings" (O'Guinn and Faber, 1989: 155). The above study concludes that compulsive buying contains three core features: the urge to buy is irresistible, individuals lose control over their buying behavior, and they continue to buy despite adverse consequences in their personal, social, or occupational lives (Dittmar, 2004; Dittmar et al., 2007). These core features are consistent with proposed diagnostic criteria for compulsive buying which emphasize that irresistible impulses buying lead to distress and impairment (McElroy et al., 1994). Some studies find an increasing frequency of compulsive buying among U.S. college students (Roberts and Martinez, 1997; Roberts, 1998), and demonstrate that the purpose of compulsive buying is to attain interpersonal and self-esteem goals (O'Guinn and Faber, 1989). Compulsive buying is linked to the economic, social, and cultural transformation of consumer behavior.

Physical vanity and buying motives

Netemeyer et al. (1995) argue that vanity traits such physical appearance influence consumer behaviors. Durvasula et al. (2001), and Wang and Waller (2006) support Netemeyer et al. on the cause and effect relationship between vanity and consumer behavior. Social pressure influences vanity (Durvasula et al., 2001). Dittmar et al. (2007) maintain that acquiring goods can improve emotion and identity. Comparison of studies between conventional and online environment reveal that emotional and identity buying motives are essential in both environments (Dittmar et al., 2004). Similarly, the study infers that a concern for physical appearance and a view for physical appearance may likely give rise to emotional and identity buying motives because they want to keep up appealing appearances for the benefits to mood and identity. Thus, the study develops the following hypotheses:

H$_1$: Physical concern has positive impact on emotional

buying motives.

H$_2$: Physical concern has positive impact on identity buying motives.

H$_3$: Physical view has positive impact on emotional buying motives.

H$_4$: Physical view has positive impact on identity buying motives.

Physical vanity and online compulsive buying

Vanity generates the intention to purchase products (O'Guinn and Faber, 1989; Faber and O'Guinn, 1992; Mick, 1996). Research in Taiwan has shown that physical vanity affects compulsive buying. For example, since many Taiwanese women desire a slim and fit body, they join the health club and purchase programs for getting an ideal figure (Wang, 2004). Taiwan adolescents from Y generation tend to buy fashion clothing to show off, hoping these products will advertise their uniqueness and the size of their purse (Tu, 2002). Therefore, the study tests the following hypotheses:

H$_5$: the physical concern has a positive relationship with online compulsive buying.

H$_6$: the physical view has positive relationship with online compulsive buying.

Buying motives and online compulsive buying

Moods do change after purchases (Dittmar, 2001, 2005; Faber and Christenson, 1996). Even though clinical literature discusses mood regulation, anxiety and depression, they all investigate the characteristic of compulsive buying (Benson, 2006; Faber, 2004). Dittmar (2004, 2007) uses a social psychological framework to show compulsive buying as part of the search for identity. Identity and mood regulation are compensatory behaviors that are central to compulsive buying (Benson, 2006; Dittmar, 2004; Elliott, 1994). Dittmar et al. (2007) find that emotional and identity buying motives have a significant link with online compulsive buying especially when people believe that goods may bring them a better self to impress other people and to gain prestige. Thus,

H$_7$: The emotional buying motives increase online compulsive buying.

H$_8$: The identity buying motives increase online compulsive buying.

METHODS

This study collects data in two different universities in Taiwan.

Table 1. Confirmatory factor analysis.

Factors	GFI	AGFI	RMR	χ^2/df	p	α-value
Physical concern	0.99	0.97	0.01	1.46	0.21	0.85
Physical view	0.99	0.98	0.01	0.85	0.36	0.88
Emotional buying motives	0.99	0.99	0.03	0.56	0.45	0.93
Identity buying motives	0.99	0.98	0.01	0.94	0.46	0.91
Online compulsive buying	0.99	0.95	0.02	1.12	0.33	0.92

Table 2. Results of correlation analysis.

	F1	F2	F3	F4	F5
F1	1.00	0.41***	10.25***	0.30***	0.26***
F2	0.41***	1.00	0.28***	0.28***	0.26***
F3	0.25***	0.28***	1.00	0.74***	0.81***
F4	0.30***	0.28***	0.74***	1.00	0.74***
F5	0.26***	0.26***	0.81***	0.74***	1.00

F1=Physical concern F2= Physical view F3=Emotional buying motives
F4=identity buying motives F5=online compulsive buying
PS *** $p<.001$

Demographic data shows that 520 respondents participated in this study. Of them, 331 (167 males and 164 females) fully completed the questionnaire and are adopted in the data analysis. The average age is 20.5. Most of the participants spend 1-4 h on Internet per day. They have made more than 5 purchases on the Internet (n=160, 48.34%). All members of the sample have had online experience.

To measure physical appearance vanity, the study utilizes 11 items modified from vanity trait scale of Netemeyer et al. (1995). The second part, which measures buying motives, utilizes 10 items from Dittmar et al. (2007). The compulsive online buying scale contains eleven items; Dittmar et al. (2007) have phrased several of them to refer specifically to the Internet, such as: "As soon as I log onto Internet, I want to go to a retail site and buy something." These items assess the three core aspects of compulsive buying: irresistible urges to buy; loss of control over buying behavior; and the tendency to continue buying despite adverse consequences. All responses measure along a 6-point Likert-type scale, which ranges from disagree completely (1) to agree completely (6).

Because these scales have good reliability and validity, the present research directly uses Confirmatory Factor Analysis (CFA) to test its construct validity. Table 1 shows the results of the CFA recommended by Gerbing and Anderson (1988) for physical appearance of vanity, buying motives, and online compulsive buying. CFA reveals that all Goodness-of-Fit Indexes (GFI) and all Adjustment Goodness-of-Fit Indexes (AFGI) are greater than 0.9. All Root Mean Square Residual (RMR) are less than 0.05 which are in line with suggestions from Carmines and McIver (1981). All constructs χ^2/df are <3, which are in line with suggestions from Carmines and McIver (1981). Taken together, these statistics suggest an acceptable fit of the model (cf. Sharma, 1996). The Cronbach's alpha values for all factors are all above 0.85, which shows good reliability (Nunnally, 1991).

Normative data from both Canada and the U.K. for conventional compulsive buying tendencies suggest that a mean score of 4 or above can be used as the cut-off point for classifying respondents who show dysfunctional elements in their buying (Dittmar et al., 2007). The present result reveals that 19% of the sample (n=65) are dysfunctional.

RESULTS

Table 2 shows the correlation coefficients among physical vanity, buying motives and online compulsive buying. The results reveal that there is a significant relationship among all factors. The correlation coefficients between the constructs range from 0.25 to 0.81 and p value is less than 0.01.

To further assess discriminant validity, correlations were calculated via a measurement model in LISREL between concepts (physical concern and physical view) of the main construct (physical vanity). If the correlation is high, discriminant validity is low. If the correlation is low, discriminant validity is high (Bearden et al., 2001; Blau, 2001; Carless, 2001; Durvasula et al., 2001; Marks, 2000). In the scale of physical vanity, the correlation between physical concern and physical view is 0.33, t = 4.02. These results provide evidence of good discriminant validity.

The research adds a predictive cross validity analysis by using confirmation factor analysis. We consider testing the model for just males and just females sub-samples; then cross-validate the two models. Table 3 summarizes the results of cross validity analysis. The accuracy of both constrained model for males in predicting female dependent value scores are significant but lower than for GFI, AGFI, RMR,χ^2, χ^2/df, p, NFI accuracy for males and vice versa.

The results of the measurement and structural models are obtained by applying the SAS Calis structural equation modeling (SEM) analysis. Table 4 shows that GFI, AGFI, RMR, χ^2/df values are 0.98, 0.95, 0.02, and0.44 respectively, indicating a minimally acceptable fit

Table 3. Constrained cross validity.

		GFI	AGFI	RMR	χ^2	χ^2/df	p	NFI
Emotional buying motives	Model for Male Data for Female	0.99	0.91	0.02	2.83	2.83	0.09	0.97
	Model for Female Data for Male	0.96	0.63	0.02	13.00	13.00	0.00	0.97
Identity buying motives	Model for Male Data for Female	0.96	0.91	0.04	18.82	2.09	0.03	0.97
	Model for Female Data for Male	0.99	0.93	0.01	0.59	0.16	0.96	0.99
Online Compulsive buying	Model for Male Data for Female	0.98	0.91	0.02	18.10	1.21	0.21	0.98
	Model for Female Data for Male	0.94	0.83	0.04	48.90	2.40	0.00	0.96

Table 4. Path analysis.

Hypotheses			t-value	
H_1: physical concern → emotional buying motives	+	γ= 0.37***	t=4.64	Accept
H_2: physical concern → identity buying motives	+	γ= 0.42***	t=4.23	Accept
H_3: physical view → emotional buying motives	+	γ= 0.13	t=1.30	Reject
H_4: physical view → identity buying motives	+	γ= 0.12**	t=2.15	Accept
H_5: physical concern → online compulsive buying	+	γ= 0.03	t=0.69	Reject
H_6: physical view → online compulsive buying	+	γ= 0.07**	t=2.12	Accept
H_7: emotional buying motives → online compulsive buying	+	β= 0.48***	t=4.57	Accept
H_8: identity buying motives →online compulsive buying	+	β= 0.36***	t=4.24	Accept

Model fit GFI=0.98, AGFI= 0.95, RMR=0.02, χ^2/df = 0.44

(Bagozzi and Yi, 1988). Thus, the study concludes that the overall model fit is acceptable for hypotheses testing. Table 4 shows the standardized path estimates. Physical concern spurs both emotional buying motives and identity buying motives (γ_{11}=0.37, t=4.64; γ_{21}=0.42, t=4.23), indicating that H_1 and H_2 are accepted. Similarly, physical view raises identity buying motives (γ_{22}=0.12, t=2.15), indicating that H_4 is acceptable. Physical view, emotional buying motives, and identity buying motives raise online compulsive buying (γ_{32}=0.07, t=2.12; β_{31}=0.48, t=4.57; β_{32}=0.36, t=4.24), indicating that H_6, H_7 and H_8 are acceptable. Consequently, the results of this study show that physical view significantly influences online compulsive buying directly. Physical concern indirectly influences online compulsive buying through emotional buying motives.

Figure 2 shows the final structural equation model framework for students. Physical view, emotional buying motive, and identity buying motive have direct positive relationship with online compulsive buying. Emotional buying motives have a mediator effect between physical concern and online compulsive buying. Moreover, identity buying motives mediate between "physical view and online compulsive buying" and "physical concern and online compulsive buying." These three mediator effects are most important findings of this research.

Based on the above result, there are some differences between online and offline setting: (1) According to Huang et al. (2003), in their offline setting study they mentioned that the physical view has a positive relationship with compulsive buying. However, only physical view has a direct influence on online compulsive buying in online setting. (2) The students who have high physical concern characteristic will not directly evolve online compulsive buying, but they simultaneously should have high emotional buying motives so that they easily evolve online compulsive buying. (3) No matter students who have high physical concern or high physical view characteristic and if they simultaneously have high identity buying motives so that they easily evolve online compulsive buying in online shopping environment.

In addition, MacKinnon et al. (2002) and Preacher and
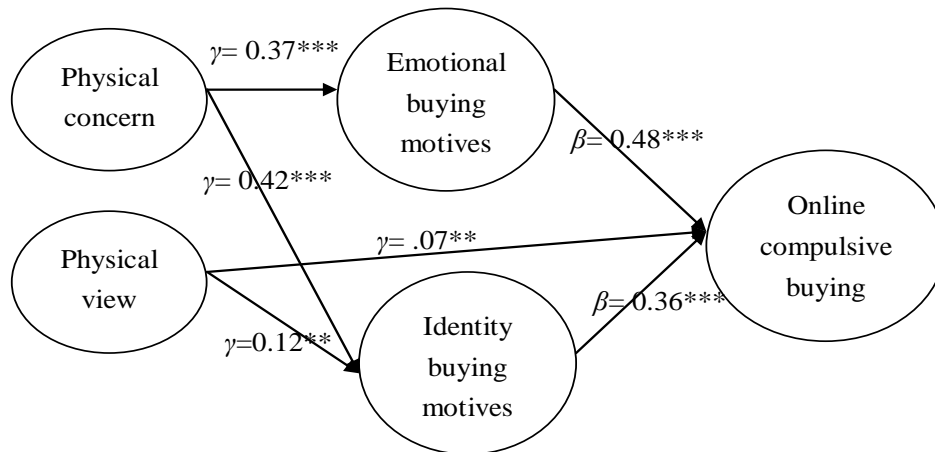
Figure 2. Final structural equation model framework ** Significant at the 0.05 significance level, *** Significant at the 0.01 significance level.

Hayes (2004) suggested that Sobel test could be used to test whether a mediator carries the influence of independent to dependent variable. Baron and Kenny (1986) suggested Aroian test equation for Sobel test, because it does not make unnecessary assumptions that standard error of the relationship between the independent variable and the mediator and the relationship between the mediator and the dependent variable are vanishingly small. After calculating Sobel test for the mediating of emotional buying motives between physical concern and online compulsive buying, the z value is 3.19 and, p-value is 0.001 <0.05. The result shows statistical significant. That is emotional buying motives significantly carries the influence of physical concern to online compulsive buying.

Moreover, the Sobel test for the mediating of identity buying motives between physical view and online compulsive buying shows that z value is 2.58 and, p-value is 0.001 <0.05. The result shows identity buying motives mediate the relationship between physical view and online compulsive buying. In addition, the Sobel test for mediating of identity buying motives between physical concern and online compulsive buying shows that z value is 3.51 and, p-value is 0.004 <0.05. The result shows identity buying motives mediate the relationship between physical concern and online compulsive buying.

Conclusions

The research suggests that compulsive buying occurs not only in conventional environment but also in the Internet environment in Taiwan. As Internet buying gains increasing attention from marketers and researchers all over the world, efforts will be paid to identify the friends.

Therefore, they not only have good mood but gain good identity in the school. Even though students with physical

underlying determinants of vanity, buying motives and compulsive buying since they play a major role in Internet shopping. The result of the study reveals that 19% of the sample (n=75) in this study demonstrate dysfunctional elements. The percentage of dysfunctional online consumers is also similar to 13% of adults in the conventional environment found by Dittmar (2004, 2005). The significant contribution of this study is to clarify the online compulsive buying habits at universities in Taiwan. Despite the fact that many researchers have put a lot of effort into the conceptual relationship that leads to compulsive buying (Dittmar, 2005; Neuner et al., 2005), Dittmar et al. (2007) suggest that in the Internet environment identity related buying motives are important elements to understand the compulsive buying tendency online. Purchasing goods seem to improve senses of self (Benson, 2000). Similarly, purchasing fashion clothes can change people's appearance so that they could be, felt, and believed themselves to be attractive in front of others. Thus, university students are vulnerable to the judgments of peers because the physical view associates with identity buying motives.

The results indicate that students' attractive appearance seems to influence one's motivation on purchasing goods. Thus, the emotional buying motives may interrupt the relationship between physical concern and online compulsive buying. However, students in the university with physical view may care about only identity buying motives. Good identity may be very important in the university, because people can make a lot of friends and get a lot of help when they encounter difficulties in school.

In summary, physical appearance may be important for most of students in the university because they always compare what they wear in school. If they do have good dress, the appearance can help them to make a lot of concern may care about both motives, students with physical concern may care only the identity buying motives.

Implication and contributions

Present research could offer a new perspective on online compulsive buying and provide marketers, public policymakers and researchers with insights about predicting and preventing online compulsive buying behavior of consumers. Marketers have to watch the demand of consumers in order to earn profits and satisfy customers' needs. Competitors shorten the life cycle of new products. As a result, physical vanity is always changing. When facing a trend, marketing activities must search for different niches to find new target market segmentation.

Understanding the cause and effect of physical vanity, buying motives, and online compulsive buying will help socialis; consumer educators and entrepreneurs study the cause of physical vanity in college students. The present findings suggest that increased awareness in the contexts of education, consumer advice, or therapy could help to prevent or reduce compulsive online buying through encouraging individuals, particularly young students, to develop a critical stance toward materialistic values and messages that online buying offers a psychological benefit in terms of enhancing emotions and identity.

Individuals seem most vulnerable to compulsive online buying. Compulsive online buying behavior is formed and reinforced when no one says anything about the behavior. Educators or people around the person should willingly provide help for people who cannot control their behavior before social problems are formed. When the government is producing public policy or laws, they should emphasize both economic development and college students' attitudes toward purchasing.

This study has some limitations relating to data collection and interpretation. First, as the scope of present study is limited to universities in Taiwan, future research should be conducted with pools from other parts of Taiwan, which might reflect broader demographical characteristics; such a study would add additional credibility to the findings. It would be interesting to expand the study across national borders and compare universities in different countries. Third, future research should consider other vanity related variables to determine if the variables can predict online compulsive buying.

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