

Determining Awareness and Perception of Traditional Chinese Medicine in China and the United States

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Abstract

This interactive qualifying project (IQP) in partnership with Hangzhou Dianzi University (HDU) in China explored and assessed public awareness and perception of traditional Chinese medicine (TCM) in China and the United States through a series of interviews and survey studies. Findings show that TCM remains a popular form of medical care in China, but in the U.S. TCM is generally not as widely utilized as domestically produced medication. In both countries, TCM awareness is primarily spread orally, not through conventional commercial channels, and detailed information on TCM practices is not readily available to the public. In addition, not all TCM practices are covered under current medical insurance policies in the U.S.. Major recommendations include greater inclusion of TCM in educational mediums and government healthcare policies as well as further propagation through community effort.

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Executive Summary

Our goal for this interactive qualifying project (IQP) was to create a comprehensive research report on traditional Chinese medicine (TCM) usage in China and the United States and generate recommendations for spreading further awareness. To achieve this goal by the end of our 7-week project timeline, we set these main objectives:

1. Evaluate current awareness and practice of TCM in both countries through interviews and surveys
2. Evaluate public willingness to utilize TCM practices as a preventive healthcare and to improve individual health through surveys
3. Analyze current systems in place to spread awareness and formulate potential advancement strategies
4. Make recommendations about spreading further awareness (based on cultural acceptance/history with TCM)

Methodology

To create a report that explores and assesses awareness and perception of TCM, our research team from Worcester Polytechnic Institute (WPI) partnered with students from the Hangzhou Dianzi University (HDU) in China. As the primary researchers, our team goal was to examine the awareness and perception of TCM in both China and the United States. Our partners from HDU provided complementary research in China to evaluate awareness and perception of TCM domestically in China, shed more light on the origins of TCM, and also expedite communication between ourselves and the Smart City Research Center. We conducted multiple studies using primarily first-hand information gathered from interviews and

surveys as well as relevant data gathered from archival research.

Key Findings

Based on our survey results, the WPI and HDU teams jointly reached the following conclusions: TCM is still a major contender for the predominant form of medical care in China - Chinese herbal medicine specifically - and is therefore widely acknowledged and utilized by the public. In the U.S. TCM is not as widely used as Western produced medicine, and in general is not perceived as “superior” beyond offering a cheaper, more reliable alternative (less side effects). The popularity of well-known TCM practices is also different compared to China: Acupuncture appears to be the most popular practice in the US, with Herbal Medicine, Tai Chi, Cupping, and Scraping used to lesser extent. In both countries, TCM awareness is spread primarily through word of mouth, and does not seem to be widely represented or publicized through commercial channels, digital or otherwise, i.e. familiarity with certain TCM practices is lacking. In addition, detailed information on TCM practices is not readily available to the public.

Based on six interviews, the WPI and HDU teams compiled a list of important insights offered by the interviewees: A distinctive feature of TCM practices is its emphasis on clinical practices, and accumulated clinical data and experience has proven TCM’s effectiveness. Some problems will be discovered through TCM diagnoses before symptoms actually appear, and preemptive treatment will be carried out, but this is understandably viewed with skepticism. More comprehensive TCM education is necessary for people to better understand TCM, so that they will be willing to place their trust in TCM medication and practices. Not all TCM practices are covered under current medical insurance policies - in particular, varying state-by-state in the U.S. - so greater inclusion is needed and will undoubtedly lead to some increase in TCM usage. If the United States wants to adapt similar TCM implementation methods to China,

increased government funding is necessary. If the government can strengthen relevant insurance policies and subsidize TCM doctors and organizations to conduct free consultations or lectures to increase public awareness and acceptance of TCM.

Recommendations

As passing down TCM knowledge and experience orally was and remains the most popular method of advertising its effectiveness and spreading awareness, community support and free consultation for TCM would be a worthwhile promotional option for TCM as corroborated by both our interviews and surveys. Contributions would not have to be as extensive as efforts for TCM's inclusion into education; representatives would not have to be teachers, professors, and even practitioners - they could simply be groups of people with any amount of TCM experience that seek to spread awareness by informing others of their experiences and community knowledge. Community fairs and Chinese cultural festivals also present opportunities to further spread information about TCM, both orally and through informational brochures, the latter of which seems to be the least popular advertisement method and could definitely be utilized to greater effect if used in conjunction with other methods.

By contrast, conventional advertising of TCM has been extremely limited. If advertising is to be taken into consideration as a method for spreading awareness will require improvement.

Finally, greater inclusion of TCM in government healthcare policies and subsequent recognition in current medical insurance to also encompass TCM would allow for free professional treatment for patients, which our interviewees all agree would better incentivise TCM treatment as a primary care option. Improving government funding to related research and development would not only increase its presence in the greater medical community, but also improve efficacy and quality in production, as well as affordability.

Authorship and Contributions

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1. Introduction

Throughout history, medicine has been an essential element in the development and continued survival of society. Before the age of modern drug research and development (R&D) and even clinical trials, medical practices were limited to simple trial-and-error approaches and radical “exit” methodology for certain diseases and chronic conditions. This resulted in the average patient facing far greater risk during treatment for a medical condition or injury than they would today.

Through years of experience and archived knowledge, certain successful medical practices from eras and nations long past have survived the passage of time and are still practiced in the present, albeit in a much more limited capacity. Known as “traditional medicine” or alternatively complementary, alternative, indigenous, or folk medicine, these age-old medical practices and methodologies endure globally, some known and some unknown.

The United States (U.S.) and China, among other major nations, have their own forms of traditional medicine, which differ by community, demographic, and geographic location. The cultural difference between the two countries can be observed just by differences in ingredients, application, and perception of their respective traditional medicines. Some individuals in both countries still seek more holistic and traditional medical care over mainstream modern practices and products, and others combine older methods with new ones. These individuals, who represent somewhat of a minority, focus not only on Western medicine, but also on alternative medicine, in particular Traditional Chinese Medicine (TCM), which has a long history of consistent usage in China and has seen an increase in popularity with the emigration of Chinese to other countries, especially the United States. (Cassidy, 1998). Despite this diffusion, it does not seem to be well-known or understood by most Americans, and is

certainly not normally recognized in mainstream media compared to Western medical products from big-name pharmaceutical and biotechnology companies. Given that we are studying various social practices in China, our interactive qualifying project (IQP) was tasked with the project of evaluating TCM awareness and practice. This evaluation will occur through a research and evidence-based project involving archival research from existing literature and studies, individual digital interviews with professionals, and surveys distributed online.

This report will begin with a presentation of our research question and background information on the IQP sponsor in this section, followed by a review of relevant literature to give further context and evidence for our study and subsequent findings in the second section. In the third section, we present the objectives we defined to fulfill our research goals and the methods we used to complete them. The fourth section will provide our findings and analysis of the results. Our general conclusions and recommendations to the Smart City Research Center - our sponsor - will then be presented and summarized in the final section.

1.1 Research Questions

To create a report that explores and assesses public awareness and perception of TCM, our research team from Worcester Polytechnic Institute (WPI) partnered with students from the Hangzhou Dianzi University (HDU) in China. As the primary researchers, our team examined the awareness and perception of TCM in both China and the United States, while our HDU counterparts completed complementary research in China to evaluate awareness and perception of TCM domestically. This enhanced our knowledge of public opinion of TCM in China remotely, as well as shedding light on the origins of TCM and assisting in bridging the language barrier between ourselves and the Smart City Research Center. To complete our research, we conducted multiple studies consisting primarily of first-hand accounts through interviews and general opinion through surveys as well as relevant supporting data gathered

from archival research done in both countries. After familiarizing ourselves with background information for our topic and postulating the importance of the problem to scholars, policymakers, citizens and the IQP sponsor, our primary research question is: How is Traditional Chinese Medicine perceived and practiced in the United States and China? To best answer that question, we deconstructed it into several smaller, more specific questions:

1. To what extent are people aware of TCM practices in China and the U.S.?
2. How do people perceive those TCM practices in China and the U.S.?
3. How willing are people to try TCM practices?

1.2 Sponsor Background

The sponsor of this research project is the “Zhejiang Smart City Research Center” that was established by the Hangzhou Dianzi University (HDU) in Hangzhou, China. The center focuses on scientific research to improve individual living standards in the Zhejiang region, where Hangzhou is located.

The Zhejiang Smart City Research Center and Hangzhou Dianzi University provide a collaborative environment for innovation in the fields of politics, industry, education, and research that is centered around problem-solving in policy, planning, technology, business and standard construction within the urban areas that make up smart cities.

Since there are limited resources and information on traditional medicinal practices like those in China being used to treat patients in America, our sponsor specified that the focus of the project for the WPI team was to investigate the awareness and spread of traditional Chinese medical practices in the United States.

2. Background

In order to create recommendations for the foreseeable future of TCM in China and the United States, we reviewed literature on the development and usage history of TCM in both countries, as well as previous studies and individual accounts to develop a broad picture of public TCM perception. As well as helping us better understand TCM perception and usage in general, key points from our sources helped us structure our survey and interview protocol to directly address the current state of TCM development and awareness and therefore draw relevant conclusions from both past and present data.

2.1 Overview of Traditional Chinese Medicine

Traditional Medicine (TM) - also known as complementary, alternative, or ethnic medicine - is the oldest form of healthcare in the world. Comprising medical aspects from knowledge gathered over many generations within various societies before the advent of modern medicine, it is used for the prevention and treatment of both physical and mental illnesses. It comprises both oral interventions as well as externally administered treatments (Che, et al, 2017).

Oral interventions can be loosely bifurcated into two broad categories, herbal therapy and food therapy. In TCM, it is believed that every individual is different and will require a unique combination of herbs and/or food to ensure a healthy body. The externally administered treatments of TCM mainly revolve around the idea of energy, or Qi. (Sentiawan, et al, 2020). Acupuncture is one such external treatment that restores the disease causing energy imbalance by unblocking some key acupressure points through which the disease causing energy flows out of the body. (Zhao, et al, 2020). Historically different societies have developed various healing methods to combat a variety of health and life-threatening diseases. The World Health

Organization (WHO) has determined that a large quantity of people in the world still depend on TCM for health care. The current status of TCM differs across countries (WHO, 2000).

Reagents of traditional medical products are mostly derived from natural products (plants, animal products), as opposed to modern medical products where most components are synthesized and the final product manufactured in laboratories. Despite common opinion, traditional medicines in most societies have undergone forms of “clinical trials” since their inception during ancient times. In the case of TCM, considerable experience and advances have been accumulated over the past thousands of years with respect to methods of preparation, selection of herbs, identification of medicinal materials, and periods of prime harvesting for various different plants. (Hopp, et al, 2019).

It should be noted that in TCM, several herbs and ingredients are combined according to strict rules to form prescriptions, which are referred to as formulas (*fang zi* in Chinese) (Yuan, et al, 2016). Commonly, a classic formula is composed of four elements—the “monarch”, “minister”, “assistant”, and “servant”, according to their different roles in the formula, each of which consists of one to more natural compounds. Ideally, these compounds constitute an organic combination to produce the desired therapeutic effect and reduce adverse reactions. Considerable amounts of medical data have been acquired through clinical experiments, and in this way TCM has assisted in the development of modern drugs, providing a foundation on which to build (Cheng, 2015). TCM is now an inseparable part of the Chinese public health system, with the total value of the TCM industry comprising one-third of China’s pharmaceutical industry in 2012, and in recent decades having gradually garnered approval from Western countries as valid complementary or alternative medicine (Tian, 2012). Chinese herbal medicine, which is a major component of TCM, is currently used in the health care of an estimated 1.5 billion people worldwide.

As proven through experience, inappropriate use of traditional medicines or practices

can have negative or dangerous effects and further research is always needed to ascertain the efficacy and safety of such practices (WHO, 2013). Traditional Chinese medicine systems primarily utilize medicinal herbs, and appropriate processing and dose regulation for the resulting products are of utmost importance in their application in order to improve formula efficacy and reduce formula toxicity. Through its use of natural products, TCM has been an instrumental item in the discovery of lead compounds and drug candidates, examining drug activity, and exploring physicochemical, biochemical, pharmacokinetic, and toxicological characteristics (Yuan, et al, 2016). When any form of TCM is applied successfully, there is the possibility of assisting in the development of new drugs, thereby resulting in many benefits, such as significant cost reductions.

2.2 Acceptance and Awareness of TCM

While both China and the United States have their own forms of traditional medicine, traditional Chinese medicine is demonstrably native to China, and is therefore more widely accepted and utilized there (Zhang, 2012).

Traditional Chinese Medicine was the predominant form of medical care in China up until the nineteenth century, when Western medicine started to receive greater attention and development, despite being introduced to China in the sixteenth century. At present, TCM still holds an important position in China's medical capabilities and is always undergoing further development, but there is an increasingly noticeable convergence between TCM and modern medicine. However, with the development of modern technology, it has become possible to determine the pharmacology and chemical composition of many Chinese herbs, and TCM has become comprehensible in terms of modern medicine. (Yuan, et al, 2016) With advances in theoretical background, therapeutic principles and associated technologies a clearer understanding of the active compounds of TCM has become possible, and as such it has gained

wider acceptance in the (modern) medical community in both China and other countries.

In the United States, officially TCM did not enter the public eye until the 1990s, after the National Institute of Health approved the first acupuncture clinic in 1991 (Tian, 2012), although it had been catalogued by the government-established Complementary and Alternative Medicine (CAM) organization years before. Since then, The National Center of Complementary and Alternative Medicine (established to further CAM research) has funded and developed numerous research avenues related to acupuncture, herbal medicine, Tai Chi, and Qigong. Non-Chinese TCM practitioners have taken measures to indigenize various TCM methods, referring to older Chinese texts to develop “American acupuncture, American herbal medicines, etc” and reinserting diagnoses previously dismissed from TCM methodology in China as based in superstition. (Barnes, 1998). The assumption has been that many such diagnostic categories refer to psychological or spiritual conditions, and therefore may be useful in those contexts to American practitioners and patients which favor this orientation towards medical care.

In an older study comprised of several hundred personal accounts from patients to six acupuncture clinics in the United States, it was found that patients valued relief in responses to presented complaints as well as expanded effects of care including improvements in physiological and psychosocial adaptivity (Cassidy, 1998). In addition, patients reported enjoying a close relationship with their Chinese medicine practitioner, learning new things, and feeling more able to guide their own lives and care for themselves, seeing TCM as a form of holistic care (Cassidy, 1998). Despite remaining out of mainstream circulation compared to modern pharmaceutical products, TCM is nationally recognized in the United States and users, while limited in number, express satisfaction with its successful use and application.

Social media, having risen to prominence in both Western and Eastern cultures in recent years, with the populations of the United States and China being two of the largest user bases,

has also been a helpful tool in spreading awareness about TCM in both countries (Chen, et al, 2018).

2.3 Cultural Disparity in Usage of TCM

In China, demands for disease prevention and health care and the prevalence of chronic non-communicable diseases have also increased, and general hospitals are increasingly utilizing TCM strategies for chronic non-communicable disease care and prevention (Fan, et al, 2018). For large scale health crises, China has long adhered to the principle of emphasis on utilization of both Chinese and Western medicine. It has been used most notably to combat recent pandemics such as SARS (Jin, et al, 2003) and COVID-19 (Wu, et al, 2021), in combination with western medicine.

In the United States, TCM usage is less prevalent, with about seven percent of the population using acupuncture (Austin, et al, 2015), just over one percent of the population practices tai chi (Lange, 2021), and approximately twenty percent of the population use chinese herbal products to treat various (non-specified) illnesses (Hobb, et al, 2019). Unlike in China, there is no set doctrine regarding use of TCM as a substitute or supplement to more conventional western medication.

2.4 Literature Summary

Archival research has revealed that TCM has a long history in its country of origin, China, while it has a much newer, smaller presence in the U.S. by comparison. It has also undergone many changes since its inception, with native TCM practices only being adopted after further research or being phased out entirely after being deemed unsafe or unscientific, while in the U.S. some practitioners have put their own spin on their TCM practices. TCM's continuing popularity in China has been proven by its widespread use to combat recent major

public health crises, such as the SARS and COVID-19 pandemics, while in the U.S. TCM usage is limited to individual communities and not recognized or advertised on the same national level as it is in China. This information lends itself to some general assumptions - and initial hypotheses. First, the China survey sample will be more familiar with and/or have received TCM treatment compared to the U.S. survey sample, and second improving awareness, especially in the U.S., will likely occur through advertising and greater integration and recognition in the academic and medical communities to allow its concurrent usage with domestically produced medical products, similar to operations in China.

3. Methodology

Our goal for this project was to evaluate TCM usage in China and the United States and generate recommendations for our IQP sponsor to help all better understand how to stimulate public interest in TCM and spread further awareness. To achieve this goal by the end of our 7-week project timeline (see Appendix A), we completed these main objectives:

1. Evaluate current awareness and practice of TCM in both countries through interviews and surveys
2. Evaluate public willingness to utilize TCM practices as a preventive measure and to improve overall health through surveys
3. Analyze current systems in place to spread awareness and formulate potential advancement strategies
4. Make recommendation about spreading further awareness (based on cultural acceptance/history with TCM)

3.1 Informed Consent

We were aware that ethical issues may have arisen in connection with our methodologies (especially the interview process), so there was emphasis on procedural clarity, individual safety concerns, confidentiality, and permission/consent. To best inform participants about the intentions of our research, we assembled an informed consent document (see Appendix B). This document detailed how a participant was involved in the research study, how their information would be handled, potential risks and or benefits associated with participation, as well as contact information for the entire research team. We were open to whatever communication methods the interviewees or sponsor suggests, although we suggested alternatives if requested to do so. As with any actions involving transfer of personal information among individuals, consent is key - for all interviews our interviewees were both asked prior to and notified during the interview process that their opinions and knowledge were used as evidence/support of our answers to our research question, but remain strictly confidential or anonymous if preferred for the safety of the interviewee (this also extends to contact details, details of interview time/setting). Any relevant personal digital information provided by those individuals was also deleted after the completion of the project for the sake of confidentiality.

At the same time, we also sought to better understand people's views on and experiences with TCM, and see if there have been efforts made to popularize it as a primary form of treatment, particularly in the United States.

3.2 Practitioner and Researcher Interviews

Both TCM practitioners and researchers, formerly or currently, have hands-on experience with and detailed knowledge of TCM and can speak for how TCM is received in the medical industry and by the people they serve. All interviewees were provided with an outline of all planned questions the day of the interview so that they would be prepared to

answer them and any additional “probing” questions asked by the team. When necessary, our interviewees asked clarifying questions, reordered certain questions provided, and skipped some questions they deemed unnecessary or were unable to answer.

Both the WPI and HDU research teams conducted one-on-one interviews with in-the-field medical professionals within their respective countries using the same interview protocol (see Appendix C). Questions were formatted to gather specific information about how TCM is practiced, current research being done in the United States, and patient perceptions and opinions. No specific methods were used to find interviewees; for both teams their respective academic advisors recommended initial contacts who then reached out to additional coworkers and practitioners for later interviews.

Prior to each interview, interviewees were also provided with the informed consent document which was verbally reviewed again by the team the day of interview before starting. Verbal consent was also collected. Finally, each interview had transcripts that were created either during or after the interview using recordings. After necessary information was extracted, recorded interviews were deleted and any identifying details about organizations or individuals were removed. The WPI team held all their interviews over Zoom video call, while the HDU team held all of their interviews over WeChat video call.

3.3 Surveying Sample Groups

Our team created a survey targeted at the general U.S. population to assess general awareness of TCM and experiences with TCM practices, while the HDU team collected data in China. It was equally as important to consider the opinions of the non-experts through more generalized surveys, so that we could better understand people’s awareness and perception of TCM. Our survey included a selection of both multiple choice questions - to determine demographic and if individuals have received TCM or not - and open ended supplementary

questions for individuals to express more candid observations on TCM (see Appendix D).

The WPI survey was created independently from the HDU survey (see Appendices E), as despite effective translation (see Appendix F for original), disparity in individual outlook on TCM in both countries meant that certain questions had to be structured differently so as to not immediately assume any individual's knowledge of the subject.

The HDU survey questions are more specific, given that TCM is far more prevalent in China. The WPI survey and interview questions are more general. We distributed the survey as a Google form, freely available to anyone given the survey link, while the HDU team distributed their survey using Wen Juan Xing, a similar platform that also allowed anyone given the link access to their survey. The HDU survey was distributed locally within the university, while the WPI survey was distributed both locally by school administration and by the student researchers to their family and friends, who further distributed the survey to anyone they knew of who they thought would be helpful, mostly professional workers and adults in various parts of the state.

4. Results

Through the completion of our surveys and interviews, both our team and the HDU team managed to formulate a comprehensive perspective on public TCM perception and usage in the U.S. and China. Expert interviews allowed both teams to collect both subjective and objective data, with interviewees talking about their experiences as practitioners and researchers, including how their work affects those they serve, how popular their chosen practices are, their patients' TCM awareness, and how they are received in the medical/greater community, providing their thoughts on how to further assist in the development of TCM and spread awareness for the benefit of others as well as themselves. Surveys on the other hand gave us a glimpse at how the public in the U.S. and China view

and have used TCM, and give us a general idea of how popular TCM practices are among our samples and how respondents think TCM could receive further recognition in their communities.

4.1 China and U.S. Survey Analysis

To better understand public awareness and perception of TCM in both China and the U.S, both the WPI and HDU teams created and distributed a survey focused on respondent past experiences with TCM in regards to their perception, willingness, and suggestions for future usage in their respective countries. The WPI survey was formatted as a Google form and distributed by email to various respondents in the U.S., both within and outside of WPI, while the HDU survey was formatted as a Wen Juan Xing form (very similar to Google forms) and primarily distributed within HDU in China.

In total, the WPI team acquired 126 responses in the United States. The HDU team acquired 147 responses in China. Both surveys were similar in composition, with virtually identical questions regarding introductory demographics, TCM exposure and familiarity, and suggestions for further spread sections. The only differences between the two surveys being that the HDU survey contained questions about whether respondents had heard of TCM (not just received treatment), whether they placed their faith in TCM as primary care, and a hypothetical scenario in which respondents were asked whether they would or would not choose to use TCM in the event they had contracted an illness that Western medicine could/could not treat. The WPI survey contained a question asking respondents about potential advantages TCM possesses over conventional “Western” medicine instead.

As seen in the U.S. Survey Results Table (see Appendix G), demographically for the WPI team survey nearly half (46.8%) of the respondents were between 41-65 years old, mostly of adults from outside of WPI. This is contrasted by the results of the China Survey (see

Appendix H) where the vast majority (91%) of respondents were between 18-25 years old, composed primarily of college undergraduate and graduate level students.

The first portion of both surveys polled respondents on their past TCM treatment history and awareness. Results show that only about half of all U.S. respondents (47.6%) had ever received TCM treatment, by comparison a higher percentage of Chinese respondents (77%) have had TCM treatments. In both surveys, oral communication or word-of-mouth - including family, friends, coworkers, doctors - proved to be the most popular method by which respondents first became aware of TCM. This method was more popular than conventional advertising methods like radio, television, information brochures, newspapers, and the internet.

Nearly half of all U.S. respondents (45.3%) were familiar with both acupuncture and Chinese herbal medicine, although acupuncture was the most popular or familiar TCM practice. By contrast over two-thirds of China respondents (68%) had previously used/were familiar with Chinese herbal medicine, with just over a third (37%) on average being familiar with acupuncture, scrapping, and cupping.

The second portion of both surveys polled respondent preferences for TCM usage given specific situations. A clear majority of U.S. respondents (86.5%) declared that they would use TCM in the case they were afflicted by an illness that Western medicine could not treat; 92% if their doctors recommended it; 90% if their medical insurance covered the treatment costs; and 68% if friends recommended it to them.

However, in the case where they would be affected by an illness that Western medicine could treat, only 48% of respondents still chose to use TCM, and in the case where their medical insurance did not cover treatment costs only 49% of respondents were still willing to choose to undergo TCM treatment. This preference for insured Western medicine is further solidified by the next question on the survey which polled respondents on potential advantages they believed TCM possessed over Western medicine. Only 30% of respondents believed that TCM was on

the whole more effective than their conventional Western medicine, and 26% believed that it was of higher quality and that it was their preferred type of medical care. Higher percentages of respondents (61%) believed that TCM products possessed less potential side effects and that they cost less than Western products.

The third and final portion of both surveys polled respondents on their willingness to try TCM in the future and spread further awareness. In both the U.S. and China surveys, over 50% of respondents would try and be willing to recommend TCM to friends—although in the question there is no distinction of what specific practices they would recommend.

4.2 Analysis of Interview Responses

Both teams conducted six interviews in total, with the WPI team conducting three in the U.S. and the HDU team conducting three in China. Both teams specifically targeted medical professionals (researchers, practitioners, therapists), both currently and formerly employed that work with or have worked with TCM.

The first key element of TCM practices, jointly agreed upon by all interviewees, is that TCM divides the human body into different parts, namely the internal organs, and the condition of each part could be the potential target of many different diseases. These treatments are focused on conditioning the patient to physically resist the effects of ailments (similar to anti-inflammation/antiacid agents), rather than serve directly as painkillers or candidates for vaccines or antibiotics. These experts also mentioned that in TCM therapy, doctors diagnose and treat physical conditions by completing cleansing/treating areas of the body suspected to be the cause of the illness, rather than treating areas of the body specified by the symptoms of the ailment (which is why previous data/trials are so important).

"Unlike western medicine, TCM is more focused on improving the overall condition of the body," said one interviewee from China. From the experts we interviewed, each pointed

out that in TCM therapy, patients will have periodic follow-up visits. In such rounds of follow-up visits, TCM practitioners will better understand the patient's physical condition, unearth the hidden dangers in the body, and tailor methods for them to improve their physical problems.

"Some problems will be discovered through TCM diagnosis and treatment methods when symptoms actually appear, and treatment will be carried out in advance," said a U.S. interviewee.

TCM doctors undergo special training so that they are able to diagnose the patient's physical condition and identify any areas of weakness or organs/blood vessels in poor condition, which they will identify as prime targets for certain ailments. This allows practitioners to anticipate bodily illness before it occurs and administer treatment in advance.

For their thoughts on current public awareness of TCM we gained several key insights that both confirmed what we found during our background research and would serve directly as our recommendations for spreading further awareness. In one interview with a Chinese practitioner, they mentioned that TCM is not limited to any one age group in China, and a considerable number of patients will become repeat customers.

In interviews with U.S. TCM experts however, it was mentioned that the popularity of TCM is far lower, with acupuncture and massage therapy being their most frequently prescribed treatment methods. This difference in popularity stems from the different understanding of TCM. Chinese experts mentioned that because the origin of TCM is China, generational knowledge is far more prevalent and in-depth, with the average patient both understanding TCM methodology and usage and trusting its successful application. The same cannot be said for the average American patient, as there is a clear lack of in-depth public understanding of TCM methodology and usage, with many patients asking questions before, during, and after treatment, and less patients being repeat customers.

U.S. interviewees also mentioned that because of the different policies between states

in the United States, many states do not include TCM in their private or public healthcare policies and plans, and do not place much importance on the continued funding and R&D of TCM. By contrast, TCM treatment in China is fully covered by social insurance on a national level. Experts in both countries agree that government recognition and greater TCM representation in the medical community plays a large part in subsequent public recognition, acceptance, and accessibility.

4.3 Public Opinion and Willingness to Utilize TCM

An important question posed in determining public opinion on and willingness to use TCM was: What makes people more willing to use it instead of Western medicine? We surveyed individuals on what potential advantages were offered by TCM: fewer side effects, greater efficacy compared to Western medicine in specific cases, higher quality, lower cost, etc.

In the U.S. survey sample, the most advantageous qualities were low cost and few side effects. More than half of the survey participants preferred this type of care. For the China survey sample, the answer is roughly the same. On the question of when to use TCM, almost all survey takers choose to use TCM when Western medicine cannot cure the disease. But when Western medicine can cure the disease, more than half of survey takers will not choose TCM. At the same time, the survey results also show that survey takers are willing to learn about TCM when it is recommended to them by family and friends, but not as willing as they would be if it was recommended to them by their doctor. Participants also preferred to use TCM if their insurance covered it, but were reluctant otherwise.

In interviews with experts, we learned that as TCM has experienced a thousand years of development in China, the numerous changes and advancements it has undergone have been the inheritance of generations of doctors. TCM methodology pays more attention to

determining the effectiveness of treatment through clinical diagnosis and treatment. We also learned that an advantage of TCM is that it is more focused on clinical diagnosis and treatment, and more experience has proved its effectiveness. For comparison, after using Western medicine to reduce fever, the symptoms will significantly improve or even vanish within a short period of time. However, the effect is usually only temporary, and body temperature will revert to its previous quantity., i.e. not tackling the root of the problem. The vast majority, if not all TCM products do not act as temporary painkillers and generally directly serve as “cures” or absolute medication.

Over half of the sample (60.8%) in the U.S. survey were willing to recommend TCM to others, while only 6.4% would rather not and the rest were not sure. Using the sample to represent the general population, it would appear that TCM awareness in the United States is by no means insignificant, and that many consider it to be a worthwhile form of medical treatment, even with the existence and accessibility of other medication.

4.4 Current Systems in Place to Spread Awareness

Our interviewees also shed some light on existing methods or institutions for spreading further TCM awareness that could serve as a foundation for future expansionary efforts, and are perhaps the most important part of the process. TCM’s long-standing reputation and credibility in China has made it so that people only need to verbally recommend it, and others will be willing to listen and learn more about it. In the U.S., due to the overall lack of popularity of TCM, and people's skepticism about its scientific validity, the few people who choose to use TCM do so through TCM websites or TCM experts that they know of or that were recommended to them.

At present, TCM's commercial presence is somewhat limited in both China and the U.S., but still receives more traction in China, supported by the higher percentages of participants in the China survey first learning about TCM through digital means. TCM is actively promoted in China, with certain social media personalities dedicated to product advertisement and spreading further awareness of TCM practices in general. If the U.S. were to observe and adopt similar advertisement methods, public TCM awareness may increase.

5. Discussion and Recommendations

Through this cooperative IQP research project between the two countries, both teams were able to compile a list of common key findings. Although our surveys were not without limitations and were not accurate enough to be representative of the general populations of their sample countries, they were sufficient to supplement our background research and support our research conclusions. Current systems in place to spread awareness also played a large part in our recommendations.

5.1 Key Findings

Based on our survey results, the WPI and HDU jointly reached the following conclusions: TCM is still a major contender for the predominant form of medical care in China - Chinese herbal medicine specifically - and is therefore widely acknowledged and utilized by the public. In the U.S., TCM is not as widely used as Western/domestically produced medicine and in general is not perceived as "superior" beyond offering a cheaper, less side-effect heavy alternative, and TCM popularity by practice is different (Acupuncture appears to be the most popular practice, with Herbal Medicine, Tai Chi, Cupping, and Scraping used to lesser extent, compared to China). In both countries, TCM awareness is spread primarily through word of mouth, and does not seem to be widely represented or publicized through commercial channels,

digital or otherwise, i.e. familiarity with certain TCM practices is lacking. In addition, detailed information on TCM practices is not readily available to the public.

Based on six interviews, the WPI and HDU teams compiled a list of important insights offered by the interviewees: A distinctive feature of TCM practices is its emphasis on clinical practices, and accumulated clinical data and experience has proven TCM's effectiveness. Some problems will be discovered through TCM diagnoses before symptoms actually appear, and preemptive treatment will be carried out, but this is understandably viewed with skepticism. More comprehensive TCM education is necessary for people to have a better understanding of TCM, so that people will be more willing to trust TCM medication and practices. Not all TCM practices are covered under medical insurance policies (varying state-by-state in the U.S. especially), so greater inclusion is needed and will undoubtedly lead to some amount of increase in TCM usage. If the United States wants to adapt similar TCM implementation methods to China, increased government funding is necessary. If the government can strengthen relevant insurance policies and subsidize TCM doctors and organizations to conduct free consultations or lectures to increase public awareness and acceptance of TCM.

5.2 Recommendations for Spreading Further Awareness

Understanding the perceived benefits of TCM as medical care and a form of complementary/alternative medical care. Greater inclusion and emphasis of TCM in educational mediums, primarily through inclusion in public school health education/medical school curriculums, would make more detailed knowledge on the subject less niche, as well as a potential object of interest to any interested students. Inclusion in academic lectures would also be beneficial to higher academia, not just students. Further publication of educational literature on TCM would also make that detailed knowledge available to the public,

As passing down TCM knowledge and experience orally was and remains the most

popular method of advertising its effectiveness and spreading awareness, supporting community support and free consultation for TCM would be a worthwhile promotional option for TCM as corroborated by both our interviews and surveys. Contribution would not be as limited as it would be with TCM's inclusion into education, meaning that representatives would not have to be teachers, professors, and even practitioners - they could simply be groups of people with any amount of TCM experience that seek to spread awareness by informing others of their experiences and community knowledge.

Community fairs and Chinese cultural festivals also present opportunities to further spread information about TCM, both orally and through informational brochures, the latter of which seems to be the least popular advertisement method and could definitely be utilized to greater effect if used in conjunction with other methods.

By contrast, conventional advertising of TCM has been extremely limited and if it is to be taken into consideration as a method for spreading further awareness still requires improvement.

And last, but certainly not least, greater inclusion of TCM in government healthcare policies and subsequent recognition in current medical insurance to also encompass TCM would allow for free professional treatment for patients, which our interviewees all agree would better incentivise TCM treatment as a primary care option. Improving government funding to related research and development would not only increase its presence in the greater medical community, but also improve efficacy and quality in production, as well as affordability.

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Appendix A - Project Schedules

Schedule for WPI Team:

Tasks	Weeks							
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Formulate Research Problems								
Finish project background(including interview protocol and IRB proposal)								
Finalize Literature Review								
Finalize Methodology								
Analyze Archival Data								
Conduct Interview								
Conduct Survey								
Analyze Collected Data								
Draft Paper								
Final Version Of IQP Report and Presentation								

Schedule for HDU Team:

Tasks	Weeks							
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Interview protocol and IRB proposal								
Study on the history of TCM								
Conduct interview								
Conduct survey								
Analyze the data collected								
Finalize data collected and review on paper								

Appendix B - U.S. Informed Consent Agreement

Informed Verbal Consent for Participation

You have been asked to participate in a student research study. This study is voluntary and doesn't require any action from you, the participant.

Purpose of Study:

This research is being conducted in affiliation with Worcester Polytechnic Institute in fulfillment of the Interactive Qualifying Project. This project is sponsored by the Smart City Research Center in China, an academic organization with the goal of better designing and restructuring of cities to best serve the public in the digital age. Our research aims to assess public awareness and usage of Traditional Chinese Medicine (TCM) in the United States and China, and how that may be expanded upon in the future. Information gathered during this study will be used in a research report to make recommendations on further development of TCM practices. This project and its research methods have been approved by the IRB at WPI.

Voluntary Participation:

Participation in this study is voluntary, anonymous, and solely for research purposes. Participation is optional and can be stopped at any time.

Participant Risk:

No physical or psychological risks are posed to participants by taking part in this study.

Participant Confidentiality:

Information gathered from this study will be confidential and handled exclusively by the student research team. Names, titles, and any other identification details will not be collected.

Participant Benefits:

There are no direct benefits from participating in this study. The results and findings of this research may inspire and expand the development and usage of TCM in China and the United States.

Now that you have read the preceding information:

1. Would you like to participate in our research?
2. Do you mind if we record this interview?

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Appendix C - U.S. TCM Interview Guidelines

Informed Verbal Consent for Participation

1. Do you mind if I record this interview?

*Interviewer will read **Appendix A - Informed Consent Agreement***

2. Would you like to participate in our research?

Suggested Joint (Practitioner, Therapist, and Researcher) Questions and Prompts:

1. How long have you been in your present position?
2. How long have you been at this institution?
3. What is your highest educational degree?
4. What is your field of study?
5. Briefly describe your role (researcher, practitioner, therapist, etc.) as it related to TCM
6. How are you involved in providing TCM related practices here?
7. How did you get involved?
8. What first piqued your interest in TCM?
9. Why did you choose to work with TCM rather than Western medicine?
10. What motivates you to learn more about and/or utilize TCM practices? (Cultural practice/family business? Betterment of CAM community? Just out of interest? etc.)
11. Which type of Traditional Chinese medicine are you most familiar with (herbal medicine vs various physical therapy methods)
12. Which aspect of research do you focus on in the study of your chosen type of Traditional Chinese medicine?
13. What benefits do you think certain TCM practices offer? Are any of those benefits still worthy of consideration when compared to Western medicine?
14. What do you think are the shortcomings of certain TCM practices?
15. Do you believe that there may be problems with current methods of development for TCM?
16. If so, how do you think those methods should be altered for more effective development in the future?
17. How do you think people could be made better aware of TCM?
18. In your opinion, what about TCM interests people/makes them want to know more about TCM?
19. Does that interest extend to higher education?
20. If so, do you think it would be possible to hold professional conferences to share your research and/or collaborate with academia professors?

Suggested Practitioner/Therapist Questions:

1. Do you enjoy a close relationship with any of your patients?
2. Do you think you could speak for their reactions and awareness of TCM, i.e. how they feel about their treatment and what they know about TCM?

3. Do you know of any recurring patients (patients that use TCM to treat more than one instance of illness?)
4. Have patients ever asked questions/want to learn more about TCM?
5. Have you ever treated patients who seem familiar with TCM?
6. Do you know how your patients found out about your therapy? (suggested by friends and family? Advertisement? Personal interest? Etc.)

Suggested Researcher Questions:

Appendix D - U.S. TCM Survey

Survey of Public Opinion and Awareness of Efficacy of Traditional Chinese Medicine

This research is being conducted in affiliation with Worcester Polytechnic Institute in fulfillment of the Interactive Qualifying Project. This research aims to assess public awareness and usage of Traditional Chinese Medicine (TCM), and how that may be expanded upon in the future. Information gathered during this study will be used in a research report to make recommendations on further development of TCM practices and is sponsored by the educational organization Smart City Research Center of Zhejiang Province in China. This project and its research methods have been approved by the IRB at WPI.

Consent to Participation

Participation in this study is voluntary, anonymous, and can be stopped at any time. Information gathered from this study will be confidential and handled exclusively by the student research team. Names, titles, and any other identification details will not be collected. Consenting to this survey allows for the use of your response in our public research report. Responses will only be reported in the aggregate form such that no one response is revealed.

Do you agree with the terms outlined above?

- Yes, I consent to participate in this research
- No, I do not consent to participate in this research

I. Basic situation

1. Your gender:

- Male
- Female
- Other

2. Your age:

- <18
- 18 - 25
- 26 - 40
- 41 - 65
- >65

3. How many years of education do you have?

- <10
- 10-12
- 12-16
- 16-20
- >20

4. What is your current occupation?

- Student
- Teacher
- Farmer, Laborer
- Professional worker
- Medical Staff
- Other _____

5. What is your average annual income?

- < \$25,000
- \$25,000 - \$50,000
- \$50,000 - \$75,000
- \$75,000 - \$100,000
- \$125,000 - \$150,000
- > \$150,000

II. Exposure to Traditional Chinese Medicine

6. Have you ever received traditional Chinese medical therapy? (If your answer is “no” or “not sure”, do not answer remaining questions in this section (Questions 7, 8, and 9))

- Yes
- No
- Not sure

7. If you answered yes to Question 6, how did you first hear about Traditional Chinese Medicine? (You can choose more than one answer)

- Family
- Friends
- Coworkers/Peers
- Doctor/Health official

- Internet
- Information brochure
- Newspaper, magazine, or book
- Public consultation
- Other _____

8. How familiar are you with each of these Traditional Chinese Medicine practices? (Check the boxes that apply)

	Not Familiar	Slightly Familiar	Somewhat Familiar	Very Familiar
Chinese Herbal Medicine				
Acupuncture				
Tuina				
Qigong				
Tai Chi				
Scraping				
Cupping				
Other				

9. Would you recommend Traditional Chinese Medical treatment to other people?

- Yes
- No
- Not sure

III. Preference for Traditional Chinese Medicine

10. I would use Traditional Chinese Medicine if:

	Strongly Disagree	Moderately Disagree	Moderately Agree	Strongly Agree
Western medicine had a way to treat my illness				
Western medicine had no way to treat my illness				
My doctor recommended it				
My insurance covered it				
Even if my insurance did not cover it				
A friend recommended it				

11. Compared to conventional (Western) medicine, I believe traditional Chinese medicine possesses the following advantages:

	Strongly Disagree	Moderately Disagree	Moderately Agree	Strongly Agree
More effective				
Fewer side effects				
Higher quality				
Lower cost				
Preferred type of care				
Other				

12. (Optional) If you feel that traditional Chinese medicine (TCM) should be promoted in your community, it should be done through:

	Strongly Disagree	Moderately Disagree	Moderately Agree	Strongly Agree
Community Support of free consultation about TCM				
Promotion during cultural festivals				
Academic lectures				
Public lectures				
Traditional advertising				
Online advertising (social media, etc.)				
Providing publications and educational literature				
Other				

Appendix E - Chinese TCM Survey (English Translation)

Questionnaire on public opinion and understanding of the effectiveness of Chinese Medicine

Dear Sir/Madam: We are currently conducting an investigation to understand the public opinion and understanding of Chinese medicine in our country. You can speak freely on the issues involved in the investigation, and your opinions and suggestions will provide us with important references. We are very grateful for your help!

1. Basic Situation

1. Your Gender:

- Male
- Female
- Other

2. Your Age:

- <18
- 18-25
- 26-40
- 41-65
- >65

3. How many years of education experience do you have?

- <10
- 10-12
- 12-16
- 16-20
- >20

4. What is your current occupation?

- Student
- Teacher
- Farmer, Laborer
- Professional worker
- Medical staff
- Other

5. What is your highest educational degree?

- Junior High School Education
- High School Education
- Undergraduate
- Bachelor's degree
- Master's degree or PhD

2. Knowledge of Chinese Medicine

1. Have you heard of Traditional Chinese Medicine before?
 - a. Yes
 - b. No (skip 7)
2. If you answered yes to the previous question, where did you first hear about it?
 - a. Internet
 - b. Radio and/or TV programs
 - c. Information brochure
 - d. Newspapers, magazines or books
 - e. Science lectures/free consultation
 - f. Oral
 - g. Other _____
3. Do you trust/believe in traditional Chinese medicine?
 - a. Trust
 - b. Do not trust
4. If you trust it, why do you trust it?
 - a. Because I've seen or heard of patients who could not be cured by Western medicine were cured by Chinese medicine
 - b. Because of the belief in traditional Chinese culture
 - c. Because of an understanding of the mechanisms of Chinese medical treatment
 - d. Because I think Chinese medicine is more scientific
 - e. No reason why, I just believe in Chinese medicine
5. If you don't trust it, why don't you trust it?
 - a. Because Chinese medicine is not scientific
 - b. Because the Chinese medical theories are nonsense
 - c. Because Chinese medicine is metaphysics
 - d. No reason why, I just don't believe in Chinese medicine
6. Have you received TCM treatment?
 - a. Yes
 - b. No (skip 9.1, 9.2, 10)
 - c. Not sure
7. If you answered yes to the previous question, are you familiar with Chinese herbal medicine?
 - a. Unfamiliar
 - b. Somewhat familiar
 - c. Familiar
 - d. Very familiar
8. If you answered yes to the previous question, are you familiar with Chinese physical therapy (Acupuncture, Tai Chi, Qigong, etc.)?

- a. Unfamiliar
 - b. Somewhat familiar
 - c. Familiar
 - d. Very familiar
9. What kind of traditional Chinese medicine practices do you know/accept?
- a. Chinese herbal medicine
 - b. Acupuncture
 - c. Tuina
 - d. Qigong
 - e. Tai Chi
 - f. Gua Sha
 - g. Cupping
 - h. Other
 - i. Not applicable
10. After receiving TCM treatment, would you recommend it to your friends/others?
- a. Yes
 - b. No
 - c. Not sure

3. The curative effect of Chinese medicine

1. Do you have detailed knowledge (medical knowledge) of Chinese medical practices or products?
- a. Yes
 - b. No (skip 14, 15)
2. Hypothesis 1: After understanding that traditional Chinese medicine is effective and successfully applied to a certain disease, but Western medicine is not available, would you use Chinese medicine/
- a. Yes
 - b. No
 - c. Not sure
3. Hypothesis 2: After understanding that both traditional Chinese medicine and Western medicine have curative effects and successful applications for certain diseases, would you still choose to use Chinese medicine?
- a. Yes
 - b. No
 - c. Not sure
4. What do you think are the advantages of traditional Chinese medicine over Western medicine (modern medicine)? (Safe the effective, unlikely to have side effects, high quality and low cost, good overall care form, etc.)

5. On the contrary, what do you think are the shortcomings of traditional Chinese medicine compared to western medicine (modern medicine)? (Slow onset, poor taste, high cost, unscientific development, no formal approval, etc.)

6. How do you think traditional Chinese medicine should be further promoted in my country?

- a. Community offers free consultation on traditional Chinese medicine
- b. Promote traditional Chinese medicine during festivals (Chinese New Year, etc.)
- c. Conduct community/academic lectures on traditional Chinese medicine
- d. Open community clinics for traditional Chinese medicine and increase advertising investment
- e. Publish and increase educational literature on Chinese medicine
- f. Other _____

Appendix F - China TCM Survey (Original, Mandarin)

关于公众舆论和对中医有效性认识的调查问卷

亲爱的先生/女士：我们正在进行调查，以了解我国对中医的公众舆论和认识。您可以对调查所涉及的问题畅所欲言，您的意见和建议将为我们提供重要的参考。非常感谢您的帮助！

一、基本情况

1.您的性别：

- 男性
- 女性
- 其他

2.您的年龄：

- <18岁
- 18-25岁
- 26-40岁
- 41-65岁
- > 65岁

3.您有多少年的教育经历：

- <10年
- 10-12年
- 12-16年
- 16-20年

>20年

4.您的教育学位：

初中学历

高中学历

大学本科

学士学位

硕士学位或博士学位

4.您从事的职业：

学生

教师

农民、劳动者

专业工作者

医务人员

其他

5.您的当前居住地：

城市

农村

郊区

其他

二、中医知识方面

6.您以前听说过中医吗？

- 是
- 否 (跳过7)

7.1如果您对前面的问题回答是肯定的，您第一次是从哪里听说的？

- 互联网
- 广播和/或电视节目
- 信息手册
- 报纸、杂志或书籍
- 科学讲座/免费咨询
- 口述
- 其他_____

7.2您相信中医吗？

- 相信
- 不相信

7.3如果相信，为什么相信？

- 因为见到西医治不好的病人被中医治愈
- 因为对中国传统文化的相信
- 因为对中医药治病机制的了解
- 因为觉得中医治病比较科学
- 没有为什么，就是相信中医

7.4如果不相信，为什么不相信

- 因为中医不科学

- 因为中医治病的理论是胡诌
- 因为中医是玄学
- 没有为什么，就是不相信中医

8.您接受过中医治疗吗？

- 是
- 否（跳过9.1, 9.2, 10）
- 不确定

9.1 如果您对前面的问题回答是肯定的，您对中草药是否熟悉？

- 不熟悉
- 有点熟悉
- 较熟悉
- 熟悉
- 非常熟悉

9.2 如果您对前面的问题回答是肯定的，您对中国物理疗法（针灸、太极拳、气功等）是否熟悉？

- 不熟悉
- 有点熟悉
- 有点熟悉
- 熟悉
- 非常熟悉

10.您了解/接受过哪种中医实践？

- 中草药

- 针灸
- 推拿
- 气功
- 太极
- [yy1]
- 刮痧
- 拔罐
- 其他
- 不适用

11. 接受中医治疗后，您会把它推荐给您的朋友/其他人吗？

- 是
- 否
- 不确定

三、中医的疗效方面

12. 您是否对中医实践或产品有详细的知识（医学知识）？

- 是
- 否（跳过14, 15）

13.1 假设情况1：在了解中医对于某种疾病有疗效和成功应用后但西医没有时，您会使用中医吗？

- 是
- 否
- 不确定

13.2 假设情况2：在了解中医和西医都对某种疾病有疗效和成功应用，您还会选择使用中医吗？

- 是
-
- 不确定

14.您认为中医比西医（现代医学）有什么优势？（安全有效，不太可能有副作用，高质量且成本低，良好的整体护理形式等）

15.相反，您认为与西医（现代医学）相比，中医有什么缺点？（起效缓慢，味道差，成本高，研制不具有科学性，未正式批准等）

16.您认为中药应该如何在我国进一步推广？

- 社区开展关于中医的免费咨询
- 在节日（春节等）期间推广中医
- 开展关于中医的社区/学术讲座
- 开设社区中医诊所，增加广告投入
- 出版和增加关于中医的教育文献
- 其他_____

Appendix G - U.S. TCM Survey Results

Demographic Variable	Number of Responses	Percentage of Responses
Gender:		
Male	51	40.5%
Female	74	58.7%
Nonbinary	1	0.8%
Age:		
<18	0	0%
18-25	26	20.6%
26-40	29	23%
41-65	59	46.8%
>65	12	9.5%
Years of Education:		
<10	1	0.8%
10-12	3	2.4%
12-16	28	22.2%
16-20	51	40.5%
>20	43	34.1%
Occupation:		
Student	26	
Teacher/Administration	26	
Farmer, Laborer	0	
Professional Worker	53	
Medical Staff	8	
Retired	3	
Health Care Sector	3	
Other		
Annual Income:		
< \$25,000	27	21.4%
\$25,000 - \$50,000	8	6.3%
\$50,000 - \$75,000	24	19%

\$75,000 - \$100,000	18	14.3%
\$100,000 - \$150,000	23	18.3%
> \$150,000	26	20.6%

Question	Number of Responses	Percentage of Responses
Have you ever received Traditional Chinese Medical Therapy/Treatment?	(Respondents who answered “no” did not continue survey, so respondent numbers will not total 126 from here)	
Yes	60	47.6%
No	61	48.4%
Not Sure	5	4%

Question	Number of Responses	Percentage of Responses
If you answered “yes” to the last question, how did you first hear about Traditional Chinese Medicine? (You can choose more than one answer)	(Note: 79 “yes” responders from previous question answering this question out of total 126 survey responders)	
Family	41	51.9%
Friends	19	24.1%
Coworkers/Peers	9	11.4%
Doctors/Health Officials	11	13.9%
Internet	10	12.7%
Information Brochure	0	0%
Newspaper, Magazine, or Book	4	5.1%
Public Consultation	1	1.3%
Other	11	13.9%

Question: How familiar are you with each of these Traditional Chinese Medicine practices?

	Chinese Herbal Medicine	Acupuncture	Tuina	Qigong	Taichi	Scraping	Cupping
Not Familiar	9	8	49	45	12	36	16
A bit Familiar	14	13	4	10	20	12	16
Somewhat Familiar	23	21	7	8	23	8	16
Familiar	21	20	14	9	13	13	14
Very Familiar	12	17	5	7	11	10	17

Question	Number of Responses	Percentage of Responses
Would you recommend TCM treatment to others?	(Note: 79 responders answering this question out of total 126 survey responders)	
Yes	48	60.8%
No	26	32.9%
Not sure	5	6.3%

Question:	would you use TCM if:
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1. western medicine had a way to treat an illness ailing you?

Strongly Disagree	32
Moderately Disagree	41
Moderately Agree	39
Strongly Agree	14

2. Western medicine did not have a way to treat an illness ailing you?

Strongly Disagree	11
Moderately Disagree	6
Moderately Agree	60
Strongly Agree	49

3. Your doctor recommended it to you?

Strongly Disagree	6
Moderately Disagree	4
Moderately Agree	60
Strongly Agree	56

4. Your insurance covered it?

Strongly Disagree	6
Moderately Disagree	6
Moderately Agree	61
Strongly Agree	53

5. Your insurance did not cover it?

Strongly Disagree	20
Moderately Disagree	44
Moderately Agree	44
Strongly Agree	18

6. A friend recommended it?

Strongly Disagree	12
Moderately Disagree	28
Moderately Agree	69
Strongly Agree	17

Question: Compared to conventional (Western) medicine, do you believe that TCM possesses any of the following advantages?

	More effective	Fewer side effects	Higher quality	Lower cost	Preferred care type
Strongly Disagree	15	10	17	9	24
Moderately Disagree	68	34	72	35	64
Moderately Agree	31	56	24	62	23
Strongly Agree	7	21	9	16	10

Question: If you feel that TCM should be promoted in your community, which of these methods do you think would be most effective?

1. Community support of free public consultation about TCM

Strongly Disagree	9
Moderately Disagree	9
Moderately Agree	56
Strongly Agree	28

2. Promotion during cultural festivals
--

Strongly Disagree	8
Moderately Disagree	17
Moderately Agree	47
Strongly Agree	31

3. Academic lectures

Strongly Disagree	8
Moderately Disagree	12
Moderately Agree	47
Strongly Agree	37

4. Public lectures

Strongly Disagree	8
Moderately Disagree	9
Moderately Agree	48
Strongly Agree	38

5. Traditional advertising

Strongly Disagree	9
Moderately Disagree	17
Moderately Agree	51
Strongly Agree	27

6. Advertising through social media

Strongly Disagree	13
Moderately Disagree	19
Moderately Agree	42
Strongly Agree	30

7. Providing publications and educational literature
--

Strongly Disagree	7
Moderately Disagree	7
Moderately Agree	48
Strongly Agree	42

Appendix H - China TCM Survey Results

Demographic Variable	Number of Responses	Percentage of Responses
Gender:		
Male	75	53%
Female	67	47%
Age:		
<18	5	3.5%
18-25	133	90%
26-40	2	1.5%
41-65	5	3.5%
>65	2	1.5%
Years of Education:		
<10	11	7%
10-12	43	29%
12-16	75	51%
16-20	14	10%
>20	4	3%
Occupation:		
Student	133	90%
Teacher/Administration	3	2%
Farmer, Laborer	2	1.5%
Professional Worker	1	1%
Medical Staff	3	2%
Other	5	3.5%
Annual Income:		
< \$25,000	27	21.4%
\$25,000 - \$50,000	8	6.3%
\$50,000 - \$75,000	24	19%
\$75,000 - \$100,000	18	14.3%
\$100,000 - \$150,000	23	18.3%
> \$150,000	26	20.6%

Question	Number of Responses	Percentage of Responses
Have you heard of TCM before?	(Respondents who answered “no” did not continue survey, so respondent numbers will not total 126 from here)	
Yes	143	97%
No	4	3%

Question	Number of Responses	Percentage of Responses
If you answered “yes” to the last question, how did you first hear about it?	(Note: 79 “yes” responders from previous question answering this question out of total 126 survey responders)	
Oral	74	52%
Internet	22	15%
Radio and/or TV	19	13%
Information manual	3	2%
Newspaper, Magazine, or Book	8	6%
Science lectures/free consultation	6	4%
Other	11	8%

Question	Number of Responses	Percentage of Responses
Do you believe/trust in TCM?		
Yes	136	95%
No	7	5%

Question	Number of Responses	Percentage of Responses
Have you received TCM treatment before?		
Yes	113	77%
No	26	
Not sure	8	5%

Question	Number of Responses	Percentage of Responses
If you answered “yes” to the previous question, are you familiar with Chinese herbal medicine?		

Unfamiliar	45	37%
Only know a bit	58	48%
Somewhat familiar	8	7%
Familiar	4	3%
Very familiar	6	5%

Question	Number of Responses	Percentage of Responses
If you answered yes to the previous question, are you familiar with Chinese physical therapy methods (Acupuncture, Tai Chi, Qigong, etc.)?		
Unfamiliar	37	31%
Only know a bit	63	52%
Somewhat familiar	9	7%
Familiar	6	5%
Very familiar	6	5%

Question	Number of Responses	Percentage of Responses
What kind of TCM practices have you received?		
Chinese Herbal Medicine	100	
Acupuncture	53	
Massage	43	
Qigong	11	
Tai Chi	31	
Scrapping	56	
Cupping	54	
Other	10	

Question	Number of Responses	Percentage of Responses
After receiving TCM treatment, would you recommend it to your friends/others?		
Yes	107	73%
No	11	7%
Not sure	29	20%

Question	Number of Responses	Percentage of Responses
Hypothetical Situation: Knowing that TCM can treat a certain disease that Western medicine CANNOT treat, would you choose to use TCM?		
Yes	137	93%
No	3	2%
Not sure	7	5%

Question	Number of Responses	Percentage of Responses
Hypothetical Situation: Knowing that TCM can treat a certain disease that Western medicine CAN ALSO treat, would you still choose to use TCM?		
Yes	95	65%
No	18	12%
Not sure	34	23%

Question	Number of Responses	Percentage of Responses
Do you have detailed knowledge of TCM practices or products (medical knowledge)?		
Yes	53	36%
No	94	64%

Question	Number of Responses	Percentage of Responses
How do you think TCM should be further promoted in China?		
Community provided free consultation on TCM	116	
Promote TCM during festivals	81	
Community/academic lectures on TCM	97	
Set up community TCM clinics and increase advertising investment	83	
Publishing and increasing educational literature on TCM	92	
Other	4	