

A Comparative Study on the Cultural Perception of Pain Management

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On my honor as a University Student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments.

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Sharon Ku, Department of Engineering and Society

Fable of Tomorrow

Dear American society,

Day-by-day, the opioid epidemic grows, wreaking havoc on the lives of thousands of addicts and leaving a painful legacy for their family and friends to endure. All across America, families are driven apart, afraid to ask for help in fear of the shame it will bring upon them. Drug addiction is a slow, insidious killer that possesses the mind in a state of false levity, making its victims oblivious to the life that is burning down around them. Anesthesia is a blessing under the right circumstances, but every small pill we take for that small toothache only accrues the curse of addiction. Moderation is key, but what happens to our wallets and our bodies when moderation turns into obsessive dependence?

How can we expect to put ourselves as the city atop a hill when we can't set a proper example for something as simple as drug use? How can others look up to us when we go around traipsing with a parasite? We need to take a look at ourselves, and more importantly, at others. Let us stop wrongfully pointing fingers at others and look at them to see what we can do better for a change, starting with the blatant "fake news" that we are so obsessed with. We can make solutions all day that we supposedly hope will change the tide of the opioid epidemic, but in truth, they will find no footholds if the root of the epidemic is not discussed. In writing this thesis, I hope to provide such a foothold so that we can finally begin making progress toward the summit and excise this parasite on society.

Regards,

John Nguyen

Introduction

In October 26 of 2017, US President Donald Trump announced a national public health emergency regarding the abuse of fentanyl. In his announcement, Trump specifically targeted China, holding the country responsible for thousands of deaths (Wilkie, 2017). Yet, as misinformed as his claims may be, it is worth considering the societal and cultural circumstances that led to such an emergency.

Starting in 1990, Ronald Melzack published an article in *Scientific American* questioning the scarce use of opioids for noncancerous pains, leading to public misconceptions that would escalate into a campaign in 1995 from the American Pain Society, and support from the Veteran's Health Administration in 1999, for the standardization of pain evaluation and treatment. In 2000, the Joint Commission published new standards for pain management, coinciding with public statements for less opioid regulation from the Federation of State Medical Boards and Drug Enforcement Agency. These developments would eventually lead to the development of opioid therapies and the endorsement of opioid treatments by pharmaceutical companies, culminating in October 16, 2017, when the US government declared a new national public health emergency: the opioid epidemic (Jones et al., 2018).

While many have tackled the issue of pain management with scientific solutions, it is necessary to acknowledge its roots: the perception of pain. Pain is not just biological, but social, cultural, and even legal. To tackle these issues, we require more than just science; we must examine society as well. The popular use and high dosage of painkillers in the US indicates an interesting question of how American perceive and handle "pains". The perception and the management of pain by patients and medical practitioners dictate the prescription of painkillers, therefore one must take a step back to analyze why it is an issue in the first place. In this document, I compare the

cultural impact of pain management and how it has affected the use of painkillers in both the American and Chinese cultures.

Literature Review

In the year 2017, over 70,000 deaths occurred from drug overdose; of those deaths, a staggering 47,600 (67.8%) were due to one particular national public health emergency: the opioid epidemic (*Drug Overdose Deaths*, 2019). Since 1979, the rate of drug overdose deaths has been growing exponentially in the United States, largely in the age range of 40 to 50 until 2010 (Jalal et al., 2018). Living or not, however, the consequences of opioid abuse can be felt across families and friends. Causing suffering through shame, death, and abuse, it leaves a tragic tale for those who are unfortunate enough to caught in its snare, as illustrated in a documentary by the Wall Street Journal (*American Epidemic*, 2017). By and large, the demographic of the opioid epidemic is young adults, primarily parents in their 20s and 30s that can leave a painful legacy for their children, possibly even leading to suicide (Murgia, 2017).

Starting from the most primitive basis, scientific evidence shows that there are disparities in the sensing of pain based on race (Green et al., 2003). Such differences can be a contributing factor to how pain management is treated culturally, especially considering the racial composition of a community. Yet while the actual physical sensation is to be considered, the culture from the ethnicity of a group is just as important. Whereas an individual with a long history in the United States may express pain and receive painkillers, another individual from East Asia may maintain a stoic appearance, refusing the use of pain management (Givler & Maani-Fogelman, 2020).

In the 1990s, the American Pain Society and the Veteran's Health Association fought for pain management, based on misinformation publicized by Ronald Melzack. Further promotion from pharmaceutical companies and fears of the loss of hospital funding led to a strong adoption

of both pain management and opioids, which was followed by the well discussed opioid epidemic, with several rehabilitation programs in the 2000s (Jones et al., 2018). In contrast, a long history of stoicism, Buddhism, Confucianism, and the opium war among other factors such as language barriers and the fear of addiction or side effects has led to a much lower use of pain management in China (Tung & Li, 2015). Due to cultural influences, many immigrants of all kinds become at risk of high pain without proper medical practices to accommodate their values. Using the information gathered from this study, more development could be made to support these different cultures and how they experience pain.

Comparing the consequences of the manufacturing and sale of addictive drugs, one can see that they are more lenient in the United State. In America, the most basic punishment for a small sale of heroin or cocaine is about two years of imprisonment, whereas in mainland China, the punishment for selling 50 grams or more of a drug, such as heroin, is a death sentence (Yim, 2018). This is likely a result of the legacy of the opium's effect on China, which caused many problems for its society to this day (*The War against Opium*, 1922).

STS Framework & Methods

Whereas many are seeking the scientific solution to drug addiction problems, such as the drug lofexidine discussed in the technical section, it is more illuminating to go back and analyze the cultures that created those sorts of behaviors in the first place. The main problem is that there is a lack of understanding of the different cultures in the melting pot of America, but specifically in how they view pain management. As such, the stakeholders of the topic are primarily the medical practitioners that are responsible for pain management, which connect to the other important stakeholders—the users. Yet even then, there are two other stakeholders that are important to this study. The first are those involved in the political aspect of pain management: politicians and

agencies such as the Food and Drug Administration, and the second are the younger generation, such as students, which has developed different cultural stances compared to previous generations. Yet regardless of the generations, the two cultures have very different histories of pain management and the misuse of drugs. By analyzing the differences in how the two cultures deal with pain management, progress could be made towards development of medical practices that are well adjusted to deal with the rich histories behind their decisions.

For the purposes of data consistency, the study will gather data for students primarily from those from the University of Virginia in Charlottesville, Virginia using a Google Forms survey, and Zhejiang University in Hangzhou, China through a short survey sent through Wenjuanxing. The questions, as outlined in the appendix, will ask about the nationality of the participant, followed by a pain rating based on different scenarios involving pain and its management. It will also ask for the ethnicity of the participant to accommodate for possible behaviors introduced by parental ethnicity. The survey is designed to be short as to not take much time to allow for responses from individuals who may be busy. It is also anonymous as identifying information is not required for the analysis of the data. The survey will be distributed until either 50 responses from both cultures are obtained or if a week passes before the target number is reached. The results will be analyzed for cultural patterns and compared for differences. The raw data and information of consent can be found in the appendix. The American survey collected 17 responses while the Chinese survey collected 10 responses, though two responses gave erroneous answers, possibly due to misunderstanding the questions. To provide a more accurate summary, those responses have been omitted. Though the sample sizes are small, this only affects a small portion of the relevant data. As such, information on the other stakeholders will be obtained through document analysis of primary and secondary literature, as discussed in the literature review. Using the data gathered, I

can provide an analysis of the differences between how each culture views pain management and the use of painkillers, as presented below.

Data Analysis

Table 1. Summary of the Survey Results.				
Situation	Average American Pain Rating	Most Common American Course of Action	Average Chinese Pain Rating	Most Common Chinese Course of Action
Toothache	4.5 ± 0.3	Advil/OTC medicine	6.3 ± 0.5	Painkiller
Migraine	6.4 ± 0.5	Medicine/Caffeine	6.5 ± 0.3	Medicine
Broken Arm/Leg	8.6 ± 0.3	Prescription pain medication	8.5 ± 0.2	Keeping it clean and cold
Surgery	5.9 ± 0.6	Painkillers/anesthetics	7.8 ± 0.5	Painkillers/anesthetics

From the initial research, it is expected that American cultures would have a higher rate of painkillers, and as such likely an overall higher rating of pain. For Chinese and other East Asian cultures, there is a greater emphasis on stoicism, who would anticipate lower ratings of pain and lessened use of pain management. From the obtained data, we can see that American students rated migraines and broken arms or legs about the same as Chinese students, while toothaches and surgery were rated lower. The most common course of action for all situations for American students, however focused on using medication or painkillers to manage the pain. The Chinese students however, followed the same procedures, though for a broken arm or leg, they chose a more natural method. It is interesting how similar the results are, though that may be an effect of western cultural diffusion on a younger population in China.

Comparing these survey results with the document findings, we can see that the use of pain mitigation through medication is very pervasive in American culture. Though the survey results mostly show a high use of over the counter medication, studies have shown that restricting the use of non-opioid analgesics can reduce overdosage of those materials, though that is a smaller concern compared to prescribed opiates (Morthorst et al., 2020). It is little surprise that politicians and agencies are so eager to wage their “war on drugs,” especially when it presents opportunities to profit off of criminalization (“Trump Hypes the Failed War on Drugs amid Coronavirus Pandemic,” 2020). This can be owed to the early developments in 1990 regarding the early misconceptions of pain management and its supportive campaign spurred by pharmaceutical companies seeking to make profits. Such conditions have led to pressure being put on medical practitioners to overly prescribe pain medications, providing the fuel for the opioid epidemic (Jones et al., 2018).

In Chinese culture, however, document analysis would show there is a preference for Chinese medicine or acupuncture over analgesics, or even a desire to endure the pain (Chen et al., 2008). This is even a point of conflict between American medical practitioners and Chinese patients. As such, the actions of Chinese politicians have largely been reactionary to those of the United States (Ingber, 2019). Drugs such as fentanyl are not nearly as popular in mainland China, yet areas of China are not without incident. For example, there was an incident at Taoyuan Airport where 551 kilograms of ketamine were seized (Yim, 2017).

Discussion

Due to the cultural influences of Confucianism, Buddhism, and stoicism, it was predicted that those raised in Chinese culture would be more inclined to have lower pain ratings and less likely to use painkillers and other pain management techniques. In contrast, Americans would be more likely to have higher pain ratings, and be more likely to use painkillers. However, there would

be some variance due to the diversity of cultures represented within America due to immigration and foreign visitors. Despite this, however, the survey results and data analysis largely show that Americans are more prone to the use of medication in pain management.

As it stands, American society is facing a growing problem that cannot be solved overnight. The combination of misinformation and desire for profit has left major problems regarding the misuse of pain management. The point of the matter is that even well-known medications such as ibuprofen or acetaminophen can have lasting consequences if ingested enough times. Doubtless, many will not misuse those medication to incur such effects, but misinformation breeds worse issues at hand, especially for medical practitioners under pressure from pharmaceutical companies and ignorant patients. These are aspects that must change in order to better the situation through avenues such as better education on the topics, reformation of for-profit prisons, and regulations on the prescription of high strength painkillers such as narcotics and opioids. Since 1979, the opioid overdose rate has only been growing, and if we are to fight it, we must change our society and our culture.

Conclusion

The invention of pain management, while helpful, has created a number of social and medical issues within the United States. However, in recognizing the reasons why these issues have come up in the first place can explain the cultural phenomenon behind problems such as the opioid epidemic, and antibiotic resistant bacteria. Further research should be performed to analyze the potential discrepancies and develop methods to combat the ongoing cultural push behind pain management. Additionally, the survey information used in this study drew from a small sample size due to limitations, which can cause some accuracy issues. Future work should survey a much larger sample size, perhaps even over different age ranges to determine the trends of pain

management in each generation. Only by accepting its cultural faults and changing its misinformed society can America begin to deal with its adversity against pain and its parasitic relationship with pain management.

Appendix Data

Nationality	Ethnicity	Toothache Pain Rating	Toothache Course of Action	Migraine Pain Rating	Migraine Course of Action	Broken Limb Pain Rating	Broken Limb Course of Action	Surgery Pain Rating	Surgery Course of Action
American	White	3	Advil/tylenol	4	Advil/tylenol		Have not had one yet		Have not had one yet
American	White	5	Tylenol or Ibuprofen	7	Ibuprofen, water, and rest (nap)	8	Tylenol if pain is moderate, opioids if pain is severe	8	Opioids to begin with, then milder things like Tylenol after a few days
American!! USA	white	4	none	8	none	9	IB profen	1	Anesthesia
Caucasian	White	5	Cream, ice, emergency dentist visit	8	Tylenol, Water, Sleep	8	Morphine, place in cast with stitches. For broken skin (if needed)	6	Painkillers, post-op, anesthetic during op
American	Biracial	5	Orajel	6	Caffeine	9	Prescription pain killers	4	Prescription pain killers
American	Caucasian	7	I don't know	7	Migraine relief medicine	9	I don't know	6	I don't know
American	White	3	Advil	6	Migraine medication (i.e. something with caffeine)	7	Opiates	7	Opiates
American	Caucasian	4	Advil	4	Over the counter pain meds	9	Strong pain killers	2	Anesthetic
American	White	5	acetaminophen /ibuprofen combination	7	acetaminophen	9	acetaminophen / ibuprofen combination	6	Tramadol
American	White	3	Ibuprofen	6	Excedrin	7	Opioids	6	Opioids
USA	White	3	Advil	7	Don't know	9	Something strong	6	Anesthesia
American	Caucasian	3	Ibuprofen	4	Excedrin / Caffeine Pills	6	Cast / Medical Grade Pain Medication	3	General Anesthesia

							(Vicodin, Opiates, etc.)		
American	White	4	None	2	None	8	I don't know	8	Sedation
American	African American	4	Orajel, limit consumption of hard/crunchy foods or foods of extreme temperature variation, salt water rinse, ibuprofen	10	Isolation in a quiet, dark room. Take extra-strength ibuprofen or amitriptyline if prescribed. Cold towel over the eyes and drink/eat something with some caffeine.	10	Go to hospital immediately to seek medical care. RICE (rest, ice, compression, elevation), use crutches or wheelchair if trying to move somewhere. Extra-strength Advil or oral NSAID.	8	Rest, take prescribed pain medication
American	White	7	Pain Relievers (NSIDs)	9	Pain Relievers (NSIDs) and maybe a shower or a massage	9	A splint and some high doses of pain relievers	7	Numbing agents and pain relievers
American	African American, Korean	5	Ignore it	8	Take ibuprofen, drink water, focus on something else	10	Go to the hospital	8	Take meds, keep mind busy on other things
American	Caucasian White	7	Nothing usually	5	Again, not much, unless it's really bad then maybe medicine	10	Haven't experienced this, but probably numbing or sedative to deal with pain.	8	Painkillers, besides obviously anesthesia during the process
China	ethnic Han	5	medicine	6	sleep	8	pain killer	7	pain killer
China	Good	1	A little	1	A little	2	A little	1	A little
Chinese	Han	8	Fenbid? not sure, haven't suffered from a toothache	7	not sure	9	painkillers	9	painkillers, maybe morphine

Chinese	Chinese nation	5	Eat painkillers	5	Eat painkillers, massage	8	Secure with steel nails, then cast in plaster	9	Different kinds of pain have different management methods.
China	han	7	tooth extraction	7	Stretch your body and improve blood circulation	9	Fixation and reduction	6	Keep your mind and trust the doctor
1	1	1	1	1	1	1	1	1	1
CHINA	HAN	7	Go to the dentist	7	Take the medicine	9	Fixed good go to the hospital again processing	8	Dozen anesthetic
中国	汉族	7	我什么疼痛都不愿意接受	6	睡觉	8	正骨	5	麻醉
china	han	7	toothpaste, analgesic, pain killer	7	hot(or cool) towel, analgesic, pain killer	8	cold compress, bandage	9	Anesthetic
China	Han ethnic group	4	drink cool water and keep it in my mouth to make me feel less painful. If it does not work, I will see a doctor.	7	Take medicine that often helps me feel better	9	keep it clean. And recreation after the injury heals.	9	use anesthetic

Information of Consent:

Please read carefully before you decide to participate in this study.

Purpose of the study: The purpose of the study is to gather information in order to perform a comparative case study on pain management.

What you will do in the study: You will fill out a small (3-5 min) survey given by the student, and it will ask questions about your behaviors involving pain management.

Time required: 3-5 minutes

Risks: There are no anticipated risks associated with this study.

Benefits: There are no direct benefits you will receive from participating in this study.

Confidentiality: Your responses will be used anonymously in the analysis. Your name and any identifying information will be withheld.

Voluntary participation: Your participation is entirely voluntary.

Right to withdraw from the study: You have the right to withdraw from the study by not completing the survey or by contacting the student as listed below.

Payment: You will receive no payment for participating in this study.

Contact info:

John Nguyen

Telephone: (571) 762-5720

Email: jtn6jg@virginia.edu

Questions

1. What is your nationality?
2. What is ethnicity?
3. On a scale of 1-10, rate the following situations based on the level of pain and list what actions (or lack of action) you or what you think a medical professional (if applicable) would take. (There will be one section with multiple options detailing a numerical scale of 1 to 10, and then an answer box immediately after asking what actions the participant or what they believe a medical professional would take.)
 - a. Toothache
 - b. Migraine
 - c. Broken limb
 - d. Surgery

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