

MEASURING CHINESE-LANGUAGE NEWSPAPERS AS HEALTH  
COMMUNICATION RESOURCE: A CONTENT ANALYSIS OF  
TWO MAJOR CHINESE-LANGUAGE NEWSPAPERS  
IN HOUSTON AREA IN 2010-2011

---

A Master's Thesis

Presented to

The Faculty of the School of Communication

University of Houston

---

In Fulfillment

of the requirements for the degree

Master of Arts

---

By

Kun Huang

December 2011

MEASURING CHINESE-LANGUAGE NEWSPAPERS AS HEALTH  
COMMUNICATION RESOURCE: A CONTENT ANALYSIS OF  
TWO MAJOR CHINESE-LANGUAGE NEWSPAPERS  
IN HOUSTON AREA IN 2010-2011

---

Kun Huang

**APPROVED:**

---

Zhiwen Xiao, Ph.D.  
Committee Chair  
Jack J. Valenti School of Communication

---

Jaesub Lee, Ph.D.  
Jack J. Valenti School of Communication

---

Jian Liu, Ph.D.  
Department of Health and Human Performance

---

John W. Roberts, Ph.D.  
Dean, College of Liberal Arts and Social Sciences  
Department of English

MEASURING CHINESE-LANGUAGE NEWSPAPERS AS HEALTH  
COMMUNICATION RESOURCE: A CONTENT ANALYSIS OF  
TWO MAJOR CHINESE-LANGUAGE NEWSPAPERS  
IN HOUSTON AREA IN 2010-2011

---

An Abstract of a Master's Thesis

Presented to

The Faculty of the School of Communication

University of Houston

---

In Fulfillment

of the requirements for the degree

Master of Arts

---

By

Kun Huang

December 2011

## **ABSTRACT**

Newspapers in Chinese language are one of the major resources of health information for Chinese immigrants living in the United States. However, nearly none study have been conducted on the coverage of health issues and the effectiveness of the communication in these media. Empowered by grounded theory, this study will explore the research questions such as what health-related topics were covered and how they were conveyed in two chosen Newspapers circulated in Chinese community in Great Houston area. Content analysis was used to study 104 day's of Southern Daily News and USA-SINO News within one year period of 2010-2011. 618 health-related articles were collected and categorized into eleven major topics based on their content. It was found that health-related topics were highly involved in daily life of Chinese communities. While issues from mainstream media in the United States about recently discovered diseases, newly developed drugs were more likely to be reported, Chinese cultural and traditional medical topics were still one of the major focuses from the target audiences. As one of the first intensive content analyses on the coverage of health-related topics in Chinese newspapers in the United States, this study essentially provides health care professionals, providers, health communication workers, and policymakers a comprehensive picture to health information available to the public of Chinese community in Newspapers, it also potentially serves as a guide to future health communication studies on other media in other areas in the United States

## **ACKNOWLEDGMENT**

I would like to take this opportunity to thank the wonderful members of my thesis committee: my thesis advisor Dr. Zhiwen Xiao, Dr. Jaesub Lee, and Dr. Jian Liu, for their great guidance and help in my master study and thesis research. Of course, I will never forget the strong support from Dr. Zhiwen Xiao. I appreciate her taking the time to guide me through this process. If it weren't with you, I would probably not have aspired to finish this thesis.

I would also thank my family and friends for the much needed support and the many ways you helped me. And finally to my husband Zhao, words alone cannot express my gratitude. I thank your patience, understanding, support and most importantly your unconditional love. And at the very last, thank you to my lovely little girl Xiaoxiao and coming little boy Tiantian. You are my angels.

## TABLE OF CONTENTS

<b>CHAPTER</b>	<b><u>PAGE</u></b>
<b>ABSTRACT.....</b>	<b>iv</b>
<b>ACKNOELEDGEMENTS.....</b>	<b>v</b>
<b>TABLE OF CONTENTS.....</b>	<b>vi</b>
<b>CHAPTERS</b>	
CHAPTER 1 -Introduction.....	1
CHAPTER 2 - Literature Review.....	10
CHAPTER 3 - Methods.....	28
CHAPTER 4 - Result.....	35
CHAPTER 5 - Discussion.....	50
<b>REFERNCES.....</b>	<b>60</b>
<b>APPENDICES.....</b>	<b>67</b>

## **Chapter I: Introduction**

The society of the United States is ethnically and racially diverse due to the waves of large-scale immigration from different countries. Because of the barriers related to socio-economic status, income, level of education, cultural background and language, there has been a public concern on the issue of health care for these minority groups (Williams, & Torrens, 1993). Therefore, understanding health-related beliefs and behaviors of these ethnic minorities in United States is critical, not only to policy makers and health professionals and practitioners, but also to other countries under similar circumstances.

Asian American is one important minority group residing in the United States, accounting for 5% of the total U.S. population. Chinese American is the largest Asian subgroup; the 2007 U.S. Census showed that it has a population of 3,538,407, which accounts for 23.3% of Asian American and 1.2% of total American population (Selected Population Profile in the United States, 2007). Most Chinese Americans work and reside in metropolitan areas in the states of California, New York, New Jersey, Illinois and Texas. This segment of the population increased dramatically in size annually over the past few decades. Because of the social customs and cultural difference, their health beliefs, behaviors, and needs vary significantly from those of the mainstream population (Shi, 1999).

The group of Chinese American has been portrayed as a “model minority” for a long period of time (Health & Medicine, 2010), because they have been perceived of having comparatively less health problems than the US-born counterparts (Zane, Takeuchi

& Young, 1994). However, American Journal of Public Health (AJPH, 2010) recently addressed that distinct groups of Asian Americans differ widely in death and disease rate. In particular, the proportion of Chinese American females is more likely to suffer from breast cancer than Caucasians and African Americans. While breast cancer has the highest incident rate among all cancers and is the major reason to cause cancer deaths (American cancer Society, 2008; Ries, Miller, & Hartman 1991). Another example is that lung and bronchial cancers are the other two leading causes of death among the Asian American males, which is considered to be highly related to behavior and habit of tobacco use (CDC, 1992, 2001; Yang, Fan & Tan 1999; Yu, Chen & Kim, 2002). Some studies also show that although the percentage of Chinese American males who smoke is lower than that of Chinese in mainland China; it is still higher than other racial groups in the United States (CDC 1992, 2001; Yang, Fan & Tan 1999; Yu, Chen & Kim, 2002). Other health problems, including depression and dementia, appear frequently among Chinese Americans, especially among elder Chinese immigrants who were born in China and moved to the United States after the age of 20 (Hwang, Chun, Takeuchi, Myers & Siddarth, 2005).

Health communication has been identified as a successful tool for promoting and improving health condition by increasing public's knowledge and awareness of health-related issues, problems or solutions (Bethesda, 2002). In a substantial body of the health communication literature, people make a common assumption that the major reason of health disparities is the lack of information due to communication inequalities (Brach, & Fraserirector, 2000). Chinese Americans are considered to be one of the racial groups that are less likely to proactively seek health information (Chen 2005). Because of the



cultural and linguistic barriers among Chinese immigration, the transmission of health information is arduousness (Chundamala, Matsuo, & Peng 2006). Health education and promotion programs that target specific racial groups, such as these Chinese immigrants, are sparsely found in racial local community media. In addition, very few studies have examined how racial group or community media have disseminated health-related messages to Chinese immigrants (Morrel, Echt, & Caramagno, 2008).

In the health education and promotion to particular racial groups, it is more effective and efficient to use the established local media to distribute these messages into major racial communities, as they are readily accessible and easier to be accepted by the anticipated recipients (Williams, 2008). However, the important role of health communication via racial mass media is rarely visited. Therefore, this current study addressed these problems; including what health information is currently conveyed by Chinese newspapers and among other media in the United States? In what methods and aspects do local media address health problems to the Chinese community? And whether the media play the anticipated role in health communication to promote and improve attention to health related topics?

### ***Theoretical Rationale***

This study was based on the grounded theory. Since Glaser and Strauss published the book “The Discovery of Grounded Theory,” the grounded theory has been widely used in the application of education, social work, nursing, and other related areas (Glaser & Holton, 2004). This theory is considered as a qualitative research method, which guides data collection and data analysis (Martin & Turner, 1986). Concepts, categories, and propositions are three main elements of this theory (Strauss & Corbin,

1990), and the three basic procedures of the coding are: opening coding, axial coding, and selective coding (Moghaddam, 2006).

Unlike other theories, the grounded theory is frequently used in research areas that have been far less investigated (Moghaddam, 2006). Therefore, no developed theory or hypothesis is readily available (Glaser & Strauss, 1967). In this manner, significant amount of data may be acquired during the research by interviews, field observation, and other study methods (Moghaddam, 2006).

Employing the grounded theory to guide this type of research, researchers are able to formulate a theory that is inherent or 'grounded' in the data (Merriam, 2002). There are two main reasons that the grounded theory was the chosen methodology for this study. First, the subject of health message in Chinese newspaper has received limited attention; therefore, little is known in this specific area of research. The data inducts theoretical ideas, which is Glaser and Strauss' (1967) grounded theory method. Researchers developed initial thoughts and concepts through the data collection and analysis; in turn, by comparison and contrast of those concepts and speculations, they constructed theoretical rationales. During the process of data collection and analysis, especially the theories emphasizing in the data per se, grounded theory is proved to be a useful tool, which are highly organized but flexible (Charmaz, 2006). Second, Grounded theory methods were helpful in that they allow researchers to explore the message that newspaper was given (Glenn, 1990). The rich descriptions that were gained from the qualitative data were helpful in better understanding of health message (Glenn, 1990).

### ***Health Communication via Mass Media***

Today, the meaning of health is far beyond scope of medical science, but

extensively embraces the development in the social sciences, psychology, and communication studies. Health communication has developed as a field of study over last forty years, since the International Communication Association established the Therapeutic Communication Interest Group in 1972, which later became the Health Communication Division (Sparks, 2010).

Health communication largely uses the communication methods to change individual and community health behavior and beliefs (Piotrow, Kincaid, Rimon 1997). Mass media play significant roles in changing health-related beliefs, attitudes, and behaviors and in promoting knowledge among target audience. Health information is an important part of health communication and health promotion. Television and magazines were main source of health messages as shown in a study by the American Cancer Society (Lieberman, 2005). The result of their research shows that the main source of cancer information for most people was the mass media, which included health campaigns and entertainment programs, as well as advertisements that contained health-related information. Health-related topics, including smoking problems, heart disease, cancer prevention, safer sex education, and many other health issues, have been seen in mass media messages (Rose, 1997, Savoie, Kazanjian & Brunger 1999, Beeker, Kraft, & Goldman, 2001.). Savoie and his colleagues found that using mass media to send message to prevent heart disease among women is practical (Savoie, Kazanjian & Brunger 1999).

### ***Health Communication via Chinese Media among Chinese Community***

In the field of health communication, researchers found that different types of media are able to continuously send messages during interactive information message searching (Paul , 2001). Traditional mass media like television, newspapers and radio

provide more effective channels to expose target audience to health messages (Cassell, Jackson, & Cheuvront, 1998). Every major racial group may identify their own reliable communication channels. Among other channels, television and radio serving specific and ethnic populations in certain kind of language are usually regarded effective in delivering health messages when care is taken to account for the language, culture, and socioeconomic situations of anticipated audiences (Weinick, Caglia, Friedman, & Flaherty, 2007).

The fact that these ethnic medias act a vital part in socializing immigrants in the United States have been found in many researches (Alvarez, 1991; Delener, & Neelankavil, 1990; Eiselein 1987; Kim, 1987). One of the key roles of the ethnic media, especially those that provide information in their mother languages, is to help new immigrants to assimilate into the mainstream American society (Lam, 1980). For example, Chinese newspapers give easy access to information, so the older generation is able to keep in touch with their motherlands and the younger generation can sustain contact with their root. Moreover, Lam (1980) suggested that ethnic media were critical because they provided information in the mother tongue for new arrivals and introduced them to many of the ongoing programs that were particularly designed to meet their needs. Health message, in particular, is needed to provide to ethnic groups.

Shelley and colleagues (2004) showed that among a sample of 712 Chinese American, who were living in New York, over 80% reported that they have used Chinese-language radio, TV, or newspapers everyday or most days. Over 74% read a Chinese newspaper everyday. Not only those senior immigrants who can't speak English, or can barely communicate with English speakers, but also those who are competent in

English, would choose to use Chinese media as main message resources (Shelley, Fahs, Scheinmann, Swain, Qu & Burton, 2004). Chinese newspapers convey information of health care, medicine, nutrition, and things benefit to Chinese's life (Zheng, C. Z. 2000). However, very few health communications studies have investigated the health-related messages delivered in Chinese ethnic media. To the knowledge of the current study's investigator, only Sun and colleagues (2007) showed that a media campaign that used a Chinese television channel, radio stations, and newspapers to deliver the message of the information on breast health and guidelines improved the awareness and practice of breast health of Chinese immigration (Sun, Zhang, Tsoh, Wong, & Chow, 2007). The current study, therefore, would like to extend the understanding of the functionality of Chinese media in promoting health among Chinese immigration community.

Currently in North American, more than 50 Chinese-Language publications are in press. In particular, Houston has more than 10 Chinese newspapers. Among which, Southern Daily News has the largest circulation comparing with other Chinese newspapers in Texas. This study attempts to examine the role of Chinese newspapers in health communication in Houston area based on the grounded theory. A review of the existing literature on ethnic media could render useful insights to the study on Chinese newspapers.

### ***Scope of Study***

The principal focus of this study was to examine the coverage of health messages in two major and representative Chinese newspapers in Houston area. Previous researchers have focused on media use in health promotion and diseases prevention among Chinese immigrants in some part of American (Stanton, 2006; Sun, 2007). Another

purpose of this study is to provide baseline data on health coverage in Chinese newspaper to assessing the performance of Chinese newspapers as health communication resources.

This study used content analysis as the primary method in examining the two chosen Chinese newspapers in Houston area. Southern Chinese Daily News and USA-SINO News are selected for this study. These two newspapers are chosen for their large publish volume in the Chinese community and comparatively high level of health message coverage. Southern Chinese Daily News is the first Chinese newspaper in Houston area, which was founded in 1979 (Guangdong Overseas network, 2003). USA-SINO News has been another popular Chinese newspaper in Houston since 2002 (Jiangsu Oversea network, 2009). Both these two newspapers have been widely spread and accepted by a great amount of readers in the Chinese community. The units of analysis are the articles of Southern Daily News and USA-SINO News. The research will use one year (12 months) of page data for Southern Daily News and USA-SINO News from November 2010 to October 2011. Twelve frames of sampling (one for each calendar month) will be built. Then simple random sampling in each month to choose two days newspapers from each newspaper from that month will be used. This process will produce 48-analysis units' articles of Southern Daily News and USA-SINO News in the year of 2009-2010.

### ***Contributions of Study***

The founding of this study provided a guide to a better understanding on the role of Chinese newspapers as health communication resource among Chinese immigrants in the United States. And what kind of information that Chinese newspaper provided to Chinese communities. It was hoped that the result of this study could contribute

knowledge about whether Chinese media can promote health communication. How did Chinese media relate to health promote, disease prevention, and control over diseases among Chinese communities. The findings filled the gaps in the literature about the role of Chinese media in health communication among Chinese communities.

In the following Chapter II: the literature review section for this study, I continued to discuss the topics concerning the role of development of Chinese newspaper in the United States, mass media as a source of sending health messages, and Chinese newspapers operate as health communication resource. This study also reviewed reference abased grounded theory, and formulates hypothesizes and research questions addressed by previous researches. Chapter III explained in detail the method of this study- content analysis. The information about participants, procedure, materials and data collection also provided in chapter III. Chapter IV will discuss findings and report the results of quantitative analyses. The last chapter further discussed this study with its implications as well as recommendations.

## **Chapter II: Literature Review**

The increasing diversity of population compositions today in the United States makes it even more critically important to understand health-related beliefs and behaviors of ethnic minority groups' than ever before. Popular media has been identified as a successful tool for promoting and improving health conditions by increasing public knowledge and awareness of health-related issues, problems or solutions. Health messages are often seen in advertisement, entertainment and news media (Kline, 2003). Many studies have examined the minority media's impact and functions for immigration communities, especially in non-English environment. However, very few studies have investigated how health information has been delivered in Chinese media to increase Chinese minorities' awareness and knowledge of health-related topics. This study will employ the grounded theory to examine the health information currently conveyed by Chinese newspapers.

### ***Health and Mass Media***

An individual in the United States spend, on average, less than one hour per year in a doctor's office, while spending more than 200 hours in reading newspapers and magazines, double or even triple the time on browsing internet and watching television programs (Grossberg, Wartella. & Whitney, 1998). Mass media networks constantly cover more and more information related to medicine, illness, and health to attract more audience (Grossberg, Wartella. & Whitney, 1998). On the Internet, a simple Google search using "health" may return more than three billion web pages in English alone. Likewise, huge amount of web pages are related to the symptoms, scientific research,



treatment, and medicine development on specific disease, like “diabetes” (260 million), “breast cancer” (100 million), or Alzheimer’s (45 million). Most of these health related web pages are created as health promotion websites and seek to persuade individuals to engage in specific health-related behaviors, to purchase and use new developed medicines, diet supplements or medical/recovery/cosmetically procedures. Similar coverage can be observed in other popular mass media like, television programs, magazines and newspapers (Grossberg, Wartella. & Whitney, 1998). More than 50 magazines are published on a monthly base in North American, covering from healthy life style for various groups (e.g., Women’s Health, Men’s Health, Healthy Childcare, Shape) to common disease care (e.g., Diabetic lifestyle). Health is often a major contribution to major newspapers as well, regarding current research development, advanced medical technology, and health policies, like major changes in the medical insurance.

Mass media has also been used as health promotion tool. For example, a quarter billion web pages have been created about “health campaign” (Guidelines for Internet-based Health Communications , 2008). Most websites, magazines, and television programs not merely describe the diseases and health problems alone, but also introduce healthy life styles, newly developed treatment methods, and novel medicine for the purpose of persuasion and education. In general, modern mass media are more significant resources for health promotion today than anytime before.

Health communication largely uses the communication methods to change individual and community health behavior and beliefs (Piotrow, Kincaid, Rimon, & Rinhart, 1997). Freimuth, Stein and Kean (1989) stated that people seek health information from different types of resources, which are intrapersonal, interpersonal, and

mass media.

### ***Informational Value and Effects of Mediated Health Messages***

Health messages in mass media can have a significant impact on an individual because they play significant roles in changing health-related beliefs, attitudes, and behaviors and in promoting knowledge among target audience (Cho, 2006). Information in mass media would not be regarded as valuable unless it can be readily accepted by the reader. In this way, people may use this approach in assessment of information value of mass-mediated health discourse. The detailed scientific and medical research is rarely directly conveyed; instead, apparent and easily accessible health information is more widely spread through mass media in usually lay word (Vladimir, 2010). Based on the study of Sharf and Ferimuth (1993), the content of health, illness, and medicine are delivered by entertainment, news, fictions and advertisement. For example, very few people may periodically read the Journal of the American Medical Association (JAMA) or the New England Journal of Medicine or any other institutional or academic publications to obtain the original scientific study results, though scientific periodicals are also categorized as mass media, they heavily relied on other media that translate all the medical jargons and theories into understandable laymen words to general public (Lupton & Tulloch, 1996; Parrott & Condit, 1996).

Health information in mass media appears to be a leading way for people to learn about personal health (Freimuth, Stein, & Kean, 1989; Johnson & Meischke, 1993; Nelkin, 1995). Moreover, public health policy sometimes could be changed by health messages (Cho, 2006). Inaccurate or unrealistic information in medical report could misguide policymakers and contribute to unreasonable regulations and laws (Hotz, 2002; Voss,

2002; Wells, Marshall, Crawley, & Dickersin, 2001), which are regarded by a group of researchers as a threat to public health (Voss, 2002). For instance, the government, health research institutions, and tobacco enterprises simultaneously started to launch Cigar Aficionado in response to the situation that cigar consumption dramatically increased in 1993, mostly because it includes significant pro-cigar-smoking arguments. (Baker et al., 2000; DeSantis & Morgan, 2003). The health news in mass media has largely functioned as an influencing factor to the doctors, patients, lawmakers and common listeners, and it has become a bull's eye of target of discussion among medical, health information and communication researchers. Therefore, understanding how mediated health report system function will be essential in solving the communication problem of complex issues. Health communication is thus officially defined by the Department of Health and Human Services as the art and technique of informing, influencing, and motivating individual, institutional, and public audiences about important health issues (Schiavo, 2007). The study of health communication has coverage of disease prevention, health promotion, the policy and business of health care, as well as the enforcement of life quality of individuals and the whole community (Healthy People 2010, 2000).

The reality of health communication, however, has often been deviated from its definition. It was previously restricted to public health campaigns by medical institution or research agencies (Freimuth, Edgar, & Fitzpatrick, 1993). Only recently did the concept of health communication extend its emphasis to the mediated messages (Freimuth, Edgar, & Fitzpatrick, 1993). Health communication theoretically and practically deals with individual behavior, and beliefs towards health related issues, and public policies and community attitudes which affect general health status. The current study will focus

particularly on mass-mediated health communication that functions mainly outside of medical scope with audiences who are not necessarily motivated by disease to seek health information.

It is even more complicated to create and convey health information naturally in entertainment than in other mass media format. Entertainment-education is the process of purposely designing and implementing a mediated health message to both entertain and educate target audience (Singhal & Rogers, 1999). The entertainment programs have a priority of storytelling methods to health awareness campaigns (Glik 1998), as the entertainment-education programs often need to provide an instructional message while fulfill its own commercial and social interests (Singhal and Roger 1999, Montgomery, 1990; Rogers, 1996).

Singhal and Roger (1999) described several popular entertainment education efforts in their book, which is entitled “Entertainment-Education: A communication Strategy for Social Change,” including Peruvian soap opera *Simplemente Maria*, the Mexican soap operas of Miguel Sabido, the Indian TV show *Hum Log* and other programs in Great Britain, Jamaica, and African countries. They also discussed the *Sesame Street* in the United States, which is a popular children TV program to introduce numerous prosaically messages to the audiences aged 2 to 5 years old. Sharf and Freiuch (1993) similarly analyzed the television show of *thirtysomething*, where a major character suffered from ovarian cancer, the show delivers strong positive health message that “cancer is a disease of the family rather than of an individual.” Recently, quite popular opera series including *scrubs*, *Grey’s Anatomy*, *Niptuck*, *ER* and *General Hospital*, depict characters usually are medical or surgeon professionals, provide fruitful medical-related

messages. For example, in Grey's Anatomy, multiple illness, including cancer, and their resources are discussed extensively. Wallack (1990) suggested that television takes social and health issues and reduces them to personal emotional dramas, which would promote the understanding into an emotional level. Theories have been established for popular health discourse to describe discursive situations, to forecast responses to health messages and furthermore, to address the relationships between the messages, individual audiences, and society. Future theoretical projects should ultimately address health problems (particularly HUV/ADIS, diet and obesity, smoking and cancer etc.) in the mass media with more ethical and effective approaches.

Mass media coverage on health topics are massive and they serve essentially as promotional tool. However, the persuasion power and promotional effects are diverse among specific health campaigns and topics. The effects on different groups are also complicated and can be analyzed in multiple folds.

People do not make health decisions based exclusively on evidence-based reasoning, or simply facts provided from mass media. Rather, people rely on others individuals' actions and opinions for clues about appropriate health practices (Grossberg, Wartella. & Whitney, 1998). This inclination to obey the conformity is especially true while one is going to make significant behavior changes concerning health. Therefore, the informational value of a discourse may also be influenced by how the message was depicted by the role models or the implicit instructions on how to make such decisions or behavior changes (Grossberg, 1997). Social Learning Theory (Bandura, 1977) in social psychology suggests that people often learn by observing what other individuals do rather than by their own practices and beliefs, especially at unfamiliar or critical issues.

Tones (1996) further intimated that the normative impact or incidental effects of mass media are a particular concern for health promotion because although the presentation of various products or activities through mass media may not directly influence behavior, they may readily suggest to people that particular unhealthy or healthy practices are commonly acceptable and preferable. The role models could be either real people or fictional characters; thus, news, entertainments, fictions and advertisement may potentially provide information about health disease and medicine (Sharf & Freimuth, 1993).

Many studies performed in the past decades focused on the negative role models' impressions on health behaviors from television, movies or advertisements (Lerre, Drahrman & Speer 1991; Turow 1993; Dupre 2000; Neuendorf 1990; Signorielli, 1998). Characters on television shows or movies were consistently found in unhealthy themes, such as eating high-calorie, high-fat food, at unhealthy conditions (Wilson & Blackhurst, 1999). Though the popular media over-emphasizes the unhealthy diet habits and neglect the exercising, most characters appears to exhibit an ideal body type, such as thin, fat-free women, and muscular, bodily-active men (Wilson & Blackhurst, 1999). Wilson and Blackhurst's research on the eating habit's contribution to obesity and weight gain consequently contribute to the censorship towards food advertisements in women's magazines for using role models. Such impression may set unrealistic and unachievable standards of beauty and fit body by encouraging unhealthy diet habits.

Another example is the misuse of alcohol and cigarettes smoking demonstrated by characters in healthy threatening ways on mass media. Signorielli (1998) pointed out that on average, alcoholic beverages were consummated more than any other drinks on TV shows and movies, twice as much as coffee or tea, and 14 times as frequently as soft

drinks or water. Signorielli (1998) also suggested that the consuming of alcohol and cigarette smoking might make characters more romantic or sexually active, therefore a more intelligent and attractive role model than nonsmokers or drinker.

Recent researches indicate media audiences are not complete passive listeners, but rather active interpreters of messages delivered, and in turn, may influence the media (Brodie, Kjellson, Hoff, & Parker 1999). In their study, Brodie and colleagues assessed the perceived effectiveness of health information delivered through a variety of mass media. They noticed that the African Americans and Latinos were comparatively dissatisfied with the media coverage on culturally related health issues and more or less misrepresented minorities. On the other hand, Backstrom and Robins (1998) and Walsh-Childers(1994) surveyed and interviewed state health department officials, hospital associates, State House and Senate health committee members, journalists, policy makers, and health providers to assess their perceptions of newspaper coverage's impact on public policy regarding health care reform and anti-AIDS campaigns. The authors put extensive efforts on the interviews with government officials like chief officers of state public health, chairs of legislative health committees, and the directors of hospital associations, only to verify the opinions of key elites on media coverage of AIDS. On the contrary to the most general criticisms from the public, these officials majorly inclined to claim that media handling of AIDS was balanced. Conversely, they also rate the media as inefficient in the education of the public about AIDS. The media successes in accurately communicating professional opinions on AIDS might heavily relate to their comparatively lack of independent effects on AIDS policymaking.

Some other researchers conducted correlational studies on the relationship

between media content and measurable health or policy outcomes. For example, Hertog and Fan (1995) concluded from their work that newspaper coverage of the likelihood of a variety of HIV transmission routes, such as sneezing; hand shaking may significantly predict public beliefs and opinions. They found that, even though it's hard to assess the impact on changes of public beliefs, an inclination of reduction in fear indicates greater acceptance of HIV people in work and other environments.

Similarly, Yanovitzky and Bennett(1999) conduct time series regression to evaluate the impact of news coverage on anti-drunk driving proposal legislations. They correlated the number of news published in two major news papers, New York Times and the Washington Post that directly addressed drunk driving in a 20-year period, with the number of drunk driving related bills submitted in the U.S Congress. They found that the media attention did change the policy response in positive correlation. Ethnic Media and Health of Immigrants

### ***Development of Chinese newspapers in the United States***

Almost immediately after the first immigration wave from China arrived at United States in the 1850s, newspapers in Chinese started to be distributed and circulated in California where major Chinese community resided. Golden Hill News, the first weekly newspaper in Chinese, was established in San Francisco in 1954 (Ma, 1989; Wilson, & Gutierrez, 1985). Another weekly publication, Oriental was launched in 1955, with both Chinese and English sections. In the following year, Chinese Daily Evening News was launched by Ze Too Yune in Sacramento as the first Daily newspaper in Sacramento (Wilson, & Ng, 1995). More than ten newspapers appeared in California with the growth of Chinese population during 1870s and 1890s, while most ceased to circulate after few



issues, *Oriental* lasted for three decades until early 1900s (Wilson, & Ng, 1995).

The publications in Chinese primarily used lithographed handwritten texts on four tabloid-sized pages in nineteenth century, which grew to six or eight pages, similar to those of mainstream newspapers in the twentieth century (Zhou, & Cai, 2002). The act essentially boosts Chinese media industry to meet the new immigrants' financial, social, emotional and health needs. In fact, a study of Chinese dailies in New York found that the majority of Chinese immigrants could only read Mandarin or Cantonese upon their arrival during 1960s and 1970s (McCue, 1975). Seven Chinese dailies presented in New York, including *China Post*, *China Times*, *China Tribune*, *Chinese Journal*, *Sing Tao Daily*, *United Journal*, and *Youth Daily* at that time, played important roles to assist new immigrants to be accustomed in the new society by providing necessary information about the unfamiliar nation. Later on after 1970s, foreign publishers became actively involved in the growing market of Chinese publication in United States (Sun, 2006).

The potential of ethnic media, usually in native languages, was firstly noted in the 1920s that such press was helpful in the assimilation of immigrants (Park, 1922). Not amazingly, the ethnic newspapers in as early as 19<sup>th</sup> century, similar to those today, were intentionally accustomed to the community audiences, providing information different from mainstream (Wilson & Gutierrez 1985). Such news and analysis helped new immigrants of various ethnical backgrounds to participate into the society (O'Guinn, Feber, & Meyer 1986). Under certain circumstances, the ethnic media were critical to new arrivals to be the only channel to provide them with valuable information on programs designed to meet their needs and in their mother languages (Lam 1980).

Currently in North America, more than 50 Chinese-Language publications are in

press (Sun, 2006). In particular, Houston has more than 10 Chinese newspapers. Among which, Southern Daily News has the largest circulation comparing with other Chinese newspapers in Texas (Sun, 2006). This study attempts to examine the role of Chinese newspapers in delivering health communication to Chinese immigrants in Houston area.

### ***Health Messages in Chinese newspaper***

In China and most Chinese speaking nations, newspaper reading is a long lasting and prevailing habit even after new media such as television and internet become popular. Therefore, newspapers are still one of the most important resources for Chinese in disseminating health-related information and facilitating health-related behavior changes. A survey showed that 62.7% of 1,000 randomly sampled residents of Beijing identified newspapers as their major resource of health-related information, a much higher rate than other source. Furthermore, 50% of health-related behavior changes were attributed to the content provided by newspapers (Liu, Yao, Lin, Jia, & Zhang, 2003). The content analysis study by Peng and Tang (2010) on the popular newspapers in major Chinese metropolitans indicates health issues, along with politics, social events, sports, and entertainment, are the most frequently discussed topics. In specific, the study found that certain diseases and risk factors such as diabetes, leukemia and heart diseases were over reported.

In the United States, newspapers in Chinese performs similar roles in conveying health information/ But very few studies have investigated how Chinese newspapers have operated as health communication resources for Chinese immigrants. Recent health communication studies focusing on Chinese media have primarily relied on newspapers and television programs to deliver health promotion and disease prevention campaign

messages. For instance, Sun and colleagues (2007) conducted a media-based education campaign on breast health to help Chinese immigrants to increase the awareness of breast cancer and the practice of breast health guidelines. The PSAs ratings among general public were encouraging; specifically, 98.5% of all readers considered it was easily accessible and readily understandable, meanwhile 99.8% reported that the PSA was “appropriate” to “somewhat appropriate,” and 89.8% rated the PSAs as “good” or “excellent”. The results showed that the use of Chinese media to reach Chinese immigrants is able to successfully delivery health messages.

According to a recent Surgeon General’s report (1993), lack of media awareness of health issues among minority groups is a serious problem with the health information systems. The report suggested two methods to improve the situations. First, appropriate media resources and community networks at local, state, and federal levels should be used to educate minority communities on health-related issues. Second, ethnic media, including newsletters, radio, and other effective media mechanisms, should be employed as tools for disseminating health information to minority groups. In fact, research has demonstrated that ethnic media are capable of promoting health communication in minority communities and of helping meet the health-related needs among minority groups (Andersen, Giachello, & Aday, 1986; Molina & Aguirre-Molina, 1994).

Given the fact that very few studies have assessed how values, beliefs, norms and behaviors associated with health, illness, and medicine are reflected in Chinese media coverage, this study proposes to examine how Chinese ethnic newspaper deliver health-related coverage to the Chinese community. In so doing, this study would serve as the first of its kind to illustrate the relation between Chinese media and the ethnic health

communications.

### ***Theoretical Rationale***

The grounded theory (Glaser & Strauss, 1967) will be employed as the qualitative methodological approach to guide the present study. Using this inductive method is to explore a new research area that is lacking appropriate theories to guide. Therefore, employing grounded theory can help researchers generate innovative concepts, models or theories from empirical data. Since late 1960's, sociologists Barney Glaser and Anselm Strauss have constructed and developed the grounded theory perspective in great details from their social science study. They have persistently argued for the inductive discovery of theory grounded in systematically analyzed data in their research. In part, the inductive theory has rooted from the effort to revising and modification of the prevalent hypothetic-deductive practice of testing "great man" sociological theories. Glaser and Strauss have showed later social science investigators and practitioners a much broader conception and better form of what could and should do with the research, in the course of criticizing this widespread dogmatic approach to theory testing.

Since its first introduction five decades ago, the grounded theory has been consistently evolved in a way that is faithful to its original formulation. It is the most comprehensive qualitative research methodology available currently. Grounded theory inquiry is considered as a problem-solving approach closely concerned with understanding action from the aspects of the human agent. Since the grounded theory utilizes non-statistical and non-quantitative procedures, it is classically performed as an approach to fulfill qualitative research. Initially Grounded theory research focuses on gathering data from a variety of sources for a certain study area, including interviews and field

observations. Once gathered, the data are analyzed using coding and theoretical sampling procedures. Theories are constructed with the help of interpretive procedures during the data analysis procedure. Later on, the theory is finally written up and presented, which is claimed by Glaser and Strauss as an integral part of the research process.

Glaser and Strauss (1967) depicted grounded theory as a general scientific approach to generate, elaborate, and validate all social science theory. Therefore the ultimate goal of grounded theory research is to facilitate the development of theories in order to understand phenomena. A desired grounded theory should meet the following criteria: (1) inductively derived from data, (2) subjected to theoretical elaboration, and (3) judged adequate to its domain with respect to a number of evaluative criteria. Although grounded theory has been mainly developed applied within social sciences, it can be, and has been, successfully employed in diverse fields, such as education, nursing studies, political science, and psychology. One property makes grounded theory unique from other qualitative research methods, that is, it allows researchers to perform the data collection and analysis simultaneously (Charmaz, 1995). However, in traditional hypothetic-deductive approach, data collection is always before the process of data analysis. This unique property also leads the development of theory or a model based on the data.

Grounded theory was used by Aldoory (2001) in a campaign to boost the spread of health communication messages to women of various ethnic groups, educational backgrounds, and social classes. A grounded theory analysis based on in-depth interviews of 50 female participants revealed that the participants would not pay extraordinary, if any, attention to the designed health messages, unless personal interests are intentionally

embedded in them. Only those messages involved the events or focuses presenting in the women's lives will be received. For instance, only the pregnancy related messages would attract the attentions from pregnant woman.

Another instance of the application of grounded theory appeared health communications campaign in South Asia. Dutta and Basu (2007) used grounded theory to address the health need of male residence of Bangladesh, where rural population is majority and are often culturally sensitive. In order to outline the specific meaning of health in this region, they interviewed 18 male residences, with age from 18 to 58. Grounded theory methodology allowed the participants to talk freely about what health significantly meant to them. The following analysis showed four major concepts hold by the people (1) One need to be responsible to their own body, as well as the families; (2) An excellent health status is critical for them to continue work. (c) Cultural and economic barriers exist to block quality health care and medical services; and (d) Community-based solutions are often found as alternative to the barriers. Other cultural factors related to health issues were also addressed by researchers through the grounded theory approach in this study.

Using grounded theory, a study on the tension among operation room team members was performed in 2002 by Lingard, Reznick, Espin, Regehr and DeVito (2002). The study focused on the communication patterns among nursing, surgery and anesthesia staff, in the surgery operating room, and how the existing pattern affected new team members. The findings from this research suggested that events related to safety, sterility, resources would drive the communication tense. Meanwhile, an entry of fresh team member would bring temporary tension within the team due to their unfamiliarity with

operating room roles and hidden rules.

Grounded theory was applied to multiple campaigns and studies around the globe. A health promotion campaign to get more women from the Yakima Tribe in Alaska to get Pap tests was conducted based on the analysis from grounded theory by Strickland, Chrisman, Yallup, & Powell (1996). Harmon, Willis, & Scrimshaw (2001) used grounded theory to analyze audio-taped interviews with 47 Spanish and English-speaking breastfeeding mothers, whose infants were being treated for jaundice. Most mothers considered it as a very serious disease, due to some misconceptions about resources of their children's disease. Some mothers mistakenly believed they were the only reason why their baby acquired the disease in some unknown way, while the acquisition of the disease is sometimes quite random. The researchers finally pointed out that health care professionals put extra emphasize on the correction of mothers' misconceptions about infant jaundice. It is common in most quantitative studies that the analytic codes and categories developed from preconceived hypotheses, while grounded theory exhibits its flexibility to emerging theory by generating such codes and categories directly from data. The theory will change according to the data collected. Therefore, the grounded theory would be the optimal method to find the specific emerging theory with particular data (Glaser & Strauss, 1967; Strauss & Corbin, 1998).

Guerrero (2007) studied sexual assaults in prison with the help of grounded theory. The theory uniquely offered the contribution to the research of criminal justice and criminology. It was formed following Strauss and Corbin's six steps model to theory development. Among other qualitative approaches, grounded theory is most popular in qualitative family researches (LaRossa, 2005). Young and Kleist (2010) further focused on

the experiences of couples who self-identify as being part of a healthy relationship. In their studies, the grounded theory was used to uncover the underlying relationship process in couple interactions. Six couples were interviewed during this study; using two rounds of interviews and a member check process. The conclusion was drawn that the couples who were interviewed described their relationship as safe and in a secure environment. Their relationship process consists of a circular relationship where one's perceptions influence one's expectations and how one interacts with others. When interactions meet the expectations in one relationship, the interactions confirm and strengthen the perceptions.

### ***Research Questions***

This study attempts to fill in the gap through grounded theory approach and a content analysis of two leading Chinese newspapers in the Greater Houston area, Texas to provide a complete picture of the appearance of health information in the ethnic mass media, as well as the frequency and content of health topics that were discussed and delivered, and furthermore, the direct and collateral impact on the immigration community. Base on the general assumption that the more coverage a particular disease, condition, or risk factor receives, the more likely the public will consider it to be relevant and prevalent, and that the public and policymakers will deem it important to address the issue (Walsh-Childers, 1994; Yanovitzky, 2002). This study will identify the frequencies and locations of different health topics. Meanwhile, this study will also find the unique cultural and communicative properties of the Chinese newspaper in the United States. Based upon the aforementioned review, the current study proposes to examine the following research questions:



RQ1: How much health information was conveyed in Chinese media ?

RQ2: What are the topics of health information conveyed in Chinese media ?

RQ3: What is the overall tone for these health-related articles ?

RQ4 : What type of health-related stories tend to be reported as lead news stories in current news and affairs sections, and which are embedded in regularly scheduled health segments as health tips?

RQ5: What type of audience did each article in these two newspapers target?

### **Chapter III: Methods**

The current study examined the coverage of Chinese media in the U.S. on health-related topics using content analysis. “Content analysis is a research technique for making replicable and valid inferences from data to their context” (Krippendorff, 1980, p21). Similarly, Berelson (1952), Smith (1988), and Young (1994) defined content analysis as a research tool to describe the manifest content of communication in an objective, systematic and quantitative manner. Content analysis has been intensively used in previous communication studies (Berelson, 1952; Hicks, 1992; Thompson, 1996; Riffe, et al. 1998; Yanowitz & Weathers, 2004). For example, Leper, Walsh-Childers, and Chance (2003) content analyzed the coverage of U.S. newspapers in 1996 to determine how newspapers covered topics associated with the healthcare system in the United States. Using content analysis, King (2008) studied how the media framed the West (North America, Europe, Australia/New Zealand, and Israel) and East (Asia, the Middle East, and Africa) in Qatar’s newspaper between 2006 and 2007. In general, content analysis has been and will further be, used to study healthcare, health-related problems, and other communications issues.

Holsti (1969) disclosed the three major purposes that content analysis serves: (1) to explain the process of the communication; (2) to explain the purpose of the communication; and (3) to explain its effects. In this study, content analysis will be utilized to explore health-related articles presented in two Chinese newspapers because it has been a useful technique to systematically examine communication sources and a well-accepted research method for health communication (Aarvea, DeHaes, & Visser, 1997; Wilkes, et al, 1992). According to Schutt (2011), there are three major steps in the

process of content analysis. First, it develops the operational definitions for the key variables. Second, a coding instrument needs to be developed, tested and validated. And last, it includes collecting and coding the data. The final step may involve data analysis.

### ***Rationale for the Selection of Two Newspapers***

The current study examined the coverage about health messages in two Chinese newspapers: Southern Daily News and USA-SINO News.

The choice was to use print media, as opposed to television media, for several reasons. First, broadcast news embodies print media as a more serious source of information, so it generally echoes the contents of these print media sources (Garramone, & Atkin, 1986). The themes that may emerge from an analysis of these newspapers can help establish the agenda (if any) of the media. In a content analysis study conducted by Smith (2008), stories from print media and from broadcast media were compared. Smith (2008) stated that, "...the newspapers had most stories in print before the TV stations aired them, and the stations only got stories first if they broke at night" (p.113).

There are additional advantages to using print media as opposed to other forms of mass media. Garramone and Atkin (1986) discussed the benefits of print media in comparison to broadcast media and stated, "While the topical content differs minimally across media, newspapers convey a larger quantity of messages, and print news items are characterized by greater depth of coverage, with fuller detail, broader perspective, and richer background information compared to the a historical and abbreviated broadcast content" (Garramone & Atkin, 1986, p.77). With a qualitative research strategy, print media will generate rich data and facilitate a depth of analysis. Moreover, the main focus is on understanding how print media portrays alcoholism. The relative ineffectiveness of

television news compared with print news has been supported by a number of media comparison experiments that compared memory for television news stories with memory for printed versions of the television narratives (Van Der Molen, et al., 2004). Van der Molen, et al. (2004) supports the view that print media has a greater impact than television on what information people remember. “Compared with television, print is assumed to be considerably more effective because print offers more opportunities to exercise control over the processing of information than television does” (Van Der Molen,et al., 2004, p. 89)

Second, Southern Chinese Daily News, founded in 1979, is the first Chinese newspaper in Houston area, (Guangdong Overseas network, 2003). USA-SINO News has been another popular Chinese newspaper in Houston since 2002 (Jiangsu Oversea network, 2009). Both these two newspapers have been widely spread and accepted by a great amount of readers in the Chinese community in Houston.

### ***Research Plan***

This research study examined the coverage of two Chinese newspapers in the U.S. on health related issues. Specifically, this study examined five aspects of the coverage. First, how much health information was conveyed in Chinese media from November 2010 to October 2011. Second, What health-related topics were conveyed in these two Chinese newspapers ? Third, what types of health-related message were conveyed? Forth, what types of health-related stories tend to be reported as lead news stories in current news and affairs sections, and which are embedded in regularly scheduled health segments as health tips? And then, what type of audience did each article in these two newspapers target?

I did a pilot test before data collected. I randomly chose 10 days newspaper, five days from each newspaper. The average numbers of articles from each day's newspaper were 104.5 (Southern Daily News) and 96.2 (USA-SINO News). I also drew an eleven categories coding form (appendix A) for Southern Daily News and USA-SINO News content analysis.

### ***Sampling Plan and Data Collection***

The units of analysis were the articles on the Southern Daily News and USA-SINO News. Considering the number of the articles on each day's newspaper from about 70 to about 150, the study used the stratified sampling method (Neuendorf, 2001). I drew 104 days, one from each consecutive week from November 2010 to October 2011 as the study sample of Southern Daily News and USA-SINO News. 51 days from Southern Daily News. 53 days from USA-SINO News. The random numbers generating website <http://www.randomizer.org/form.htm> was used to produce the random numbers for each week. Each random number represents the date in that week. Chosen date by random sampling for Southern Daily News and USA-SINO News see in appendix B.

Articles were gathered using key words reading these two newspapers. For example, Human coding method will be utilized in measurement and analysis in this study. There are four reasons that human text analysis overcome computer text analysis: 1. No reliable content analysis software is available in Chinese language at this time for the analysis of the meanings of the articles at the level of sentences or phrases. 2. Complete translation of all the chosen articles into English is not practical due to the large amount of articles and their lengths. 3. The translation would inevitably cause meaning loss and alteration in the trans-cultural conversion process, which will introduce biased

information. Meanwhile, no reliable English language analysis software for sentence and phrase level translation either. 4. Because the investigation to the connotative as well as the denotative meanings of the seemingly simple articles is necessary, human coding is the only possible method in this case.

The coding results serve as the solution and resource for further analysis to the research question. For instance, for RQ1, how much health information was conveyed in Chinese media? I will calculate the proportion of number of health-related articles with total number of articles, for each month, and each newspaper. Therefore I not only acquired the coverage in specific period of time, but also the tendency during a 12-month period and difference between two newspapers.

To answer RQ2, RQ3, and RQ4, I performed an open-coding scheme and then conducted a comprehensive comparative analysis among the ten categories coded categories.

### ***Variable Definitions***

The articles were coded according to the following categories: date, newspaper, the number of articles/titles related to health in each issue, the health problem in each article, and the type of health-related articles.

*Date.* This is the date when the article was published, coded as “month/day/year.”

*Newspaper.* This refers to the examined newspapers in this study. They will be coded as: 1) Southern (Southern Daily News), 2) USA-SINO (USA-SINO News).

*The Number of Articles related to Health.* This refers to the number of articles related to health during November 2010 to October 2011 in each newspaper.

*Health-Related Topic of Each Article.* This refers to any health-related topic

reported in each article, which can include any disease such as cancer, high blood pressure, diabetes, HIV/AIDS, mental health, etc., or health insurance and policies, or health related risk factors, or health-related benefits or health infrastructure, or patient-provider relationship. Open-ending strategy will be used to code each article into appropriate category.

*The Type of Health-Related Articles.* Each article was coded into one of the following categories: awareness, instruction, campaign, scientific research, and advertisements of health-related product.

*The Tone of the Articles.* Each article was coded into one of the following categories: positive, negative, mixed, and neutral tone.

*Target Audience.* This refers to what audience the content of each article targets on. Each article will be coded into: Chinese, general public, and other ethnics.

### ***Treatment of Data***

This study primarily used summary statistics to report the frequency distribution among each category. The statistical software SPSS 18 will be used to analyze the data. With the 104 days generated, the primary coder split them in half. Coder A and coder B were assigned alternate dates from November 2010 through October 2011. The two coders then coded Southern Daily News and USA-SINO News from the 104 days using the code form.

### ***Inter-coder Reliability***

This study had two independent coders. I used two Chinese coders who were born and educated in China. Her/his Chinese language and cultural knowledge allowed her/him to understand not only the surface meanings, but also the meanings behind the words,

phrases, idioms, and sentences of the articles. The two coders both are graduate student major in mass communication.

When the coders were train to categorize the health-related articles, the first rule was to follow the original category explanation assigned to the articles on the newspapers. And the coder also trained to make them understand the coding form completely.

An inter-coder reliability test was conducted on randomly selected five days articles from Southern Daily News and USA-SINO News. Inter-coder reliability is defined as the agreement among coders on the content of categories (Krippendorff, 1980). In specific, this study took Holsti's (1967) formula to generate the inter-coder reliability for these variables:

$$R=2(C1,2)/C1+C2$$

Where C1,2 is the number of articles that the coders agree on, and C1+C2 is the total number of article assignments of two coders.

The researcher expected to reach 80 percent reliability. Each of the two coders is given a coding instruction sheet that provides an operational definition for each category and subcategory. The two coders are trained under the direction of the researcher. An inter-coder reliability test is conducted before the coding procedure. Two coders were required to read five days articles that are randomly selected from the total 104 population and code the themes and attitudes according to the instructions. Then Holsti's formula was used to calculate the percentage of the agreement between the two coders. The test reached a reliability of 80 percent on categories. After the coding procedure, an inter-coder reliability test is performed on the random selected 100 articles to check the agreement among the coders. The figure was 86% for the categories.



From these numbers, this research concluded that the inter-coder reliability was good enough. Because the validity had already been satisfied, we could confidently begin the formal sampling, coding and further research.

## Chapter IV: Results

### *Overview*

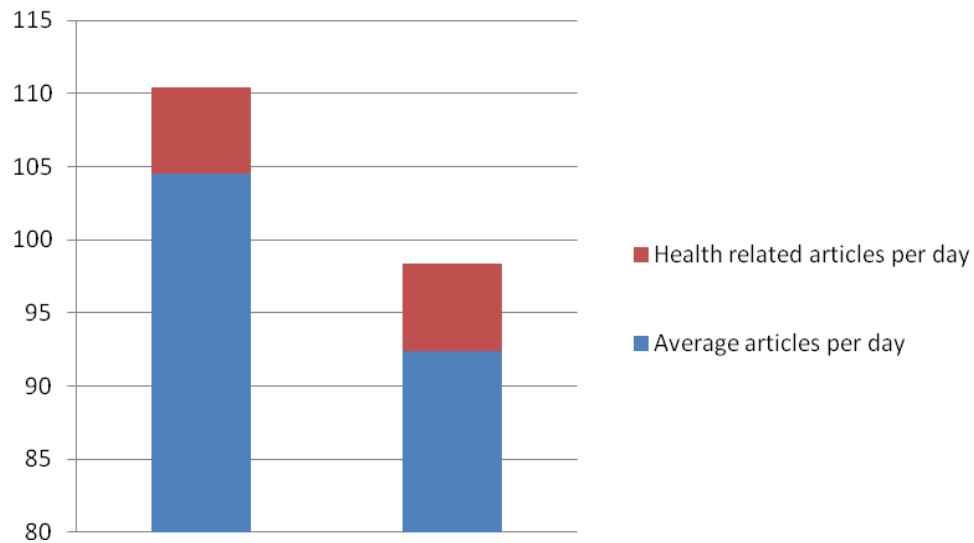
This study included a total of 618 health-related articles from 104 days' of two newspapers circulated in the Greater Houston area. The average number of health articles per day was 5.90 and 5.98 respectively in Southern Daily and USA-SINO News. In comparison; the mean numbers of articles from each day were 104.5 and 96.2 for the two papers respectively. The average coverage of health related articles in percentage are 5.65% and 6.47%. Table 1 summarizes the general information about these articles.

Table 1. Summary of Southern Daily News and USA-SINO News and their coverage on health related articles.

<b>Newspaper</b>	<b>Southern Daily News</b>	<b>USA-SINO News</b>
Total number of days	51	53
Total number of articles (approx.,)	5234	4897
Average articles per day	104.5	92.4
Health related articles	307	311
Health related articles per day	5.90	5.98

Percentage of health related article	5.65%	6.47%
--------------------------------------	-------	-------

Chart 1. Summary of Southern Daily News and USA-SINO News and their coverage on health related articles.



### ***Health Topics Covered in the Newspapers***

In general, the first three research questions explored health topics covered in the two chosen newspapers. The content analysis demonstrated that a variety of health topics were discussed in Chinese newspapers. In general each article was coded to have one topic.

I generate totally eleven categories to accommodate the total of 618 health-related articles. Within the top five categories that most frequently discussed, various numbers of subcategories are created for further discussion.

Table 2 summarizes the frequency of the health topics covered by Southern Daily News and USA-SINO News in one year period. In general, both publications focused on the categories such as Disease and Conditions (19% and 9%), Benefit factors (15% and

20%), and Chinese Traditional medicine (18% and 18%). In the current study, interestingly, category Advertisements accounts for 11% and 28% of total health related articles in the two newspapers respectively.

Chart 2 Shows the comparison of coverage of eleven major categories. There is no significant difference between two newspapers except the enormously large amount of advertisements in USA-SINO News.

Table 2. Number of health related articles in major eleven categories covered by Southern News Daily and USA-SINO News.

<b>Categories</b>	<b>Southern News Daily</b>	<b>USA-SINO News</b>
Diseases or conditions including cancer, high blood pressure, high cholesterol, HIV/AIDs etc.	59	29
Risk factors including unhealthy food, smoking, environmental risks, complications of medicines, etc.	22	4
Benefit factors including healthy diet, exercise, immunization, etc	46	62
Public health laws and policies, and health insurance	6	2
Health infrastructure and health education programs	13	17
Medicine	12	4
Relationship between and among medical professionals and patients	33	4
Chinese traditional medical topics including acupuncture, traditional medicine (herbal medicine and supplement, and other cultural approaches	54	55
Mental health problems including psychological problems, such as depression, suicide, and psychotherapy	11	1
Advertisements on medicine, medical care, dental, optical and other health related providers	35	86
Others	16	47

Total	307	311
-------	-----	-----

Chart 2. Number of health related articles in major eleven categories covered by Southern News Daily and USA-SINO News.

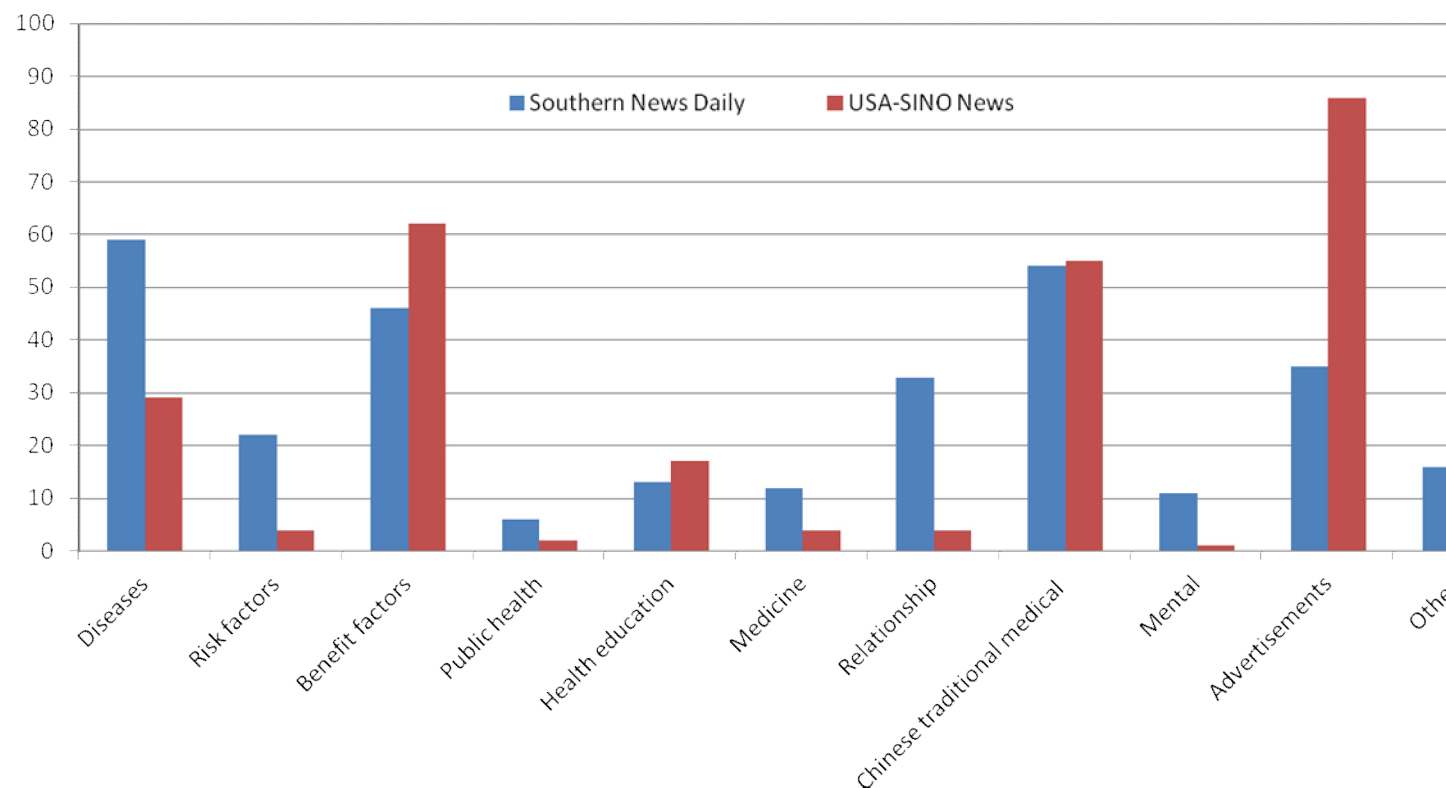


Chart 3. Partition of health related articles in Southern Daily News.

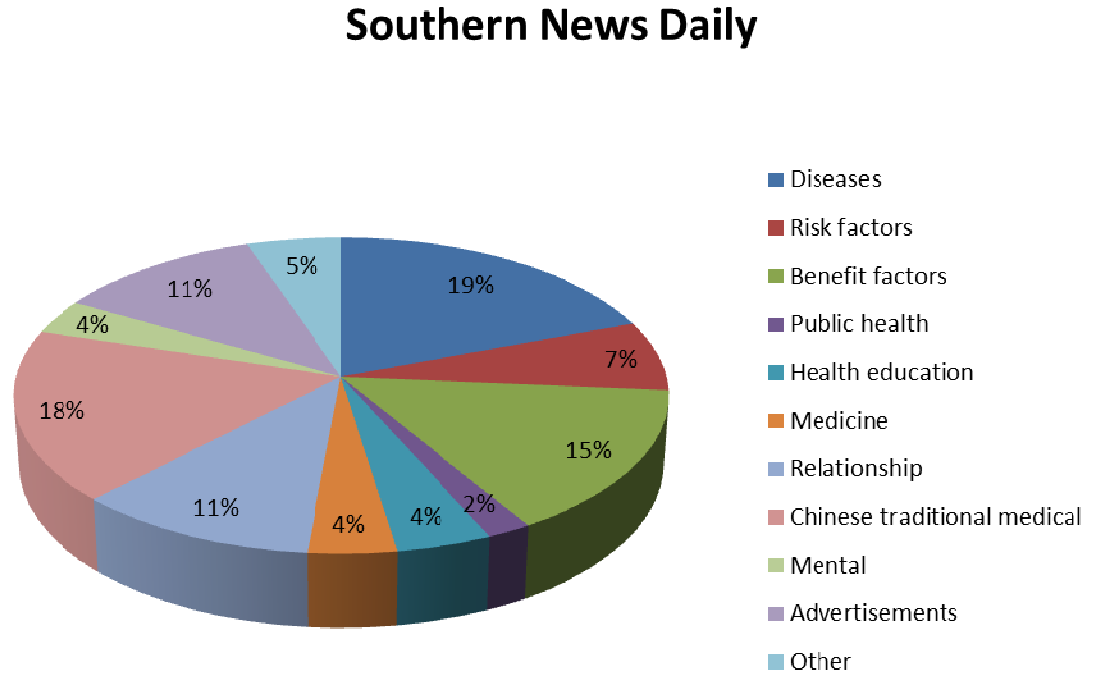
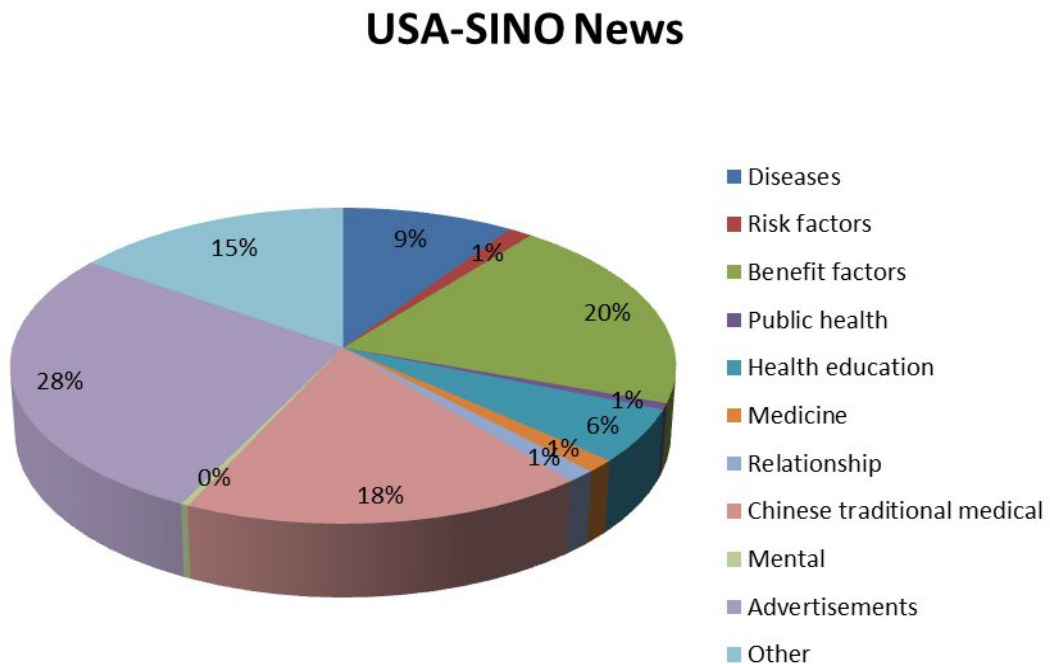


Chart 4. Partition of health related articles in USA-SINO News.



In the four most frequently discussed categories, subcategories were created for future discussion as shown in the Table 3. Within the category Diseases and Conditions, I

noticed similar patterns from two newspapers. Among eleven subcategories (59 and 29 articles from each individual papers), Cancer (27.1% and 44.8%), AIDS (20.3% and 13.8%) and Diabetes (20.3% and 3.4%) receive most attentions.

Southern News Daily put much more emphasis on Risk Factors than USA-SINO News (22 articles vs. 4 articles). People care about food safety (22.7% and 50%) and smoking (27.3% and 25%) more than any other topics in this category.

Not surprisingly, similar pattern was found when referring to benefit factors (46 articles and 62 articles). Exercise (41.3% and 41.9%) and Healthy diet(28.3% and 21.0) are most frequently discussed topics among other sub topics such as Child care, Pregnancy and Mental health

As the most characteristic category in these two newspapers, Chinese traditional medical topics accounts for 54 and 55 articles in each newspapers. Specific topics such as diet (38.9% and 45.5%), disease prevention (25.9% and 20%) and treatment through traditional approaches (24.1% and 21.9%) are also headlines among all subcategories.



Table 3. Number of articles in most frequently discussed health related categories and subcategories.

Categories and subcategories	Sou	US
<b>Diseases and Conditions</b>		
1.Cancer	16	13
2.AIDS	12	4
3.Diabetes mellitus	12	1
4.Communicable disease	4	1
5.Arthritis	1	1
6.Hypersusceptibility	1	0
7.Influenza	1	0
8.High blood pressure and cholesterol	2	2
9. Eye disease	1	1
10. Dental	0	2
11. Others	1	6
<b>Risk factors including unhealthy food,</b>		
1. Food safety	5	2
2. Unhealthy diet	4	1
3. Environment risk	2	0
4. Fake medicine	4	0
5. Alcohol	1	0
6. Smoking	6	1
<b>Benefit factors including healthy diet,</b>		

1. Healthy Diet	13	13
2. Exercise	19	26
3. Childcare	7	12
4. Pregnancy	5	11
6. Mood	2	0
<b>Chinese traditional medical topics including</b>		
1. Healthy Diet	21	25
2. Traditional approach of Disease Prevention	14	11
3. Traditional treatment	13	12
4..Chinese traditional medicine	6	7

### ***Types of articles cover health-related topics***

This study collected the type of articles that involve health-related topics. Table 4 and Chart 3 and 4 show the mostly used types and number of articles in each type, in Southern Daily News and USA-SINO News respectively. Both newspapers have largest number of News and non-news health-tips that convoy health related information. In addition, advertisement articles also accounts for a large proportion of all health-related articles as shown from last comparison.

Table 4. Types of articles convey health-related information.

Form of articles	Southern Daily News	USA-SINO News
News	137	49
Non-news: Educational articles	31	38
Non-news: Health tips	86	102
Fiction/Non-fiction stories	5	28
Advertisements articles	35	87
Others	13	7
Total	311	307

Chart 5. Types of articles convey health-related information in Southern Daily News.

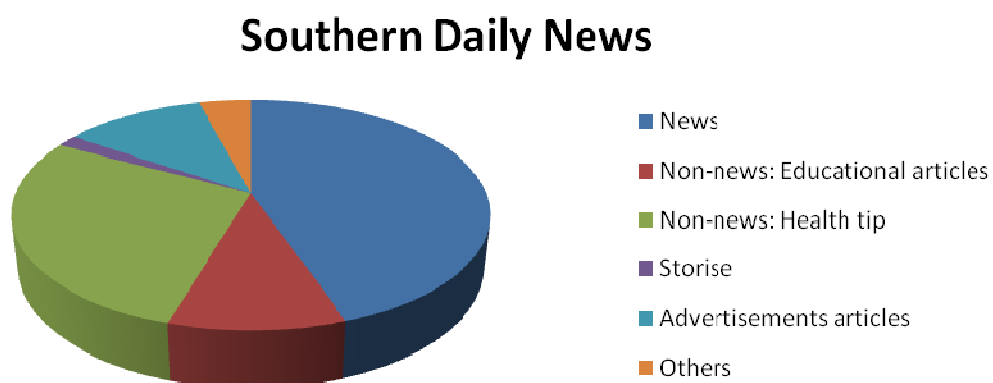
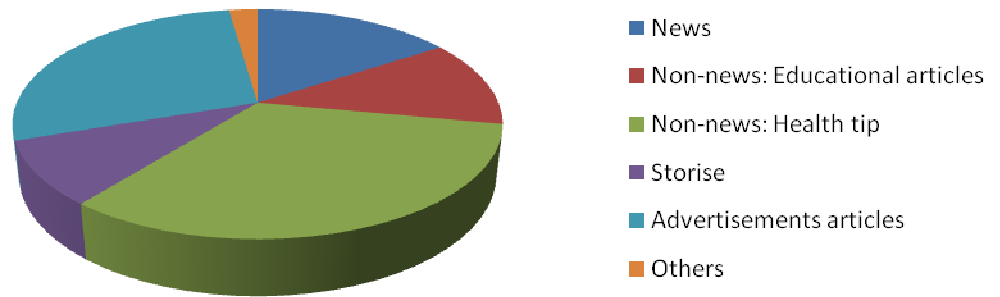


Chart 6. Types of articles convey health-related information in USA-SINO News.

## USA-SINO News



### *Tones delivered in health information*

The content analysis of the two Chinese newspapers shows the tones used in conducting in the articles. Only very limited portion of health-related articles in both newspapers adopted a negative (6.2% and 3.9%) or mixed tone (3.9% and 3.5%), most of the articles were neutral (71.3% and 76.2%) or positive (18.6% and 16.4%) in tone.

Shown in Table 5.

Table 5. Tones used in health related articles in Southern Daily News and USA-SINO News.

Newspapers/Tones	Southern Daily News	USA-SINO News	Subtotal
Positive	57 (18.6%)	51 (16.4%)	108
Negative	19 (6.2%)	12 (3.9%)	31
Mixed	12 (3.9%)	11 (3.5%)	23
Neutral	219 (71.3%)	237 (76.2%)	456
Subtotal	307	311	618

Chart 7. Tones used in health related articles in Southern Daily News.

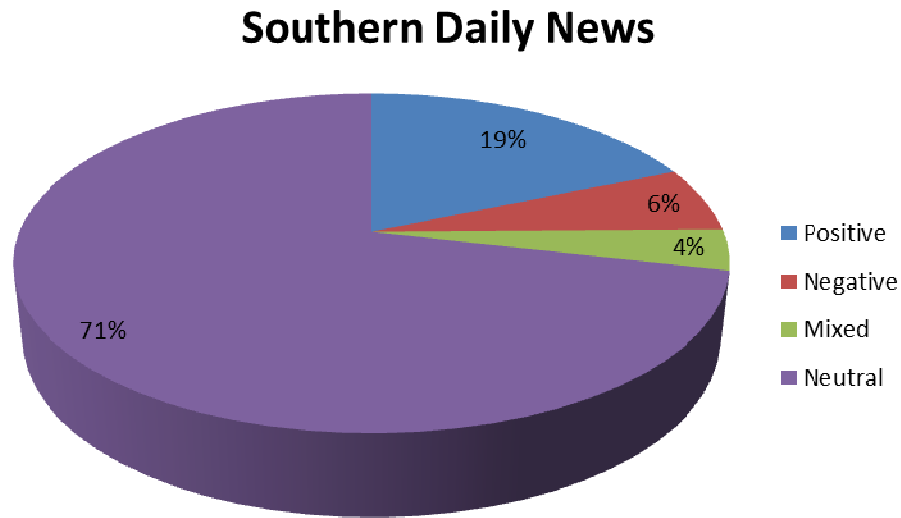
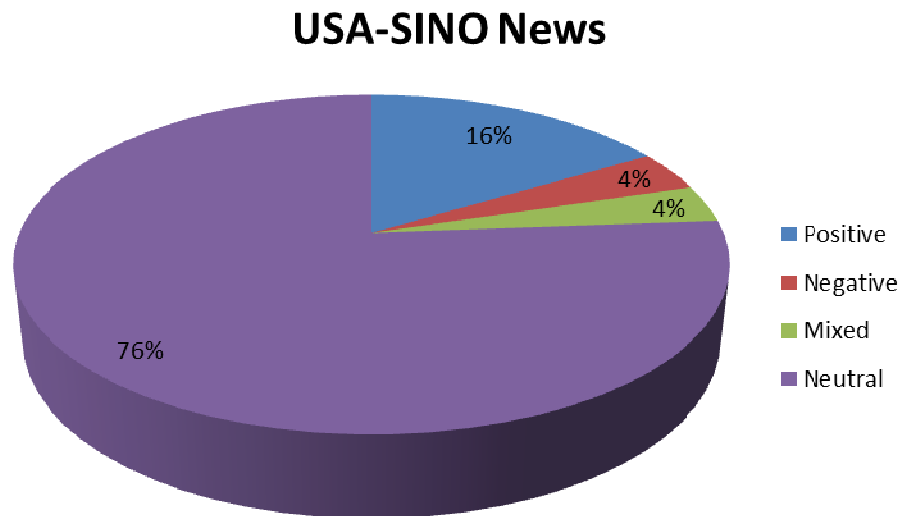


Chart 8. Tones used in health related articles in USA-SINO News.



I further analyze the tone preferable in articles in Disease or conditions and risk factors. In specific, I subdivide those categories in to Contagious/non-contagious diseases, Personal/External/Other risk factors. Similar patterns have been found that most articles inclined to use neutral or positive attribute in tones. Reporting of a disease or condition

usually avoid to have a negative tone since such tone might depress patients and discourage further information seeking (Brashers, Goldsmith, & Hsieh,2002), using a neutral \ to positive tone may effectively raise awareness of risk without introducing anxiety to the audiences.

Table 6. Tones used in articles in Categories Diseases or Conditions/Risk factors.

Diseases or conditions/Risk factors	C  ontagious disease	N  on-contag ious disease	P  ersonal risk factor	E  xternal risk factor	O  ther risk factor	T  otal
Positive	3	5	1	0	0	9
Negative	2	2	3	5	0	1 2
Mixed	1	1	0	0	0	2
Neutral	1 5	5 3	1 2	8	3	9 1
Total	2 1	6 1	1 6	1 3	3	1 14

***Purpose of articles in Diseases or conditions, Risk factors and Benefit factors.***

The health-related articles in the categories of Diseases or Conditions and Risk Factors included the discussion of the cause of diseases or risk factors (79.8%), prevention method (57.0%) and treatment options (53.5%). The analysis illustrated that the articles regarding Benefit Factors functions more likely to be introductive and preventional (75.0% and 63.8%) than persuasive (32.4%).

Table 7. Purpose of articles in Diseases or conditions, Risk factors and Benefit factors.

Diseases or Conditions / Risk Factors	Southern Daily News	USA-SINO News	Tot al
Cause of disease	63	28	91
Prevention method	47	18	65
Treatment options	42	19	61
Total	81	33	114
Benefit Factors	Southern Daily News	USA-SINO News	Tot al
Introduce	33	48	81
Preventional	28	41	69
Persuasive	12	23	35

Other	3	4	7
Total	46	62	108



## **Chapter V: Discussion**

The current study was a content analysis of two Chinese newspapers in Houston area to measure Chinese newspapers as health communication resource. This chapter discussed the basic statistics and analysis of the data with regard to the research questions.

### ***Health Topics Covered in the Newspapers***

Results of the current study showed that the average number of health articles was 5.90 and 5.98 per day in Southern Daily and USA-SINO News respectively. In comparison, the mean numbers of articles were 104.5 and 96.2 for each day accordingly. The average coverage of health related articles in percentage are 5.65% and 6.47%. Both newspapers have several assigned columns exclusively for health messages. For instance, “Doctors Says” on every Friday’s USA-SINO News was designed to introduce professional opinions, medical advices and some newly developed drugs. Southern Daily News provided series of “Legend of Life Saver”, reporting real stories about famous doctors and their adventures in medical sciences. Statistics showed both circulations had similar coverage on health communication in general. However, with further analysis, it appeared that they put emphasis on diverse health related topics.

### ***Types of articles cover health-related topics***

In response to the research question regarding the topics of health information conveyed in Chinese media, the differences between the topics conveyed in the two newspapers in detail. In Southern Daily News was analyzed the coverage of diseases or conditions (19%) were more than that of any other categories. Specifically, the diseases

with the highest mortality rate in Chinese community, such as cancer and diabetes, received significant high coverage in Southern Daily News. According to Peng and Tang (2010), HIV/AIDS received virtually no coverage in most mainstream newspapers in China. On the contrary, the two chosen Chinese newspaper in Houston area had almost equal coverage on the AIDS and on the diabetes. This discovery could be interpreted as that the Chinese mass media was readily affected by the cultural and social background in the United States and would assimilate the mainstream media in the English language world.

Specifically in USA-SINO News, articles from category Diseases or Condition account for 9% of coverage for all health-related topics. Among all the disease been reported, cancer were most frequently discussed with respect to its actual occurrence in reality. Chinese traditional medical topics took account for 18% coverage on both publications. This analysis illustrated that Chinese community cared more about the Chinese healthy diet, traditional food medication, lifestyle shaping and traditional oriental treatment like acupuncture and Chinese herbal medicine. In this aspect, Chinese newspaper showed strong oriental cultural inclination. As an essential heritage of ancient Chinese wisdom, traditional medicine shed its light in the mass media around the globe even today. Meanwhile, as one of the only few media channels connecting the oriental and western cultures, the Chinese newspaper in the United States took the responsibility to spread the knowledge from the one side of the globe to the other with comprehensive coverage on extended topics.

Benefit factors were the category with second highest coverage rate. It was conveyed by one fifth of all the articles in USA-SINO News. Fitness, exercise, healthy

diet and weight watching were common topics over the countries and cultures in recent years. Mass media played an essential role in guiding and promoting a healthy life. It also served as one major responsibility of the health communication.

Risk factors accounted for a large portion of reports on both newspapers. Southern Daily News have a large amount of stories from China about the risk factors including environmental disasters, pollutions, food safety etc. while USA-SINO News focus more on local activities in this category.

In addition to multiple types advertisements, on medicines, local clinics and online medical services, promotion and introductory reports and articles on commercial medicine or services were very commonly seen, especially on USA-SINO News, which counted for about 28% among all health related articles. It could be readily explained in the light that the newspaper solely depended on incomes from commercials.

### ***Location of Health-Related Stories***

The research question explored whether certain types of health stories were given more weight by being placed in front pages or current news and affairs section. It was found that the following topics were more likely to appear in health sections instead of news sections: healthy diet, exercise, Chinese traditional medical topics. On the other hand, health topics such as food safety, policy, health infrastructure, and medical malpractice were more likely to occupy more prominent positions in the news section. In general, health messages were more commonly seen life section rather than in news sections, which was easily interpreted as health topics were regarded as informational messages that were closely related to daily life, such as how sugar-free food and beverage

can be beneficial to diabetes. Such information, on the other hand, may be essential to the audience; therefore, Chinese media should devote more effort in elaborating such messages to be more readily accessible to more readers.

### ***Target audience***

The general information on the two chosen Chinese newspaper besides the health-related articles and meanwhile was studied, it made the following assumption and reasoning to answer the fifth research question regarding what type of audience did each article in these two newspapers target? In general, the commonly identified target audience of this research was Chinese speakers in the Greater Houston area.

An average of one third of the articles on these newspapers was news and reports. News accounted for 44% in Southern Daily News and 15.9% on USA-SINO News respectively. In specific, Southern Daily News had massive coverage on the China news and events outside the US, as well as some domestic reports. However, Houston local news and health-related events were comparatively under reported. This observation reflected that the Southern Daily News inherited the tendency from newspaper in China to put emphasis on global events instead local ones. For instance, during the period of April to August 2011, SDN had a series of extensive reports on the Japanese earthquake, the following nuclear breakout as well as the consequence health disasters in Asia-pacific area thereafter. In addition, it revisited the massive disease in the past century, such as flu in Europe, as a reference and in a comparison with the latest one. In this way, SDN have a designated target audience of recent immigrants or short-term visitors from China, who are more familiar with and attracted by its international contents. Meanwhile, USA-SINO News kept focusing on diseases and new discovered medication approaches mainly in the

United States during the same period, rather than other global topics, these settings were very similar to mainstream publications in the United States which dedicate in domestic and local daily lives. Therefore, USA-SINO News might have targeting resident immigrants who have accustomed themselves to the social forms and cultural background in the United States.

Southern Daily News had significantly larger number of articles on Risk Factors, Public health laws and policies, Medicine, Relationship between and among medical professionals and patients, and mental health problems than the USA-SINO News. The Southern Daily News readers had more access to health messages in China, among all other news. For instance, SDN had comprehensive reviews and reports on the crisis of medical service providers and patients, and also the newly developed drug laws.

Both newspapers had dedicated their efforts on the Benefit factors (14.9% and 19.9%). The dominant portion of articles is related to fitness and weight-losing, with an expected audience group of females between 20-40 years old.

In a similar amount, Chinese traditional medical topics accounts for 17.5% and 17.6% on the two newspapers respectively. Most of the articles were related to health diet, skin care and fitness theory from traditional approaches. Chinese females over 30 years old live abroad were their mainly targeting group, who were consistently seeking various information about health and beauty in every country. Senior readers who have strong beliefs in traditional medicine and treatment were another group by these articles. Early generation of immigrants with insufficient language abilities and limited access to new forms of mass media may heavily rely on Chinese newspapers. In this sense, either one of the two newspaper had provided enough health message for elderly readers so far.

## ***Framing of Health Issue***

To answer the research question regarding what is the overall tone for these health-related articles, the articles categorized and collected from the two chosen newspapers into four general tones: positive, neutral, negative and mixed. By analyzing the overall article inclinations and indication from the surface and behind-words meanings, each article was given a unique tone from the four.

Both Southern Daily News and USA-SINO News have strong preference of neural tone in all the health-related articles (71.3%, 76.2%), in comparison to unfavorable negative tone (6.2%, 3.9%). Neural tone was used even more extensively in the categories of Diseases or Conditions and Risk Factors at 79.8%, to eliminate any potential discouraging effect upon audiences. Studies by Brashers showed that negative tone might depress patients and discourage further information seeking in conveying health related information. (Brashers,Goldsmith, & Hsieh, 2002).

The health-related articles in the categories of Diseases or Conditions and Risk Factors had comparatively necessary inclusion of contextual information such as the reasons of disease or risk factors, prevention approaches and treatment options towards certain health problems. More articles included the discussion of the cause of diseases or risk factors (79.8%) than prevention method (57.0%) and treatment options (53.5%). The discussion of cause is important because it helps the public understand the underlying theories of the commonly seen health problems; yet from the perspective of public health, the discussion of preventative method is equally critical. In addition, prevention methods were less likely to be discussed in diseases-related articles than in risk-factor-related articles. It appears that treatment rather than prevention was more likely to be included in

the discussion of disease. The emphasis on treatment is reasonable from the patient's perspective. From the perspective view of public health, however, the media should have put more emphasis on prevention methods.

The analysis illustrated that the articles regarding Benefit Factors functions more likely to be introductive and preventional (75.0% and 63.8%) than persuasive. This fact can be explained in the following reasoning process. The concept of healthy diet, active lifestyle has been accepted and intensively rooted by the common population. The purpose of mass media carrying health information was, instead of to persuade the public about the benefit, but to introduce to them the scientific approaches to the diet, and the appropriate fitness methods for different individuals. The USA-SINO News provided a regular weekly block for fitness and diet information to satisfy the thirst of its audiences. On the other hand, the readers were more likely to seek information closely related to themselves, such as the right type of food and beverage for diabetes patients, or appropriate forms of exercise for people with high blood pressure.

### ***The Agenda-Setting Function of Newspapers***

The agenda-setting theory (Mccombs, 2004) predicts that media set the public agenda and tell the audience what to think about by prioritizing certain issues. In terms of the health topics covered in these Chinese newspapers, it was found that diseases received more coverage than health risks. The diseases with the highest mortality rate in the U.S.- cancer, AIDS, and diabetes- received significant coverage in Chinese newspapers the U.S.. Peng and Tang's (2010) research found that health risks received more coverage than actual diseases. And they also found unsafe food was the most frequently discussed risk factor, which was consistent with the high morbidity rate associated with consuming

unsafe food in China. The agenda of health issues set by the media seemed to reflected social reality and help to raise awareness for the public.

### ***Limitation***

This research has a few limitations that prevent it from acquiring more comprehensive and global conclusions. The limitations resulted from the following resources. Firstly, only 104 days of newspapers within one year period was taken into consideration. This comparatively short time window prevented it from catching the long-term tendency or changes on the health messages conveyed by mass media.

Secondly, only two regional newspapers were chosen as study basis. The Southern Daily News and SINO-USA News are most circulated weekly publications in Houston, and Southern Texas area, however, there are hundreds of other Chinese newspapers and magazines published on weekly base over the U.S., especially in other condense Chinese populated metropolitan areas, such Bay area, Southern California, New York, and Washington DC.

Third, as newspapers were heavily substituted by other mass media, such as television, radio and more recently internet, less people spent large amount of time on newspapers.

Therefore, the conclusion drawn from this individual mass media was less likely to be applied to the status of health messages delivered by the entire mass media.

Last, this study focused on health messages in Chinese based mass media in the U.S.. A relative study on the English newspapers and other mass media conveying health articles is necessary to complete a benchmark comparison with target research issues.

In general, the results and conclusions in this research papers were drawn from



618 health related articles collected in the designated newspapers and the chosen time. A much larger number of samples from various resources with more coders could contribute to further study, which will be discussed in Future Research section.

### ***Future Research***

The current research included two leading newspapers in Houston area. Research based on newspapers from other large cities of the U.S. with mass Chinese population in future content analysis is recommended to provide a more comprehensive picture of health coverage of Chinese media in the United States. Besides print media such as newspapers and magazines, other major media channels, such as television, and more recently, the Internet are more popular for audiences to receive health information. In fact, newspaper circulation is relatively small in the U.S.. To have a more insightful and complete understanding of health information in Chinese media in the U.S., future research should include television news reports and mainstream internet websites of health issues. While the current study provides insights into health reporting through analyzing the content of health related articles in newspapers, further research is needed to explore the production of health news from the point of view of health journalists. Because health reporting starts with journalists who provide health news (Gasher, et al., 2007). It is essential and more accurate to identify how journalists acquire and process health news, how they determine the news value of health stories, and other social, cultural, political, and organizational determinants of health reporting. Finally, culture is an important social determinant of health news reporting (Subervi-Velez, 1999). It would be informative and inspiring to compare health reporting in English media and Chinese media in the U.S. to explore how the cultural difference between the U.S. and China affect the reporting of health news.

## ***Conclusion***

Based on the 618 health-related articles recognized from two newspapers in period of one year, this research found that health messages were an important part of the Chinese newspapers published in the U.S. Approximately 6% of all articles were related to health messages in each publication, most of which were presented in News and health tips columns. All eleven health-related categories were covered by these articles. In specific, disease, benefit factors and Chinese traditional medicine were found to be most frequently reported and discussed topics, besides large presence of medical-related advertisements. In further details, cancers, AIDS, diabetes, healthy diet, exercise and Chinese traditional treatment and disease prevention received more attention than other health topics. The Chinese-based newspapers assimilated to English-based mass media in many ways, while keeping its Chinese cultural heritage in delivering various traditional medical materials. Like many newspapers in China, the two studied newspapers prefer to use positive and neutral tones in health-related articles. These two newspapers circulated in Chinese community have targeted their audiences from young to elderly generations of Chinese immigrations, and have diverse emphasis on females and those who rely heavily on Chinese media.

## Reference

- Aarvea, P., DeHaes, W., & Visser, A. (1997). Health communication research. *Patient Education and Counseling*, 30, 1-5.
- Aldoory, L. (2001). Making health communications meaningful for women: Factors that influence involvement. *Journal of Public Relations Research*, 13(2), 163-185.
- Alvarez, M. (1991). Working with multi-ethnic media. *Western City*, 67, 29-30.
- American Cancer Society. (2008). *California- Cancer facts & figures*. Oakland, CA: Author.
- American Medical Association's Council on Scientific Affairs. (1991). Hispanic health in the United States. *Journal of the American Medical Association*, 265(2), 248-252.
- Andersen, R. M., Giachello, A. L., & Aday, L. A. (1986). Access of Hispanics to health care and cuts in services. *Public Health Reports*, 101(3), 238-252.
- Atkin, C.K. (2001). Theory and principles of media health campaign. *Public Communication Campaigns Thousand Oaks* (55-66), CA: Sage.
- Backstromm, C.H., & Robins, L.S. (1998). The media and AIDS: Health elite perspectives of coverage. *Journal of Health & Social Policy*, 9(3), 45-69.
- Baker, F., Ainsworth, S., Dye, J., Crammer, C., Thun, M. J., Hoffmann, D., et al. (2000). Health risks associated with cigar smoking. *Journal of the American Medical Association*, 284(6), 735-740.
- Bandura, A. (1977). *Social learning theory*, Englewood Cliffs, NJ: Prentice-Hall.
- Becker, C., Kraft, J. M., Goldman R, et al. (2001). Strategies for increasing colorectal cancer screening among African Americans. *Journal of Psychosocial Oncology*, 19(3-4), 113-132.
- Berelson, B. (1952). *Content analysis in communication research*. Glencoe, IL: Free Press.
- Brach, C., & Fraserirector, I. (2000). Can cultural competency reduce racial and ethnic health disparities? A review and conceptual model. *Medical Care Research and Review*, 57(1), 181-217.
- Brodie, M., Kjellson, N., Hoff, T., & Parker, M. (1999). Perceptions of Latinos, African-Americans, and Whites on media as a health information source.

*Howard Journal of Communications*, 10(3), 147-167.

Cassell, M. M., Jackson, C., & Cheuvront, B. (1998). Health communication on the internet: An effective channel for health behavior change? *Journal of Health Communication*, 3, 71-79.

Centers for Disease Control and Prevention. (1992). Cigarette smoking among Chinese, Vietnamese, and Hispanics—California, 1989-1991. *MMWR Morb Mortal Wkly Rep*, 41, 362-367.

Centers for Disease Control and Prevention. (2001). Statewide specific prevalence of current cigarette smoking among adults and policies and attitudes about secondhand smoke—United States 2000. *MMWR Morb Mortal Wkly Rep*, 50, 1101-1106.

Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. Thousand Oaks, CA: Sage.

Chen, M. S. (2005). Cancer health disparities among Asian Americans. *Cancer*, 104, 2895-2902.

Cho, S. (2006). Network news coverage of breast cancer, 1974-2003. *Journalism and MassCommunication Quarterly*, 83(1), 116-130.

DeSantis, A. D., & Morgan, S. E. (2003). Sometimes a cigar is more than just a cigar: Pro-smoking arguments in Cigar Aficionado, 1992-2000. *Health Communication*, 15(4), 457-480.

Dickinson, A. (2004). No time for exercise. *O, the Oprah Magazine*, 5, 143-148.

Dupre, A. (2000). *Communicating about health: Current issues and perspectives*. London: Mayfield.

Dutta, J.M., & Basu, A. (2007). Health among men in rural Bengal: Exploring meanings through a culture-centered approach. *Qualitative Health Research*, 17(1), 38-48.

Freimuth, V. S., Edgar, T., & Fitzpatrick, M. A. (1993). The role of communication in health promotion. *Communication Research*, 20(4), 509-516.

Freimuth, V.S., Stein, J.A., & Kean, T.J. (1989). *Searching for health information: the cancer information service model*. Philadelphia, PA: University of Pennsylvania Press.

- Garramone, G.M., & Atkin, C.K. (1986). Mass communication and political socialization: Specifying the effects. *Public Opinion Quarterly*, 50(1), 76-86.
- Gasher, M., Hayes, M., Hachett, R., Gutstein, D., Ross, I., & Dunn, J. (2007). Spreading the news: Social determinants of health reportage in Canadian Daily Newspapers. *Canadian Journal of Communication*, 32, 557-574.
- Glaser, B.G., & Holton, J. (2004). Remodeling grounded theory qualitative sozialforschung. *Qualitative Social Research*, 5(2), 4.
- Glenn, N. D. (1990). Quantitative research on marital quality in the 1980s: A critical review. *Journal of Marriage and the Family*, 52, 818-831.
- Glik, D. (1998). Health education goes Hollywood: Working with prime-time and daytime entertainment television for immunization promotion. *Journal of Communication*, 3, 263-282.
- Grossberg, L., Wartella, E., & Whitney, C., & Macgregor, W. (1998). *Media making: Mass media in a popular culture* second edition. Thousand Oaks, CA: Sage.
- Harmon, P.R., Willis, S.K., & Scrimshaw, S.C. (2001). Persistence of maternal concerns surrounding neonatal jaundice: An exploratory study. *Archives of Pediatrics and Adolescent Medicine*, 155(12), 1357-1363.
- Healthy People 2010. (2000). Retrieved. From [http://www.hhs.gov/pharmacy/phpharm/hpcommun.html#\\_ednref54](http://www.hhs.gov/pharmacy/phpharm/hpcommun.html#_ednref54).
- Health & Medicine. (2010). Studies show huge health disparities among Asian-Americans, native Hawaiians, Asian immigrants.
- Hertog, J. K., & Fan, D. P. (1995). The impact of press coverage on social beliefs: The case of HIV transmission. *Communication Research*, 22(5), 545-574.
- Hotz, R. L. (2002). The difficulty of finding impartial sources in science. *Nieman Reports*, 56, 6-7.
- Houston CSA 2008 Estimates (Ethnicities). (2010). Retrieved from <http://www.city-data.com/>
- Hwang, W., Chun, C., Takeuchi, D.T., Myers, H.F., & Siddarth, P. (2005). Age of first onset major depression in Chinese Americans. *Cultural Diversity and Ethnic Minority Psychology*, 11(1), 16-27.

- Johnson, J. D., & Meischke, H. (1993). A comprehensive model of cancer-related information seeking applied to magazines. *Human Communication Research*, 19(3), 343-367.
- King, J. M. (2008). Nation branding: Coverage and perceptions of Qatar in major world newspapers. Retrieved from <http://dialnet.unirioja.es/servlet/articulo?codigo=2720192>
- Lam, L. (1980). The role of ethnic media for immigrants: A case study of Chinese immigrants and their media in Toronto. *Canadian Ethnic Studies*, 12(1), 74-92.
- LaRossa, R. (2005). Grounded theory methods and qualitative family research. *Journal of Marriage and Family*, 67(4), 837-857.
- Leper, C. R., Walsh-Childers, K., & Chance, J. C. (2003). Newspaper coverage portrays managed care negatively. Retrieved from [http://findarticles.com/p/articles/mi\\_qa3677/is\\_200304/ai\\_n9224951/?tag=content;coll](http://findarticles.com/p/articles/mi_qa3677/is_200304/ai_n9224951/?tag=content;coll)
- Levi, R. (2001). *Medical journalism: Exposing fact, fiction, fraud*. Ames: Iowa State University Press.
- Lieberman, D., Holub, J., Eisen G., Kraemer, D., & Morris, C.D. (2005). Prevalence of polyps greater than 9mm in a consortium of diverse clinical practice setting in the United States. *Clin Gastroenterol Hepatol*, 3(8), 798-850.
- Lingard, L., Reznick, R., Espin, S., Regehr, G., & DeVito, I. (2002). Team communications in the operating room: talk patterns, sites of tension and implications for novices. *Journal of the Association of American Medical Colleges*, 77(3), 232-237.
- Ma, Y. (1989). Chinese American newspapers and periodicals in the United States. *Ethnic Forum: Bulletin of Ethnic Studies*, 9(1/2), 100-121.
- Martin, P. Y., & Turner, B. A. (1986). Grounded theory and organizational research. *The Journal of Applied Behavioral Science*, 22(2), 141.
- Mccombs, M. (2004). *Setting the Agenda: The mass media and public opinion*. Malden: Blackwell.
- McCue, A. (1975). Is objectivity possible? In Everette D. Dennis, Arnold H. Ismach, & Donald M. Gillmor (EDS), *Enduring issues in mass communication* (146-160). St. Paul, MN: West.
- Merriam, S.B. (2002). *Introduction to qualitative research*. In Merriam, S.B. &

- Associates (Eds.) *Qualitative research in practice. Examples for discussion and analysis*, (3-17). San Francisco: Jossey-Bass.
- Moghaddam, A. (2006). Coding issues in grounded theory. *Issues in Educational Research*, 16.
- Molina, C. W., & Aguirre-Molina, M. (1994). *Latino health in the United State: A growing challenge*. Washington, DC: American Public Health Association.
- Montgomery, K.C. (1990). Promotiing health through entertainment television. *Mass communication and public health: Complexities and conflicts*. (114-128) NewBury Park, CA: Sage.
- Morrel, R. W., Echt, K. V., & Caramagno J. (2008). Older adults, race/ethnicity and mental health disparities: A consumer focused research agenda. *Human Resources Research Organization*.
- Nelkin, D. (1995). *Selling science: How the press covers science and technology*. New York City: W.H. Freeman and Company.
- Neuendorf, K.A. (2001). *The Content Analysis Guidebook*. Thousand Oaks, CA: Sage Publications.
- O'Guinn, T. C., Feber, R. J., & Meyer, T. P. (1986). Diversity in the ethnic media audience: A study of Spanish language broadcast preference in the U.S. *International Journal of Intercultural Relations*, 10, 347-35.
- Paul, M. J. (2001). Interactive disaster communication on the Internet: A content analysis of sixty-four disaster relief home pages. *J&MC Quarterly*, 78(4), 739-753.
- Peng, W., & Tang, L. (2010). Health content in Chinese newspapers. *Journal of Health Communication*, 15(7), 695 -711.
- Piotrow, P. T., Kincaid, D. L., Rimon, J. G., & Rinhart, W.R. (1997). *Health communication: Lessons from family planning and reproductive health*. Westport, CT: Praeger.
- Ries, L. A. G, Miller, B. A., & Hartman, A. M. (1991). *Cancer statistics review*. Bethesda, MD: National Cancer Institute.
- Riffe, D., Lacy, S., & Fico, F. G. (1998). *Analyzing media messages: Using quantitative content analysis in research*. Mahwah, NJ: Lawrence Erlbaum.
- Roger, E. M. (1996). The field of health communication today: An up-to-date report. *Journal of Health Communication*,1, 15-23.

- Rose, Joan R. (1997). The smoking problem just won't go away. *Medical Economics*, 74(4), 34.
- Savoie, I., Kazanjian, A., & Brunger, F. (1999). Women, the media, and heart disease. For better or worse? *International Journal of Technology Assessment in Health Care* 15 (4), 729–737.
- Schutt, R.K. (2001). *Investigating the Social World: The Process and Practice of Research (3 ED.)*. Boston, Ma: Pine Forge Press.
- Selected Population Profile in the United States (2007) *U.S. Census Bureau, 2007 American Community Survey* Retrieved from <http://www.census.gov>
- Sharf, B. F., & Freimuth, V. S. (1993). The construction of illness on entertainment television: Coping with cancer on thirty something. *Health Communication*, 5(3), 141-160.
- Shelley, D., Fahs, M., Scheinmann, R., Swain, S., Qu, J., & Burton, D. (2004). Acculturation and tobacco use among Chinese Americans. *American Journal of Public Health*. 94( 2), 300-307.
- Shuchman, M. (2002). Journalists as change agents in medicine and health care. *MsJAMA*, 287(6), 776.
- Signorielli, N. (1998). Health images on Television. In L.D.Jackson (Ed), *Health Communication Research: A Guide to Developments and Directions* (163-179) Westport, CT: Greenwood.
- Singhal. A., & Roger, E. M. (1999). *Entertainment-education: A communication Strategy for Social Change*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Smith, R. (2008). How two veteran journalists in opposing media encouraged a sense of community in a Georgia town. *Journalism History*, 34(2), 107-116.
- Sparks, L. (2010). Health communication and caregiving research, policy, and practice. In S. S. Travis & R. Talley (Eds.) *Multi-disciplinary Coordinated Caregiving: Professional Contributions*. Springer.
- Stanton, N., MacDonald, I., Wong, S., & Fang, Ted. (2006). *Chinese Media May Face Mental Health Crisis*. *Asianweek*, 19.
- Strauss, A., & Corbin, J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Newbury Park: Sage.
- Strickland, C.J., Chrisman, N.J., Yallup, M., & Powell, K. (1996). Walking the journey of



- womanhood: Yakama Indian women and Papanicolaou (Pap) test screening. *Public Health Nursing*, 13(2), 141-50.
- Subervi-Velez, F. A. (1999). Spanish-language television coverage of health news. *The Howard Journal of Communications*, 10, 207-228.
- Sun, A., Zhang, J., Tsoh, J., Wong-Kim, E., & Chow, E. (2007). The effectiveness in utilizing Chinese media to promote breast health among Chinese women. *Journal of Health Communication*, 12, 157-171.
- Sun, W. (2006). *Media and the Chinese Diaspora: Community, Communications and Commerce*. London: Routledge.
- Thompson, I. (1996). Competence and critique in technical communication: A qualitative content analysis of journal articles. *Journal of Business and Technical Communication*, 10 (1), 48-80.
- Tones, Keith. (1996). Models of mass media: Hypodermic aerosol or agent Provocateur? *Drugs: Education, Prevention, and Policy*, 3(1), 29-37.
- USA-Sino News. (2009) Jiangsu Overseas network. 02-16-2009 Retrieved from [http://www.jsqw.com/html/dv\\_453108779.aspx](http://www.jsqw.com/html/dv_453108779.aspx)
- U.S. Surgeon General. (1993) . *T ODOS Report* [On-line]. Available: <http://www.hhs.gov/cgi/bin/>. Washington, DC : U.S. Department of Human Services.
- Van der Molen, J.H.W., & Lijn, M.E. (2004). Recall of television versus print news: Retesting the semantic overlap hypothesis. *Journal of Broadcasting & Electronic Media*, 48(1), 89-108.
- Vargas, L. C., & DePyssler, B. J. (1999). U.S. Latino newspapers as health communication resources: A content analysis. *The Howard Journal of Communications*, 10, 189-205.
- Visit "Southern Chinese Daily News" of the news cooperative. (2003) *Guangdong Overseas network*. 12-24-2003 Retrieved from [http://gocn.southcn.com/ztbd/zt\\_usa/zt\\_usa\\_tp/200312240037.htm](http://gocn.southcn.com/ztbd/zt_usa/zt_usa_tp/200312240037.htm).
- Vladimir, De S. (2010). Media for Science Forum. *Science Communication & Science Journalism*. 51-56.
- Wallack, L. (1990). Mass media and health promotion: Promise, problem, and challenge. In C.K. Arkin & L. Wallack. *Mass Communication and Public Health*:

*Complexities and Conflicts*. Newbury Park, CA: Sage.

- Weinick, R. M., Caglia, J. M., Friedman, E., & Flaherty, K. (2007). Measuring racial and ethnic health care disparities in Massachusetts. *Health Affairs*, 26(5), 1293-1302.
- Wilkes, M.S., Doblin, B.H., & Shapiro, M.F. (1992). Pharmaceutical advertisements in leading medical journals: Experts' assessment. *Annals of International Medicine*, 116(11), 912-919.
- Wilson, N.L., & Blackhurst, A.E. (1999). Food advertising and eating disorders: Marketing body dissatisfaction the drive for thinness and dieting in women's magazines. *Journal of Humanistic Counseling, Education, and Development*, 38, (2), 111-122.
- Williams, S.J., & Torrens, P.R. (1993). *Introduction to Health Services* (4<sup>th</sup> ed.). New York: Delmar.
- Yang, G., Fan, L., Tan, J., & et al. (1999). Smoking in China. *JAMA*, 282(13), 1247-1253.
- Williams, D., Neighbors, H., & Jackson, J. (2008). Racial/Ethnic discrimination and health: Findings from community studies. *American Journal of Public Health: Community Voices: Healthcare for the Underserved*, 98, S29-S37.
- Yanovitzky, I., & Bennett, C. (1999). Media attention, institutional response, and health behavior change: The case of drunk driving, 1978-1996. *Communication Research*, 26(4), 429-453.
- Yanowitz, K. L., & Weathers, K. J. (2004). Do boys and girls act differently in the classroom? A content analysis of student characters in educational psychology textbooks. *Sex Roles*, 51, no. 1-2, 101-107.
- Young, M. A., & Kleist, D. M. (2010). The relationship process in healthy couple relationships: A grounded theory. *The Family Journal*. 18; 338.
- Yu, E., Chen, E., Kim, K., & Abdulrahim, S. (2002). Smoking among Chinese American: behavior, knowledge and beliefs. *Am J Public Health*. 92(6), 1007-1012.
- Zane, N. W. S., & Kim, J. H. (1994). In Zane, N.W.S., Takeuchi, D.T., Young, K.N.J. (Eds.), *Confronting critical health issues of Asian and Pacific Islander Americans* (pp. 316-343), Thousand Oaks, CA: Sage.
- Zheng, C. Z. (2008). Chinese community honors newspaper publisher. *Houston Chronicle [Houston TX.]* 15(8).
- Zhou, M., & Cai, G. (2002). Chinese language media in the United States: Immigration and assimilation in American life. *Qualitative Sociology*, 25(3).

## Appendix

Appendix A -- Coding forms for Southern Daily News and USA-SINO News content analysis.

Appendix B – Chosen date by random sampling for Southern Daily News and USA-SINO News content analysis.

### Appendix A

Coding Form:

Southern Daily News page date_____		Coder ID:_____
Categories		Count
		s
Diseases or conditions including cancer, high blood pressure, high cholesterol, HIV/AIDs etc.;		
Risk factors including unhealthy food, smoking, environmental risks, complications of medicines, etc.;		
Benefit factors including healthy diet, exercise, immunization, etc;		
Public health laws and policies, and health insurance;		
Health infrastructure and health education programs;		
Medicine;		
Relationship between and among medical professionals and patients;		
Chinese traditional medical topics including acupuncture, traditional medicine (herbal medicine and supplement, and other cultural approaches;		
Mental health problems including psychological problems, such as depression, suicide, and psychotherapy;		
Advertisements on medicine, medical care, dental, optical and other health related providers;		
Other.		

Total:

USA Sino News page date_____		Coder
ID:_____		
Categories		Count
Diseases or conditions including cancer, high blood pressure, high cholesterol, HIV/AIDs etc.;	s	
Risk factors including unhealthy food, smoking, environmental risks, complications of medicines, etc.;		
Benefit factors including healthy diet, exercise, immunization, etc;		
Public health laws and policies, and health insurance;		
Health infrastructure and health education programs;		
Medicine;		
Relationship between and among medical professionals and patients;		
Chinese traditional medical topics including acupuncture, traditional medicine (herbal medicine and supplement, and other cultural approaches;		
Mental health problems including psychological problems, such as depression, suicide, and psychotherapy;		
Advertisements on medicine, medical care, dental, optical and other health related providers;		
Other.		

Total:

## Appendix B

Chosen Date:

	Southern Daily News:	USA-SINO News:
Week 1	Nov. 2 2010;	Nov. 5, 2010;
Week 2	Nov. 8 2010;	Nov. 14, 2010;
Week 3	Nov.16 2010;	Nov. 19, 2010;
Week 4	Nov. 25 2010;	Nov. 24, 2010;
Week 5	Nov. 29, 2010;	Dec.3, 2010;
Week 6	Dec.2, 2010;	Dec.12, 2010;
Week 7	Dec.7, 2010;	Dec.15, 2010;
Week 8	Dec.19, 2010;	Dec.24, 2010;
Week 9	Dec.20, 2010;	Jan. 2, 2011;
Week 10	Jan. 1, 2011;	Jan. 7, 2011;
Week 11	Jan. 7, 2011;	Jan. 14, 2011;
Week 12	Jan. 15, 2011;	Jan. 21, 2011;
Week 13	Jan. 17, 2011;	Jan. 28, 2011;
Week 14	Jan. 25, 2011;	Feb. 4, 2011;
Week 15	Feb. 2, 2011;	Feb. 16, 2011;
Week 16	Feb. 9, 2011;	Feb. 20, 2011;
Week 17	Feb. 20, 2011;	Feb. 23, 2011;
Week 18	Feb. 21, 2011;	Feb. 27, 2011;

Week 19	Mar. 2, 2011;	Mar. 6, 2011;
Week 20	Mar.17, 2011;	Mar. 9, 2011;
Week 21	Mar. 23, 2011;	Mar. 18, 2011;
Week 22	Apr. 3, 2011;	Mar. 23, 2011;
Week 23	Apr. 5, 2011;	Mar. 30, 2011;
Week 24	Apr. 14, 2011;	Apr. 3, 2011;
Week 25	Apr .24, 2011;	Apr. 6, 2011;
Week 26	Apr. 29, 2011;	Apr. 13, 2011;
Week 27	May. 8, 2011;	Apr. 24, 2011;
Week 28	May. 9, 2011;	Apr. 29, 2011;
Week 29	May. 20, 2011;	May. 4, 2011;
Week 30	May. 28, 2011;	May. 13, 2011;
Week 31	Jun. 5, 2011;	May. 20, 2011;
Week 32	Jun. 9, 2011;	May. 27, 2011;
Week 33	Jun. 18, 2011;	Jun. 3, 2011;
Week 34	Jun. 26, 2011;	Jun. 10, 2011;
Week 35	Jun. 29, 2011;	Jun. 17, 2011;
Week 36	Jul. 5, 2011;	Jun. 22, 2011;
Week 37	Jul. 13, 2011;	Jul. 1, 2011;
Week 38	Jul. 20, 2011;	Jul. 8, 2011;
Week 39	Jul. 27, 2011;	Jul. 15, 2011;
Week 40	Aug. 13, 2011;	Jul. 22, 2011;

Week 41	Aug. 20, 2011;	Jun. 29, 2011;
Week 42	Aug. 27, 2011;	Aug. 7, 2011;
Week 43	Sep. 3, 2011;	Aug. 14, 2011;
Week 44	Sep. 10, 2011;	Aug. 17, 2011;
Week 45	Sep. 17, 2011;	Aug. 24, 2011;
Week 46	Sep. 25, 2011;	Sep. 2, 2011;
Week 47	Sep. 26, 2011;	Sep. 11, 2011;
Week 48	Oct. 4, 2011;	Sep. 16, 2011;
Week 49	Oct. 12, 2011;	Sep. 21, 2011;
Week 50	Oct.21, 2011;	Sep. 30, 2011;
Week 51	Oct. 25, 2011;	Oct. 9, 2011;
Week 52		Oct. 21, 2011;
Week 53		Oct.30, 2011;