

# Chinese consumers' medical decision and attitudes toward pharmaceutical advertising

Chan, Kara

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**CHINESE CONSUMERS' MEDICAL DECISION AND ATTITUDES TOWARD  
PHARMACEUTICAL ADVERTISING**

Kara Chan  
Assistant Professor  
Department of Communication Studies  
Hong Kong Baptist University  
Kowloon Tong, Hong Kong

Fax: (852) 2339-7890  
Telephone: (852) 2339-7836  
E-mail: karachan@hkbu.edu.hk

Topic: Medical/Health Care Advertising

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Ms. Kara K.W. Chan is currently Assistant Professor in the Department of Communication Studies, Hong Kong Baptist University. She worked in the advertising and public relations profession and as a statistician for the Hong Kong Government. Her research areas are in Hong Kong and China's mass communication, advertising, consumer behaviour and environmental studies. She has published at the *International Journal of Advertising*, *Journal of Asian Pacific Communication*, *Gazette* and the *Environmentalist*.

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Running head: Attitudes toward pharmaceutical advertising

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**Chinese consumers' medical decision and attitudes toward pharmaceutical advertising**

Abstract

A survey of 500 respondents from Beijing, the China was conducted to investigate their perceptions of the role of pharmaceutical advertising when making health treatment decisions. Results indicated that Chinese consumers held a very positive attitude toward advertising in general, but pharmaceutical advertising was considered neither enjoyable nor trustworthy. The strongest criticisms about the societal effects of pharmaceutical advertising came from economic considerations and consumers strongly supported the need for tighter control of the content of pharmaceutical advertising. Self-medication was found to be common in China (as opposed to going to a medical doctor), with the proportion of consumers who used over-the-counter pharmaceuticals as a first-line treatment ranging from 35 percent for constipation to 51 percent for flu. Neither western nor traditional Chinese medical treatments gained overall popularity over the other among consumers for five common health problems. Finally, it was found that dissatisfied Chinese consumers were more likely to bad-mouth a brand than complain to authorities.

(157 words)

## **Chinese consumers' medical decision and attitudes toward pharmaceutical advertising**

### **Introduction**

This study aims to measure how people in China perceive pharmaceutical advertising, their medical decisions when encountering health problems, and their opinion toward the regulation of pharmaceutical advertising.

Pharmaceutical advertising is one of the most heavily advertised product categories in China accounting for about one sixth of total advertising expenditure in 1994 (Jiefeng Daily, 1995). Past research ([Chan, 1995b](#)) indicated that most of these pharmaceutical commercials were informative. However, they conveyed only information about performance and failed to communicate other important information like quality or company research ([Chan, 1995b](#)), and some commercials were found to contain illegal claims ([Chan, 1995a](#)).

A recent study found that Chinese consumers showed an overall interest in advertising and felt that advertising is a good source of information about products and services (Eastern Express, 1995).

This study aims to achieve the following objectives:

1. to measure consumers' overall perceptions of pharmaceutical advertising and their beliefs about its functions and consequences;
2. to investigate consumers' medical decisions; and
3. to explore public attitudes toward the regulation of pharmaceutical advertising.

A systematic study of consumers' perceptions of pharmaceutical advertising should benefit the advertising industry as well as help advertising education practitioners to better understand how advertising works in China. This study also assists global pharmaceutical advertisers effectively design their marketing communication strategies in China.

### **Literature review**

Advertising of health-oriented goods is regulated by law in china as it is in many other countries. In fact, in a survey on 344 American advertising agency affiliates in fifteen different countries, pharmaceuticals stood out as having the most legal restrictions ([Shao and Hill, 1994](#)).

Over the years, public awareness of health and health products has grown and consumers have demonstrated a desire to assume a more active role in their health care (Kasteler, Kane,

Olsen and [Thetford, 1976](#)). Health care marketers have also become interested in adopting more consumer orientation in pharmaceutical marketing ([Zimmerman, 1983](#)). World-wide, the pharmaceutical market in 1994 was valued by Euromonitor at around US\$259 billion at manufacturers' selling prices, with prescription drugs representing US\$222 billion sales and over-the-counter (OTC) medicines US\$37 billion ([Euromonitor, 1995](#)). The OTC market in America is expected to nearly double in sales from 1990 to 2000, attributed primarily to a growing number of prescription drugs which were switched to OTC status ([Hoy, 1994](#)).

The OTC pharmaceutical market is becoming more sophisticated. Consumers world wide are becoming more aware of the importance of maintaining a healthy lifestyle and are therefore making more use of self-medication products. Results of a survey conducted in Europe indicated that the proportion of consumers who used OTC medication as a first-line treatment varied from 24% in the Netherlands to 55% in the United Kingdom ([Financial Times Management Reports, 1994](#)). The reports stated that there was a higher level of information currently available on the use of self-medication. Information availability had largely been a result of the growing influence of consumer groups' desires to know more about the safety and efficacy of medicines ([Financial Times Management Reports, 1994](#)). The report also noted that the increasing consumer awareness also made it more likely that the general public would visit a pharmacist before going to a general practitioner in order to make an informed decision about their own treatment.

A study of consumers' attitudes toward non-prescription drug advertising ([Perri and Nelson, 1987](#)) indicated that these advertisements were viewed favourably. Consumer felt these ads would provide information that they had a desire and a right to know. Consumers surveyed also expressed concern that medical professionals might not always be well-informed.

The pros and cons of advertising OTC pharmaceuticals to consumers are many. Major concerns include the potential for consumer misinterpretation of information and the increased likelihood of consumers who are exposed to the advertisements to pressure physicians into prescribing inappropriately ([Krieger, 1983](#); [Masson and Rubin, 1985](#)). Also, self-medication is largely based on the assumption that ordinary people are capable of correctly self-diagnosing the existence of the condition for which an OTC drug is to be used ([Johnson, 1986](#)). However, this assumption may not be valid for specific segments of the society including the elderly

consumers, children and adolescents (Hoy, 1994). In addition, some opponents fear that advertising will also increase pharmaceutical prices (Krieger, 1983). Others contend that the increase in competition will lower pharmaceuticals' prices (Masson and Rubin, 1985). Further criticisms are that advertising medications could confuse patients (Krieger, 1983; Morris, 1984), and that pharmaceutical advertising to consumers could trivialize and foster an excessive use and abuse of legitimate and illicit pharmaceuticals in the society (Shimp and Dyer, 1979; Mastroni, 1984; Novitch, 1984). On the positive side, Everett (1991) noted that informed patients were more likely to discuss advertised products with their physician and made better purchasing decisions.

The use of pharmaceuticals and the adoption of self-medication habits vary greatly in different countries and different cultures. In recent years, there has been a growing criticism in China of the nature and practices of modern western medicines, and discussion of the risks and deficiencies of chemical and physical therapy has prompted some skeptics to look to traditional medications (Unschuld, 1985). Chinese medical civilization offers a wealth of primary sources of handling human illnesses that stretches over a period of nearly 3,500 years, with variety of treatment options (Unschuld, 1985).

### **Pharmaceuticals in China**

China has a long-established pharmaceutical industry and a rich heritage in traditional medicines. Encouraged by state-funded incentives for modernization, there has been an emergent participation by international manufacturers in the domestic pharmaceutical industry in China. As previously mentioned, pharmaceutical advertising is one of the most heavily advertised product categories in China. This is probably because of the high profit margin of the products as well as the increasing concern of consumers about their health as a result of rising incomes and living standards. There are also many young consumers taking various types of health products for beauty, health, and mental growth. In a survey of elderly patients in the United States, China and Hong Kong, it was found that 19 percent of the respondents in China used advertising as a source of information about medicine compared to only 2% in both Hong Kong and the United States (Smith and Smith, 1997). This may point to the importance of effective regulation of pharmaceutical advertising in China.

The advertising of pharmaceuticals is regulated by the State Administration of Industry and Commerce and the Ministry of Public Health. Also, the new Advertising Ordinance implemented in February 1995 provides specific guidelines and restrictions on pharmaceutical advertising. For example, the Ordinance bans the advertising of a number of pharmaceuticals, including those used for treating AIDS, tumors, sex problems and drug addiction as well as those used in vaccinations and family planning. It also prohibits the use of exaggerated and unscientific language, the citing of cure rates and prizes won, the use of the names or images of medical experts or children, the direct display of illness or diagnoses, and promises of refunds or insurance. The regulations are expected to provide a more effective legal guarantee for the safety of medicines and for directing the development of reliable medicine advertisements (Xinhua News Agency, 1995). Before the implementation of the new Advertising Ordinance, pharmaceutical advertising which violated other official regulations was not uncommon. A content analysis of 83 pharmaceutical commercials found that over 50 percent were illegal for not featuring the official drug code or the physician's advice ([Chan, 1995a](#)). Non-compliance of regulations was probably due to an ineffective advertising censorship system, unclear definition of pharmaceutical products, and inadequate knowledge of the gatekeepers of the advertising authorities.

The abundance of pharmaceutical advertising has gained widespread attention in the Chinese society. Major criticisms include overstating the effectiveness of pharmaceuticals and understating of side effects, mis-use of images of professionals and medical institutions, promotion of pharmaceuticals which have not passed clinical tests, and a confusion between health food and pharmaceutical advertising (Jia, 1994). Some medical professionals have also commented on the economic cost of mis-use of pharmaceuticals, the possible delay in necessary clinical treatment, and interference with physicians' prescription decisions (Li, 1993).

Consumers differ in the direction, degree and type of overall attitude they hold about advertising. Studies of consumers' attitudes toward advertising have found that they are often product specific. For example, [Mittal \(1994\)](#) surveyed 300 consumer panel members and found that they disliked the advertising of political candidates, beer, feminine hygiene and cars. He suggested that consumers' attitude toward advertising should be measured at the specific product category level. Others have suggested that consumer' attitudes to individual advertisements are

influenced by their attitudes to advertising in general ([Bauer and Greyser, 1968](#); [Alwitt and Prabhaker, 1992](#)). Studies in United States have consistently reported that the consumers' overall evaluation of advertising is negative ([Bartos, 1981](#); [Andrews, 1989](#); [Alwitt and Prabhaker, 1992](#)). However, studies in Hong Kong have indicated that Chinese consumers ordinarily hold positive attitudes toward advertising ([Martin, Cheng, Wilson and Tsui 1994](#); [Chan and Ruidl, 1996](#)). Recent research in China found that a majority feel that advertising is a good source of information on products and helps to spur competition ([Eastern Express, 1995](#)). Those who dislike advertising said it was because they felt most advertisements were incredible, exaggerated and poorly produced.

[Pollay and Mittal \(1993\)](#) distinguished between advertising as an instrument and as an institution, and between personal uses and societal effects of advertising. They suggested three groups of personal uses: product information, social role and image, and hedonism or pleasure. At the societal effect level, they proposed four groups of beliefs that included effect of advertising on the economy and materialism, value corruption and the extent to which it seems false or lacking sense. In [Mittal's \(1994\)](#) study, beliefs about personal uses and societal effects of advertising were conceptualized as the functions and consequences of advertising respectively. In another review of consumers' attitudes toward advertising, [O'Donohoe \(1995\)](#) found that users of a product category are more likely to find the advertising relevant and enjoyable.

[Chan and Ruidl \(1996\)](#) applied these concepts in a study of Chinese consumers' attitudes toward television advertising in Hong Kong. Results indicated that 27 percent of the total variation in the overall attitude toward television advertising could be explained by consumers beliefs about specific functions and consequences of television advertising. Perceived entertainment, knowledge and social image functions, and perceived economic benefit of improving living standards were major influences of favourable overall attitude. Perceived manipulation of people to buy unnecessary things and economic cost were major factors contributing to unfavorable overall attitudes ([Chan and Ruidl, 1996](#)). In a cross-cultural study of consumers' attitudes toward OTC drug advertising, [Chan and Ha \(1996\)](#) found that American and Hong Kong consumers were very similar in their overall perception of functions and consequences of OTC drug advertising. However, American consumers found OTC drug advertising more entertaining, more indispensable and less confusing.



## **Research methodology**

This study explores how Chinese consumers perceive the functions and consequence of pharmaceutical advertising, how they make medical treatment decisions, and their opinion toward government regulation of pharmaceutical advertising.

A survey was conducted in Beijing using a structured questionnaire in Chinese. Beijing residents were selected based on a quota sample by sex and age. Respondents were recruited through various sources including intercept at shopping locations, parks, hospitals, schools and cultural centres at different areas of the city. Data were collected through personal interview during the period April to May, 1996.

The questionnaire started with four questions on overall attitude toward advertising in general and then pharmaceutical advertising. Respondents were requested to indicate whether they considered advertising in general and pharmaceutical advertising in particular to be good or bad, and, whether they liked or disliked advertising in general and pharmaceutical advertising. Averaging the scores on the good/bad and the like/dislike dimension formed an overall attitude score toward advertising in general and pharmaceutical advertising. These two dimensions include a rational and an emotional evaluation of advertising..

The questionnaire continued with statements concerning the functions and perceived consequences of pharmaceutical advertising and their opinion on the regulation of pharmaceutical advertising (see Table 3). Most of these statements were from Mittal's (1994) study. Respondents were asked to rate these statements on a 5-point scale (5=strongly agree, 1=strongly disagree).

Pharmaceutical advertising is conceptualized as having six functions and consequences. The market information function reflects the classical economic view that the purpose of advertising is to provide information about pharmaceuticals. The buying confidence function refers to the evaluative contribution of advertising in aiding consumer purchase decisions and buying confidence. The entertainment function refers to the pleasure or enjoyment they could possibly obtain by watching or reading pharmaceutical advertising. The economic costs and economic benefits reflect the positive and negative influences on the economy. The manipulation effect indicates whether their buying behaviors are controlled by pharmaceutical

advertising. Two to three statements were tapped for each of these dimensions and their internal validity was accessed.

Respondents were then asked about their first-line medical decisions when facing five common health problems: fever, diarrhea, flu, stomach ache and constipation. The choices included no action, taking OTC drug, consulting western doctors, consulting Chinese doctors, and consulting friends with medical knowledge. The questionnaire closed by requesting various demographic information.

Altogether 500 questionnaires were collected. The demographic profile of the sample is shown in Table 1. There were equal numbers of females and males, 25 percent and 30 percent between the ages of 20 to 29 and 30 to 39 respectively, and 42 percent having college or university education levels. About thirty-eight percent were management and office staff, and over 80 percent worked in state corporations. Nearly half had a monthly personal income between 501 to 1,000 yuan. Fifty-nine percent considered themselves as liberal, and there were equal proportions considering themselves as having 'Westernized' and 'Chinese' orientations.

[ TABLE 1 ABOUT HERE ]

## **Results**

Respondent consumers' overall attitudes toward advertising in general was positive (Table 2). About two thirds of the sample considered advertising as a good thing. Half of the sample liked advertising and close to forty percent felt neutral about it. Fifty-three percent of the respondents considered pharmaceutical advertising as a good thing while 41 percent liked pharmaceutical advertising and 36 percent felt neutral about it.

The mean score of consumers' attitude toward advertising in general on the bad/good scale was 3.7 which was slightly higher than the mean score of 3.5 on the dislike/like scale, with higher value represented more positive attitudes. The mean score of consumers' attitude toward pharmaceutical advertising on the bad/good scale was 3.4 which was slightly higher than the mean score of 3.2 on the dislike/like scale, with higher value represented more positive attitudes. The Pearson correlation between the bad/good and the dislike/like scales for advertising in general and pharmaceutical advertising was 0.52 and 0.72 respectively. Both correlation coefficients were significant at 0.0001 level. This indicated that rational evaluation and emotional feeling about advertising were positively related with advertising in general as well as

for a specific product category. The high correlation coefficient also justified the compilation of an overall attitude score toward pharmaceutical advertising.

[ TABLE 2 ABOUT HERE ]

*Perceived functions and consequences of pharmaceutical advertising* The mean and standard deviation of consumers' perceived functions and consequences of pharmaceutical advertising is summarized in Table 3. To aid interpretation, composite scores are computed by taking the mean of the constituent items for each category of functions and consequences.

Offering market information about pharmaceutical products was considered as the basic function of advertising. Results indicate that the market information function was the most agreed to among Beijing consumers. On average, the sample agreed that pharmaceutical advertising helped them keep updated about new medicines as well as helped them know about functions of specific brands. However, Beijing consumers were indifferent concerning pharmaceutical advertising as an important source of information.

Beijing consumers were indifferent concerning the entertainment and the buying confidence functions of pharmaceutical advertising. However, respondents held strong belief about the economic costs of pharmaceutical advertising on consumers. Majority believed that pharmaceutical advertising increased the costs of products and supported that some advertising money should be reserved for product improvements. Respondents did not favor the complete elimination of pharmaceutical advertising.

Respondents were indifferent about whether pharmaceutical advertising manipulates consumers.

The economic contribution of pharmaceutical advertising was not well received by the respondents. Forty-six percent did not think pharmaceutical advertising would improve the standard of public health. Forty-seven percent did not see the need of pharmaceutical advertising to support the production cost of mass media content.

Alpha coefficients indicating the internal validity of individual conceptual dimensions was compiled. The alpha coefficients for all concepts were found acceptable at over 0.4.

[ TABLE 3 ABOUT HERE ]

*Correlation with overall attitude* The Pearson correlation coefficients between the overall attitude toward pharmaceutical advertising and perceived functions and consequences of

pharmaceutical advertising are shown in Table 4. All six correlation coefficients were significant at 0.0001 level. This indicated that Chinese consumers' overall attitude toward pharmaceutical advertising was strongly influenced by their perceptions on the functions and consequences of pharmaceutical advertising. Perceived buying confidence function and economic benefits were strongest positive correlates of overall attitude toward pharmaceutical advertising. Perceived manipulation and economic costs were strongest negative correlates.

[ TABLE 4 ABOUT HERE ]

*Call for government regulation* Respondents' opinions toward government regulation are summarized in Table 5. They objected to the proposition that pharmaceutical advertising content should be free from government control. Instead, they urged stronger control on the content of pharmaceutical advertising. Respondents also supported regulations to limit the number of times a pharmaceutical advertising was run on television.

[ TABLE 5 ABOUT HERE ]

*OTC drug consumption when encountering health problems* First-line medical decisions made when respondents encountered health problems are summarized in Table 6. Results indicated self-medication was very common for Beijing consumers. At least thirty-five percent of the respondents take OTC medicine when encountering the five selected health problems. However, likelihood of taking an OTC drug was specific to the illness. Respondents were more likely to take OTC drugs when suffering from flu, diarrhea and stomach ache. Consulting friends with medical knowledge was not common as less than five percent of the respondents talked to them first. The preference of western and traditional Chinese doctor was also illness specific. Western doctors were preferred for treatment of diarrhea and fever while traditional Chinese doctors were preferred for treatment of constipation. Respondents had no preference of western or Chinese doctors when they suffered from flu and stomach ache. Quite a high proportion (20%) of respondents took no action when suffering from constipation. This may indicate that consumers are less concerned about chronic diseases.

[ TABLE 6 ABOUT HERE ]

*Complaint channels* Respondents were asked about their most possible action when they purchased some medicine that they found out to be of low quality. The results were summarized in Table 7. Results indicated that fifty-three percent were most likely to bad-mouth the products

to friends and relatives. Complaining to consumer councils and organizations responsible for regulating advertising accounted for almost 30 percent. About one-sixth of the sample chose to take no action at all.

[ TABLE 7 ABOUT HERE ]

### **Discussions and conclusions**

The study revealed that Chinese consumers in Beijing held positive attitude toward advertising in general as well as pharmaceutical advertising. Results were similar to those obtained for Hong Kong consumers (Chan and Ruidl, 1996).

The overall positive attitude toward advertising in general is opposite to many research findings reported for the dislike of television advertising in the United States ([Alwitt and Prabhaker, 1992](#); and [Mittal, 1994](#)). Compared to the United States, advertising in China was relatively new to the consumers. This may indicate that for less developed retail markets, consumers are less critical toward advertising.

The perceived function of pharmaceutical advertising to provide information about new medicine was well received by Beijing consumers and pharmaceutical advertising was judged not very enjoyable nor trustworthy. This may indicate that consumers have developed a defensive mechanism toward advertising claims and they do not necessarily trust advertised brands.

For the consequences of pharmaceutical advertising, the strongest criticism comes from economic considerations. Consumers agreed that advertising expenditures for pharmaceuticals increased the cost of the product. The common criticism about advertising's manipulation of consumers was not supported. As the consumers placed a healthy skepticism on the persuasive messages in the advertisements, they were not likely to perceive that pharmaceutical advertising was a powerful and influencing medium. Respondents were indifferent toward perceived economic benefits such as enhancement of competition, improvement of public health, and subsidizing media. Indifference toward the manipulating power of pharmaceutical advertising may be due to low perceived credibility and persuasiveness of these advertisements.

Despite of the confusion in message execution of many pharmaceutical advertisements, it is very surprise to find that the public showed an overall positive attitudes toward pharmaceutical advertising. This may indicate that the perceived information value of

pharmaceutical advertising outweighs the possible undesirable consequences. As consumers generally had the feeling that they were in control, they did not favour a complete elimination of pharmaceutical advertising.

Consumers' perception about functions and consequences of advertising was closely related to their overall attitudes toward pharmaceutical advertising. Respondents who perceived that pharmaceutical advertising aided buying confidence and brought economic benefits to the society were more likely to hold a favorable attitude. Respondents who perceived that pharmaceutical advertising manipulated consumers and added cost to them were more likely to hold an unfavorable attitude.

Consumers strongly supported the need for tighter control of the content of pharmaceutical advertising. This indicates that the consumers were dissatisfied with the confusion and overclaiming of existing advertisements.

Self-medication is very common in Beijing as the taking of OTC drugs was reported in a variety of health problems. It is interesting to note that medical decisions are highly illness-specific and consumers hold different perceptions of the seriousness of different illnesses. Some illnesses, such as constipation, are considered as less serious and respondents sought less medical treatment. Some illnesses, such as fever and stomach ache, were considered as more serious, warranting more professional attention. The choice between western doctor and traditional Chinese doctor was different for different disease too and neither western nor traditional Chinese medical treatment gained overall popularity among consumers for all diseases.

The result that the overall attitudes toward pharmaceutical advertising was less favourable than attitudes toward advertising in general is consistent with what predicted by [Biel and Bridgwater \(1990\)](#). [Biel and Bridgwater \(1990\)](#) reported that people like commercials for 'approach' products such as food and beverages more than commercials for 'avoidance' products such as medicine and household products. It may reflect our human nature of hiding from problems.

The notion of 'Consumer rights' is not popular in China. Dissatisfied Chinese consumers do not normally complain to authorities. They may feel uneasy about this or they do not know how and where to complain. The time and effort to channel complaints and the delay in reply

may also hinder consumers' motivation to report to authorities. While these behaviors are also common in western countries, the Chinese traditional cultural value of maintaining harmony is also a hindrance to direct confrontation. Consumer councils and relevant government departments should enhance their publicity activities if they want to encourage public awareness of consumer rights. On the other hand, dissatisfied consumers were keen to use their personal influence by advising friends not to purchase the products. It is important to note that Chinese consumers share a wide personal network through family linkages and work units. So the power of word-of-mouth can be even more significant than in the west.

As Chinese consumers become more mature, we speculated that consumers' positive attitudes toward advertising in general will deteriorate. Chinese consumers are likely to become more critical, more difficult to persuade, and more concerned about consumer rights.

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Table 1 Sample profile (N=500)

Demographic	No.*	%
<b>Gender</b>		
males	247	50
females	247	50
<b>Age</b>		
20-29	123	25
30-39	150	30
40-49	91	18
50-59	78	16
60+	58	12
<b>Education</b>		
secondary or below	122	25
higher	166	33
college or university	211	42
<b>Occupation</b>		
managers and executives	112	22
office staff, sales and self-employed	137	28
teachers and medical staff	90	18
production workers	68	14
students and others (retired and unemployed)	93	18
<b>Working unit</b>		
state corporation	377	82
joint venture enterprise	34	7
local entrepreneur	34	7
foreign enterprise	17	4
<b>Monthly personal income</b>		
below 500 yuan	151	31
501-1,000 yuan	244	49
1,001-2,000 yuan	101	21
<b>Value orientation</b>		
liberal	260	59
conservative	188	41
<b>Behavioral orientation</b>		
Westernized	220	49
Chinese	228	51

\* may not add up to 500 due to missing values

Table 2 Overall opinion on advertising in general and pharmaceutical advertising

Item	No.	%
Overall, is advertising in general a good thing or a bad thing?		
very good	100	20
quite good	216	43
neither bad nor good (no opinion)	149	30
quite bad	23	5
very bad	11	2
Overall, do you like or hate advertising in general ?		
like advertising very much	56	11
quite like advertising	192	39
neither like or hate advertising (no opinion)	187	38
quite hate advertising	56	11
hate advertising very much	7	1
Overall, is pharmaceutical advertising a good thing or a bad thing?		
very good	60	12
quite good	205	41
neither bad nor good (no opinion)	139	28
quite bad	63	13
very bad	31	6
Overall, do you like or hate pharmaceutical advertising?		
like advertising very much	32	6
quite like advertising	172	35
neither like or hate advertising (no opinion)	179	36
quite hate advertising	94	19

hate advertising very much

21

4

Table 3 Perceptions of the functions and consequences of pharmaceutical advertising

Table 3 Perceptions of the functions and consequences of pharmaceutical advertising

Function and consequence	Mean	Standard deviation
<b>Market information (alpha=0.54)</b>	<b>3.35*</b>	<b>0.62</b>
Pharmaceutical advertising let me know what new pharmaceuticals are available in the market.	3.73	0.74
Pharmaceutical advertising makes me know which brand has the function I need.	3.38	0.86
Pharmaceutical advertising is an important source of information on pharmaceutical.	2.93	0.98
<b>Entertainment value (alpha=0.63)</b>	<b>2.98*</b>	<b>0.70</b>
I appreciate some of the pharmaceutical advertising.	3.30	0.90
Sometimes I'll retrospect on some of the pharmaceutical advertising.	3.00	0.93
Some pharmaceutical advertising is more enjoyable then TV program.	2.64	0.93
<b>Buying confidence (alpha=0.67)</b>	<b>2.94*</b>	<b>0.77</b>
Pharmaceutical advertising helps consumers to select the best brand.	3.11	1.03
Those pharmaceuticals that advertise are more trustworthy than those that do not.	2.88	0.89
If there is no pharmaceutical advertising, to decide which one to buy will be difficult.	2.83	1.05
<b>Economic costs (alpha=0.57)</b>	<b>3.42*</b>	<b>0.68</b>
If the spending on pharmaceutical advertising is spent on improving the product, the money spent will be much more worthwhile.	3.75	0.95
Pharmaceutical advertising increases the cost of the product	3.69	0.93
It is more beneficial to consumers if there is no pharmaceutical advertising.	2.81	0.90
<b>Manipulation (alpha=0.58)</b>	<b>2.85*</b>	<b>0.95</b>
Pharmaceutical advertising encourages people to recklessly try new pharmaceutical.	3.05	1.13
Pharmaceutical advertising encourages people to buy unnecessary pharmaceutical.	2.66	1.14
<b>Economic benefits (alpha=0.52)</b>	<b>2.81*</b>	<b>0.70</b>
Pharmaceutical advertising facilitates healthy competition between products, which brings more benefits to consumers.	3.04	0.94
Pharmaceutical advertising improves the standard of public health.	2.74	1.02
We need the advertising revenue from pharmaceuticals to subsidize the production cost of mass media content.	2.66	0.96

\*mean scores are obtained by taking the mean of the comprising statements  
[note: 5=strongly agree; 1=strongly disagree]

Table 4 Pearson correlation of overall attitudes toward pharmaceutical advertising and perceived functions and consequence of advertising

Function and consequence	Overall attitude toward pharmaceutical advertising
Buying confidence	0.49
Economic benefits	0.48
Entertainment value	0.45
Market information	0.42
Economic costs	-0.41
Manipulation	-0.53

Note: All correlation coefficients are significant at 0.001 level

Table 5 Opinion on regulation of pharmaceutical advertising

Call for regulation (alpha=0.41)	Mean	Standard deviation
Government should strengthen the control of the content of pharmaceutical advertising.	4.28	0.75
Government should limit the advertising frequency on television for each pharmaceutical advertising	3.67	0.94
Pharmaceutical advertising should not be under government's control. (R)	1.58	0.89

(R) Score for this item is reversed in the compilation of the alpha coefficient  
[note: 5=strongly agree; 1=strongly disagree]



Table 6 medical decisions when encountering health problems

Health problem	No action (%)	Consult friends with medical knowledge first (%)	Take over-the-counter drugs first (%)	Consult western doctor first (%)	Consult traditional Chinese doctor first (%)
flu	13.5	3.0	50.7	16.3	16.5
diarrhea	6.8	3.0	46.1	33.0	11.1
stomach ache	8.1	3.9	40.9	24.4	22.8
fever	6.4	4.6	35.7	41.1	12.2
constipation	20.4	4.5	35.2	12.8	27.1

Table 7 Actions to be taken for dissatisfied consumers

Action	N	%
advise friends and relatives not to purchase	255	53.0
complain to consumer councils	105	21.8
take no action	82	17.0
complain to organizations responsible for regulating advertising	39	8.1

Prof. Herbert H. Tsang  
Chairman  
Research Committee  
15 November 1996

Dear Prof. Tsang

**Re: FRG Research Project entitled “Chinese consumers’ perception of pharmaceutical advertising” (FRG/95-96/II-12)**

Thank you for granting me support to carry out the above project. The research has been successfully completed and a copy of the final report is now enclosed for your consideration.

The results was released to the advertising industry through an article in the *Media* magazine. The journal paper will be submitted to the *International Journal of Advertising* for the special issue on China advertising. A Chinese paper is being prepared and will be presented in Taipei in March 1997. The study is our first attempt to conduct sample survey in China. The process comes out to be smooth and such an experience is valuable to our future studies.

Yours sincerely,

---

Ms. Kara, Ka Wah Chan  
Assistant Professor  
Dept. of Communication Studies

c.c. Dean, School of Communication  
Head, Department of Communication Studies

**List of Articles**

1996 Pharmaceutical ads scorned by consumers in mainland. *Media*. August 2: 10.

1996 Chinese consumers' attitudes toward pharmaceutical advertising. to be submitted to  
*International Journal of Advertising*

**CHINESE CONSUMERS' ATTITUDES TOWARD  
PHARMACEUTICAL ADVERTISING**

Kara Chan  
Assistant Professor  
Department of Communication Studies  
Hong Kong Baptist University  
Kowloon Tong  
Hong Kong  
Fax: (582) 2339-7890  
Telephone: (582) 2339-7836  
E-mail: karachan@hkbu.edu.hk

**Topic: Medical/Health Care Advertising**

This study is supported by Faculty Research Grant of the Hong Kong Baptist University.  
Running head: Attitudes toward pharmaceutical advertising  
November, 1996  
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Deleted from this paper (Prediction analysis)

The Pearson correlation coefficient between respondents' call for government regulation and overall attitude toward pharmaceutical advertising was \*\*\*. Favourable overall attitude was related with a weaker urge for government control.

[ TABLE 5 ABOUT HERE ]

*Prediction analysis* Two categories of variables are predicted. These include respondent's overall attitude toward pharmaceutical advertising and opinion toward government regulation. The direction of one statement was reversed before compiling the mean.

Results of regression analysis for predicting the overall attitude and an urge for government regulation are summarized in Tables 6 and 7 respectively.

For the prediction of overall attitude toward pharmaceutical advertising, a statistically significant R square value of 0.44 was obtained. This indicates that 44 percent of the total variation of the overall attitude is explained by perceived functions and consequences of pharmaceutical advertising. The relative importance of each category of predictive variables is given by its standardized regression coefficient. All perceived functions and consequences of pharmaceutical advertising were significant predictors at 0.005 level. Among these perceptions, manipulation was major correlate of an unfavourable overall attitude. Respondents who perceived that pharmaceutical advertising manipulated consumers' purchase decision were more likely to held a negative overall attitude against pharmaceutical advertising. All other predictors contributed to similar extend the prediction of overall attitude. When the demographic characteristics were added, there was no significant additional contribution. This indicated that demographic variables alone generated no additional explained variance once their perceived functions and consequence of pharmaceutical advertising had been controlled.

[ TABLE 6 ABOUT HERE ]

For the prediction of opinions toward government regulation, a statistically significant R square value of 0.14 was obtained. This indicates that 14 percent of the total variation of opinion was explained by perceived functions and consequences of pharmaceutical advertising.

The relative importance of each category of predictive variables is given by its standardized regression coefficient. Three out of six predictors were significant. Those who acknowledged market information function and economic costs of pharmaceutical advertising are more likely to call for stricter government control. On the other hand, those who enjoyed pharmaceutical advertising were less likely to call for tighter regulation of pharmaceutical advertising.

[ TABLE 7 ABOUT HERE ]

Table 8 Summary of regression analysis for variables predicting overall attitudes toward pharmaceutical advertising

<b>Variable</b>	<b>beta</b>	<b>S.E. beta</b>	<b>Standardized b</b>	<b>Sign. level</b>
Market information	0.17	0.06	0.12	<0.01
Buying confidence	0.16	0.06	0.14	<0.005
Entertainment value	0.17	0.06	0.13	<0.005
Economic costs	-0.19	0.05	-0.14	<0.0005
economic benefits	0.18	0.06	0.13	<0.005
manipulation	-0.27	0.04	-0.28	<0.0001

R-square = 0.44

Table 9 Summary of regression analysis for variables predicting call for regulation

<b>Variable</b>	<b>beta</b>	<b>S.E. beta</b>	<b>Standardized b</b>	<b>Sign. level</b>
market information	0.12	0.05	0.12	<0.05
buying confidence	-0.08	0.04	-0.11	N.S.
entertainment value	-0.09	0.04	-0.11	<0.05
economic costs	0.19	0.04	0.22	<0.0001
economic benefits	-0.05	0.04	-0.06	N.S.
manipulation	0.05	0.03	0.08	N.S.

R-square = 0.14

Dr Erdener Kaynak  
Executive Editor  
Journal of International Consumer Marketing  
School of Business Administration  
The Pennsylvania State University at Harrisburg  
777 West Harrisburg Pike  
Middletown, Pennsylvania 17057  
U.S.A.  
July 26, 1997

Dear Dr. Kaynak,

Submission of Article

Please find attached three copies of a manuscript titled **Chinese consumers' medical decision and attitudes toward pharmaceutical advertising** for your consideration to be published in the *Journal of International Consumer Marketing*. The manuscript submission form is also attached for your necessary action. Please do not hesitate to contact me if you have any inquiries. Thank you for your attention.

Yours sincerely,

---

Kara, K.W. Chan

Attached. Manuscript and Submission form

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Dr Erdener Kaynak  
Executive Editor  
Journal of International Consumer Marketing  
School of Business Administration  
The Pennsylvania State University at Harrisburg  
777 West Harrisburg Pike  
Middletown, Pennsylvania 17057  
U.S.A.  
December 16, 1997

Dear Dr. Kaynak,

Submission of Article

A manuscript titled **Chinese consumers' medical decision and attitudes toward pharmaceutical advertising** was sent to you in July 1997 for your consideration to be published in the *Journal of International Consumer Marketing*. Since then, I have not heard from you. Our university is considering my promotion this year and there is a need to update my publication record. I would much appreciate if you can let me know on or before **15 January 1998** the current review status of the article. Please do not hesitate to contact me if you have any inquiries. Thank you for your attention.

---

Dr. Kara, K.W. Chan  
Assistant Professor

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